

2014

RISK DEVELOPMENTS AND ASSESSMENT OF FINANCIAL STABILITY IN 2014

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RISK DEVELOPMENTS AND ASSESSMENT OF FINANCIAL STABILITY IN 2014

OVERVIEW

Domestic financial stability continued to be preserved throughout the year. Global developments had a significant influence on regional financial markets, and this led to higher volatility experienced at various times during the year. The strength of recovery of the US economy with its implications for monetary policy, lingering concerns over economic growth in the euro area, and the assessment of risks in PR China continued to be major themes driving investor behaviour. In the case of Malaysia, portfolio flows were also influenced by concerns over the potential impact of sharply lower oil prices on the domestic economy in the final month of the year. Although volatility did increase, it did not reach the heights experienced during the global financial crisis (GFC) or the taper tantrum in 2013. As with those previous episodes of heightened volatility, the deep markets and presence of strong domestic institutional investors in Malaysia have supported orderly conditions in the domestic financial markets. Banks, insurers and takaful operators continue to maintain strong capitalisation and financial performance. These institutions have also generally demonstrated appropriate prudence in risk-taking – particularly in lending and investment activities. Ample liquidity remains in the banking system despite the large volume of portfolio outflows. Individual bank funding positions also continued to be well-supported by strong liquidity buffers which enabled adjustments to the more competitive market for deposits. These factors have supported intermediation activities and sustained confidence in the Malaysian financial system.

Domestic financial stability has been supported by orderly financial market conditions and institutional soundness

During the year, the Financial Stability Committee of the Bank continued to closely monitor and

review risks stemming from: (i) movements in capital flows; (ii) growth in household debt and property prices, including the effect of the various measures taken to rein in excesses in these sectors; (iii) level of corporate sector leverage; and (iv) increased interlinkages between banks and non-bank financial institutions (NBFIs). These developments were also reviewed by the Financial Stability Executive Committee which has specific responsibility under the Central Bank Act 2009 for approving measures to address risks to financial stability which are applied to institutions that are not directly regulated by the Bank.

Risks arising from household indebtedness and rising property prices have moderated as the package of measures taken since 2010 gain further traction. Continued close monitoring of the effective implementation of these measures by banks and non-banks remains a key focus of the Bank's supervisory activities. Among lower income households, there is a need to reduce leverage further to more comfortable levels. Remaining pockets of vulnerabilities in the household sector are, however, unlikely to have material financial stability impact. This is supported by the strong capacity of financial institutions to absorb potential losses even under assumptions of severe stress conditions.

In the property market, house prices increased at a slower rate as house buyers and developers adjust to macroprudential and fiscal measures aimed at curbing excessive speculation and risk-taking. Government initiatives to increase the supply of affordable housing have also helped to ease some pressures on house prices amid prevailing strong demand for affordable houses. While the demand-supply gap will take some time to narrow, these developments are reducing risks of a potential sharp correction in house prices going forward. Conditions in the non-residential property segment were broadly stable with improvements observed in rental and vacancy rates in some segments. Investment demand for shop houses remains relatively strong, consistent with developments in the residential property segment. Nevertheless, speculative activities as indicated by borrowings to finance multiple purchases of shops were subdued.

The financial and balance sheet strength of businesses (including government-linked companies (GLCs) and large and systemic borrowers) was mostly intact with sustained sound overall debt servicing capacity and liquidity positions. This enabled borrowers to cope with the more significant movements in exchange rates and commodity prices that were experienced during the year. External borrowings by businesses have also slowed considerably in terms of growth. Credit risk to financial institutions arising from exposures to the business sector is therefore contained, with the credit risk outlook for the sector as a whole improving further despite business conditions that are likely to remain challenging for some industries.

The Bank expects to continue with the heightened degree of vigilance over developments in the household, property and business sectors in the foreseeable future. The Bank's supervisory activities will maintain a strong focus on preserving sound lending standards and practices among banks, and sustaining improvements in the financing practices of NBFIs to further reduce vulnerabilities in the household sector. In the more challenging environment, financial market and operating conditions are likely to have a more significant differential impact on businesses with different profiles. As such, it will be more important for financial institutions to ensure that risk monitoring and management strategies are adequately robust to identify and actively manage potential losses from businesses that are more exposed to financial stress due to volatile exchange rate and price movements.

While the Malaysian financial system has a far stronger capacity to cope with volatile market conditions, the Bank will continue to closely supervise how banks are managing their liquidity positions to maintain adequate liquidity under stressed conditions. Additionally, supervisory vigilance will focus on ensuring risk-taking by banks and insurers remains prudent. This also extends to the growing external exposures from the overseas operations of domestic banking groups. In particular, banks will be required to demonstrate that the business models adopted for managing cross-border operations are consistent with sound risk management at the entity and group levels. With greater regional integration, an important priority of the Bank will be to ensure that channels for the transmission of risks are well-understood and that effective safeguards are in place to manage the risks. This will include further strengthening the co-operation arrangements through supervisory colleges, regional surveillance activities and framework for managing crises.

MANAGING RISKS ARISING FROM HOUSEHOLD INDEBTEDNESS

The series of measures introduced since 2010 to rein in the excessive accumulation of debt by households continued to take hold as intended. Aggregate household debt sustained its moderating trend over the past two years, growing by 9.9% to RM940.4 billion as at end-2014 (Chart 1.1).

Growth in household debt moderated over two consecutive years, underpinned by the continued decline in personal financing by non-bank lenders

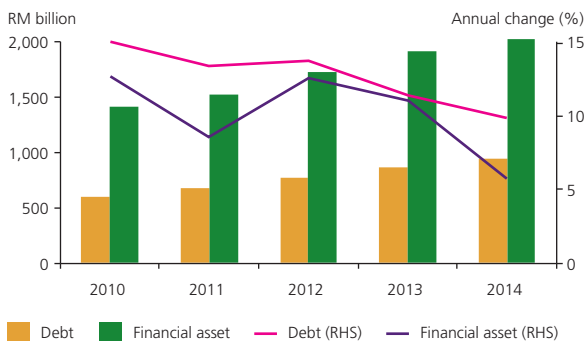
Underlying this trend was the continued moderation in the expansion of financing for personal use (Chart 1.2). This was consistent with improved assessments by banks and NBFIs of the ability of borrowers to take on additional debt. The healthy aggregate balance sheet of households has continued to lend support to overall debt servicing capacity amid stable employment and income conditions.

New household borrowings are of higher quality, where about 80% of new loans were approved with a DSR below 60% and half with a DSR below 40% on all debts

New household borrowings are also of higher quality. About 80% of new loans (based on number of new loan accounts) have a debt service ratio (DSR) for all outstanding debts of less than 60%, while half have a DSR of less than 40%. For borrowers with monthly earnings of RM3,000 and below, the share of new loans (based on the number of new loan accounts) with a DSR of less than 60% is higher at 91.8% (July 2013: 85.9%), while the share of new loans with a DSR of less than 40% remained stable at about 58%. This accords households with greater buffers and flexibility to weather financial challenges. Reflecting these developments as well as the stronger performance of the economy in 2014, the ratio of household debt-to-gross domestic product (GDP) rose only marginally, compared with earlier years, to 87.9% (2013: 86.7%) (Chart 1.3).

Chart 1.1

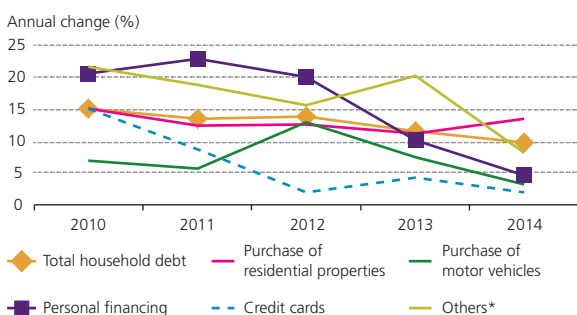
Household Sector: Debts and Financial Assets



Source: Bank Negara Malaysia

Chart 1.2

Household Sector: Debt by Purpose



*Including purchase of non-residential properties and purchase of securities

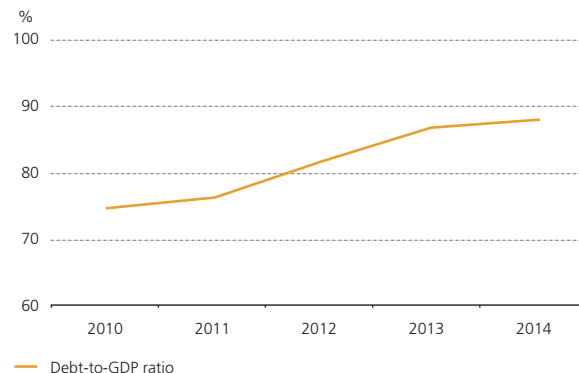
Source: Bank Negara Malaysia

Aggregate household financial asset-to-debt maintained at more than two times, over the past three years

At the aggregate level, household financial buffers remain strong. The ratio of household financial asset-to-debt has consistently been maintained at more than two times over the past three years as the pace of growth in household debt was brought more in line with the growth in household financial assets. Although the culture of saving for future and contingent needs is generally well-entrenched among most households, the capacity to save is dependent on income levels. This is reflected

Chart 1.3

Household Sector: Debt-to-GDP Ratio



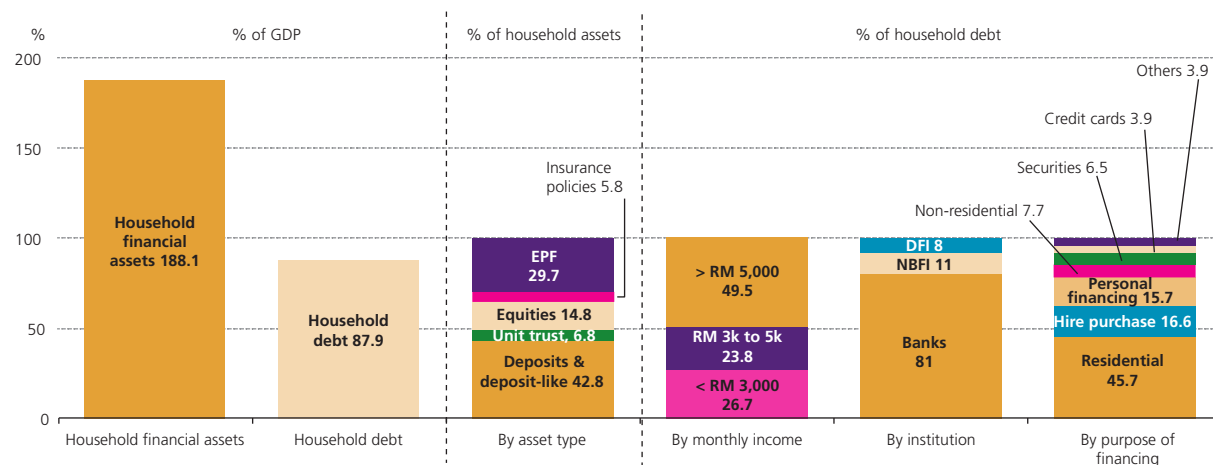
Source: Bank Negara Malaysia

in the uneven distribution of household financial buffers which is positively correlated with income. During the year, aggregate financial assets increased by RM110 billion, compared with an increase of RM84.5 billion in debts. Deposits and deposit-like instruments contributed to about 57% of the increase in financial assets and represent more than 42% of household financial assets. The high composition of such assets provides households with a comfortable buffer against unexpected changes in income or expenditures. Although the value of investments in equity and unit trusts was slightly lower, reflecting developments in the equity market, such assets account for about a fifth of household financial assets. Collectively, about 64% of household financial assets is readily available if needed for households to meet higher financial outlays (Chart 1.4).

Housing wealth has also increased in recent years. Properties remain an important investment class for many households to finance children's education, provide a form of financial security for the next generation and prepare for retirement. In a low interest rate environment, comparatively attractive returns on property investments have further encouraged this trend. Over the past five years, borrowings by households to invest in property (as proxied by the number of individuals with two outstanding housing loan accounts) have been growing at a steady average rate of about 4.7%. This has added to total household assets (including housing wealth) which expanded by 5.7%. The ratio of total household asset-to-debt has remained high and stable at 3.6 times (2013: 3.7 times).

Chart 1.4

Household Sector: Profile of Borrowings and Financial Assets



Source: Bank Negara Malaysia

Reducing share of debt attributed to vulnerable households, with leverage remaining stable

Latest data continue to show a reducing share of debt attributed to lower income households that earn RM3,000 or less a month, to 26.7% of total household debt (2013: 27.3%; 2012: 33%). Households in this category have benefitted from various financial assistance and housing programmes provided by the Government to ease their financial burden. The aggregate leverage (measured as a ratio of outstanding borrowing to annual income) for this group has not increased further, although lowering the leverage (currently at seven times which is significantly higher than the leverage of households in other income groups) to a more comfortable level would continue to be desirable.

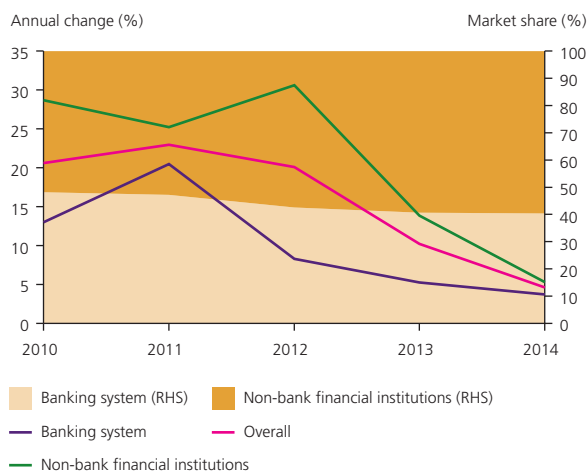
The amount of new debt assumed by households was RM3.8 billion lower in 2014 than in the previous year. The borrowings continue to be heavily concentrated in financing secured by property and financial assets, thus reducing the net exposure to households in an event of stress. Risks associated with the accumulation of unsecured household debt have continued to recede. New unsecured borrowings accounted for a substantially lower share of total new household debt for the year (2014: 8.6%; 2013: 16.5%). For the year

as a whole, households accumulated an additional amount of RM7.3 billion in outstanding credit card balances and personal financing, accounting for less than 40% of the average annual increase in credit card and personal financing recorded between 2010 and 2013. About 92% of the outstanding credit card balances are current (i.e. not yet due). Excluding these balances, which are usually fully or partially settled on or before the payment due date, outstanding credit card and personal financing increased by RM6.8 billion (2013: +RM13.2 billion). As credit cardholders continue to consolidate outstanding balances with more than one issuer, the number of cards with revolving balances declined further by 6.5% to account for 46% (2013: 50%) of total cards in circulation. Similarly, in value terms, the amount of revolving card balances that were rolled over declined by 12% during the year.

NBFIs remained the largest provider of personal financing with a share of close to 60% of total personal financing to households (Chart 1.5). New personal financing facilities approved by NBFIs declined both in number (-14%) and value (-31.3%) terms. The excessively high levels of personal financing extended in earlier periods (of up to RM300,000 under a single facility) have almost disappeared from the NBFI market as a result of more robust affordability assessments, aligned to the Bank's responsible financing standards. The average financing amount disbursed by NBFIs correspondingly declined to less than RM30,000 per facility.

Chart 1.5

Household Sector: Annual Change and Market Share of Personal Financing



Source: Bank Negara Malaysia

The credit underwriting standards and risk management practices of banks have remained generally sound even though strong competition continues to persist in the retail financing market. This is important for both household resilience and financial stability given that banks account for 81% of financing taken by households, and bank exposures to households represent about 57% of the loan book. Sustained prudent lending standards were evident from: (i) the continued low levels of impaired and delinquent (loans-in-arrears of between one and three months) loans across all types of financing facilities (Table 1.1); (ii) continued improvements in

default rates for new housing loans originated (Chart 1.6); and (iii) the Bank's supervisory observations of more robust loan affordability assessments. Notably, banks have continued to strengthen income verification processes with more conservative assumptions used to account for variable sources of income. Some banks have also further refined the credit assessment criteria for more vulnerable borrowers.

Improvements in loan affordability assessments were also evident among NBFIs based on joint on-site examinations conducted by the Bank and the Malaysia Co-operative Societies Commission. This has ensured that the quality of personal financing granted to households is kept in check in view of the significant concentration of NBFIs' portfolio in this segment. The ratio of impaired loans and loans-in-arrears for the portfolio remained stable at 1.8% and 0.4% respectively as at end-2014. The sound quality of financing has also been supported by NBFIs' access to repayments through the system of automatic salary deductions (centrally administered by Biro Perkhidmatan Angkasa) for borrowers in the civil service.

The Bank remains vigilant over the potential for risks to increase in other segments of the household credit market which are not subject to the macroprudential measures by the Bank. This would include some households turning to other sources of funding, including informal lenders. Without the required safeguards to prevent excessive indebtedness, coupled with much higher rates often

Table 1.1

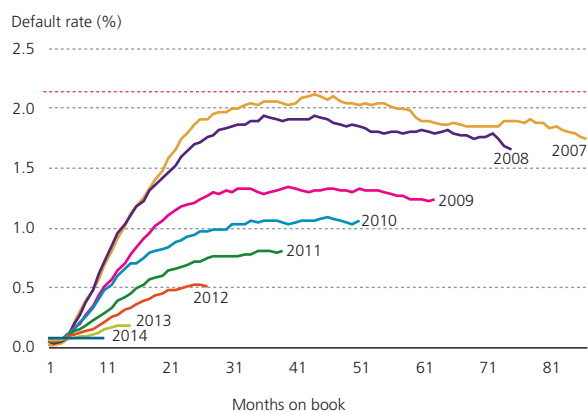
Household Sector, Banking System: Gross Impaired Loans and Gross Loans-in-arrears

	Gross Impaired Loans (%)						Gross Loans-in-arrears (%)					
	Ratio			Annual Growth			Ratio			Annual Growth		
	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
Overall	1.5	1.3	1.2	-8.4	-1.1	-1.0	2.5	2.1	1.8	6.5	-7.4	-5.3
Purchase of residential properties	1.9	1.5	1.3	-10.4	-7.0	-3.9	1.9	1.6	1.4	9.2	-4.6	-2.8
Purchase of non-residential properties	0.8	0.7	0.6	-10.7	-1.4	0.3	0.9	0.8	0.7	8.9	-4.2	8.0
Purchase of motor vehicles	1.1	1.2	1.2	-0.1	19.4	1.8	5.6	4.6	4.0	8.3	-11.8	-11.4
Personal financing	1.8	1.7	1.7	0.0	-1.6	3.4	1.3	1.2	1.2	-29.1	-2.0	-0.2

Source: Bank Negara Malaysia

Chart 1.6

Household Sector, Banking System: Vintage Analysis for Housing Loans



Source: Bank Negara Malaysia

charged by these sources, households could be financially stretched. Even though the risk is still small currently, the Bank continues to work closely with the Credit Counselling and Debt Management Agency (AKPK) to expand financial education programmes that aim to instil good financial management knowledge among households that would prevent them from falling into financial difficulty (refer to Chapter 4 on 'Market Conduct and Consumer Empowerment'). The Bank also engages with the Ministry of Urban Wellbeing, Housing and Local Government (KPKT), which is responsible for the licensing and oversight of money lenders and pawnbrokers, to share information on important developments affecting the financial health of households.

Improved loan affordability assessments alongside enhanced risk pricing practices strengthen buffers against potential loss events

Price competition in the retail lending market eased a little following the implementation of the Risk-Informed Pricing Standards by the Bank in March 2014. In line with the requirement for banks to strengthen pricing policies and practices, there has been greater alignment between how banks set internal hurdle rates (i.e. the risk-adjusted breakeven point in pricing where income is sufficient to cover the expected credit loss, funding costs and

overheads) which are used to guide the pricing of different financing products, and the manner in which risk and capital are being managed. Lending rates on new financing for the purchase of vehicles and residential properties have adjusted upwards by about 70 basis points (bps) and 20 bps respectively. This was a positive development given earlier signs that some banks may be under-pricing risks in the face of stiff competition, particularly in the motor vehicle financing segment.

Developments in the household sector are not expected to have any material financial stability impact. Financial institutions remain well-positioned to absorb potential losses in the household sector

Adjustments in the rates for residential property financing were also largely in response to the increase in the Overnight Policy Rate (OPR) in July 2014. With strong competition in the mortgage market continuing to weigh on lending rates, requirements under the Risk-Informed Pricing Standards serve to ensure that banks are providing adequate buffers against any under-pricing of risk. The higher financing rates since the second half of the year had little impact on households' debt servicing capacity. The ratio of repayments-to-disbursements as reported by banks has remained broadly stable over the past five years, staying consistently above 80%. One reason for this is the substantial share (about half) of household borrowings that are based on fixed interest rates (comprising mainly Islamic financing for purchase of properties, motor vehicle hire purchase, credit card outstanding balances and personal financing), thereby partially insulating households from interest rate adjustments. Another reason, is the accumulation of stronger financial buffers by households as elaborated in this Chapter, despite the higher overall debt level.

As elaborated in previous Reports, developments in the household sector are not expected to have any material financial stability impact. Based on stress tests conducted by the

Table 1.2

Household Sector, Banking System: Potential Losses Based on Severe Assumptions on Probability of Default (PD) and Loss Given Default (LGD)

		Housing loan	Motor vehicle hire purchase	Personal financing	Credit cards	Total ¹
Stressed PD (%) (Baseline PD, %)		8.4 (4.2)	10.0 (5.0)	8.8 (4.4)	15.8 (7.9)	
Stressed LGD (%) (Baseline LGD, %)		40.0 (25.6)	75.0 (48.0)	95.0 (84.1)	95.0 (85.2)	
Potential losses (RM bil)	All borrowers	12.4	10.7	5.0	5.3	39.1
	- Borrowers earning RM3,000 or less per month	2.0	3.9	1.8	1.0	10.2
	- Borrowers earning RM5,000 or less per month	4.4	6.8	2.9	2.3	19.2

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

Source: Bank Negara Malaysia

Bank, the estimated potential losses to banks in the unlikely event of simultaneous default incidents occurring across all the different types of household borrowings under severe assumptions would be about RM39 billion (Table 1.2). This is well within the excess capital buffers (above the regulatory minimum) of RM97.4 billion held by banks. These potential losses have not taken into account the available savings and financial buffers of individual households or responses by the banks to deal with such scenarios. Banks have also been gradually increasing the level of provisions and regulatory reserves for collective impairment as a share of total outstanding loans (2014: 1.4%; 2013: 1.3%) as part of on-going measures to strengthen buffers against potential loss events, particularly during periods of healthy profits.

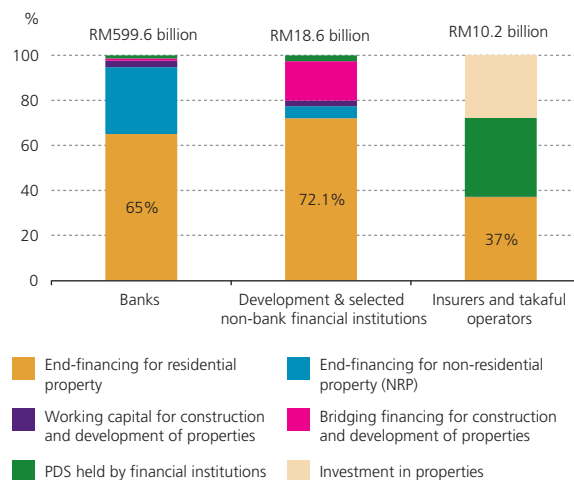
The high level of household indebtedness is expected to remain over the next few years given the relatively long average remaining maturity of the borrowings (10 years). Household demand for credit is also expected to remain fairly strong among the young and more affluent population to purchase homes and motor vehicles. As the effects of earlier measures continue to become more entrenched, the pace of growth in household debt should continue to moderate. The lower growth in house prices (discussed later in this Chapter), along with the implementation of measures by the Government to assist lower-income households, should further reinforce a more measured pace of growth in household debt going forward (Table 1.3).

MANAGING DEVELOPMENTS IN THE DOMESTIC PROPERTY MARKET

Developments in the property market have important implications for financial stability given the sizeable exposures of financial institutions to the property sector. Total exposures of financial institutions to the property sector amounted to RM628.5 billion or 23% (2013: 21.9%) of total financial system assets as at end-2014. Bank exposures accounted for the bulk (95.4%) of this (Chart 1.7), with property-related financing and private debt securities (PDS) held by banks increasing slightly during the year to represent 26.6% (2013: 25.4%) of total

Chart 1.7

Property Market: Financial Institutions' Exposures to the Property Market



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

Table 1.3

Developments in Household Sector and Property Market since Implementation of Macroprudential Measures

Continued moderation in the pace of growth of household debt over past two years	<ul style="list-style-type: none"> Household debt growth moderated over two consecutive years to 9.9% as intended (2013: +11.5%; 2010: +15.1%) Personal financing by NBFIs slowed significantly to 5.3% (2013: +13.9%) 60% of borrowings contributed to housing wealth and asset accumulation
Sustained debt servicing capacity of households	<ul style="list-style-type: none"> Impaired loans and loans-in-arrears ratios for the banking system remained low and stable at 1.2% and 1.8% even after OPR increase in July 2014 Household financial assets remained stable at more than two times of debt
Further strengthening of loan affordability assessments and financing practices	<ul style="list-style-type: none"> About 80% of borrowers who obtained new financing since July 2013 have debt service ratio (DSR) below 60%, while half have DSR below 40% on all debts Proportion of borrowings by borrowers with monthly earnings <RM3,000 declined further to 26.7% (2013: 27.3%; 2012: 33%)
Subdued credit-driven speculative purchases of properties	<ul style="list-style-type: none"> Annual growth in the number of borrowers with three or more outstanding housing loans declined further to 2.9% (2013: +5.3%), from the peak of 15.8% in 2010, to account for 3% of borrowers with outstanding housing loans
Slower growth in average house prices	<ul style="list-style-type: none"> Annual growth in the Malaysian House Price Index slowed for three consecutive quarters to 8.4% in 2Q 2014

Source: Bank Negara Malaysia and National Property Information Centre

assets of the banking system. About 65% of bank exposures to property is concentrated in the residential property end-financing market, while end-financing for the purchase of land and commercial properties make up about 30% of total property-related exposures.

Residential property market

The intended effects from the series of macroprudential and fiscal measures have become more apparent. Aggregate house prices recorded three consecutive quarters of slower growth since the last quarter of 2013 (Chart 1.8). Preliminary data for the third quarter of 2014 showed a continued moderating trend in house price growth. This trend was observed across all house types and major employment centres (Table 1.4).

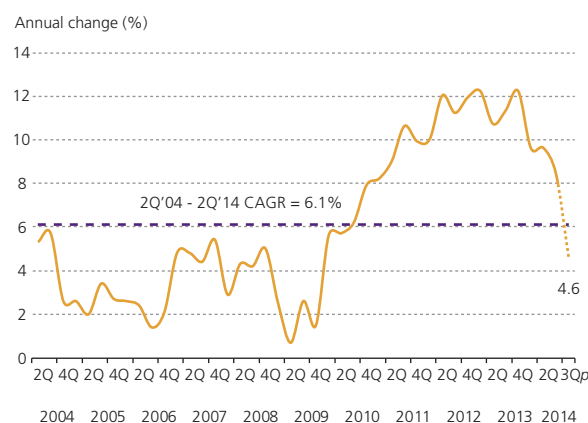
Wide ranging measures to address property market issues are moderating growth in aggregate house prices

Over the past few years, strong activity in the secondary market has been driving residential property prices higher. At the same time, primary

property launches concentrated in the high-end of the market also added to higher overall property prices as properties in the surrounding vicinity rose in tandem, and the exit price threshold for existing property owners increased. In 2014, activities in the secondary market appear to have softened. Based on data from the National Property Information Centre (NAPIC), the volume of residential property transactions in the secondary

Chart 1.8

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



p Preliminary
CAGR: Compounded annual growth rate

Source: National Property Information Centre

Table 1.4

Property Market, Residential: Growth of Malaysian House Price Index by Selected State and House Type

Annual change (%)	2Q '13	3Q '13	4Q '13	1Q '14	2Q '14	3Q '14 ^p
Malaysia	11.3	12.2	9.6	9.6	8.4	4.6
Kuala Lumpur	25.3	19.3	11.7	9.5	8.5	3.7
Selangor	8.1	5.9	10.1	10.9	8.3	5.4
Johor	24.1	25.7	15.0	14.7	10.5	3.4
Penang	15.6	16.2	16.5	16.1	12.1	6.5
Terraced	9.6	9.9	9.6	10.1	9.5	5.1
Semi-detached	12.2	15.2	5.5	7.1	4.8	2.2
Detached	17.9	17.9	13.2	7.6	5.8	4.0
High-rise	14.4	17.0	13.6	12.9	10.6	6.2

^p Preliminary

Source: National Property Information Centre

market declined further by 3.3% (2013: -2.3%) in the first nine months of 2014, compared to the similar period in the previous year. Correspondingly, the share of secondary market transactions was lower, accounting for 77.3% of total residential property transactions (2013: 82.8%). In contrast, the volume of transactions in the primary market increased by 32% (2013: -33.7%), consistent with the higher supply of new houses, including affordable housing under various Government programmes for first time home buyers. Some private developers are also beginning to introduce more affordable housing units in response to strong demand, while preserving margins by building smaller-sized units.

The implementation of loan-to-value (LTV) measures, higher property gains taxes introduced by the Government and the prohibition of developer interest bearing schemes (DIBS) have additionally worked to curb speculative purchases. Credit-induced speculative purchases of residential properties remained in check. The number of borrowers with at least three outstanding housing loans (used as a proxy for speculative purchases) moderated further during the year, increasing by 2.9% (2013: +5.3%; 2010: +15.8%). Such borrowers continue to account for 3% of total housing loan borrowers. As a result of these dynamics, the average value of transactions in the primary and secondary markets grew moderately by 15.1% (2013: +18.2%) in the first nine months of 2014, compared to the similar period in the previous year.

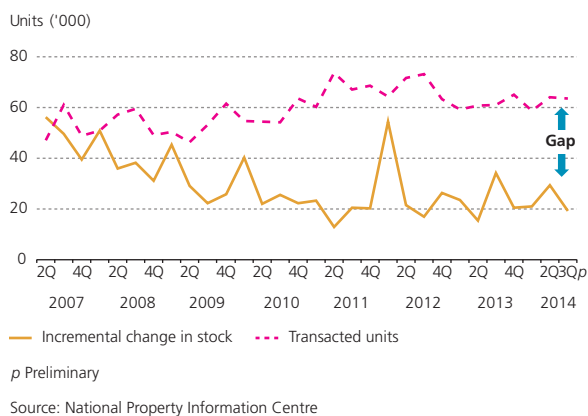
Notwithstanding the welcome easing in growth of house prices, structural pressures such as the demand-supply mismatch for affordable housing remain. Demand (using average transacted units as a proxy) continued to outstrip the new supply of houses (as measured by the incremental stock of houses) (Chart 1.9). Demographic factors given Malaysia's relatively young population and labour force along with increased urbanisation are expected to sustain strong demand for affordable housing in major employment centres over the near- and medium-term, beyond what can be met by the incoming stream of new supply.

Increase in supply of affordable housing should further ease upward pressure on house prices

The demand-supply mismatch is expected to improve with more of such houses being built by the private sector and following the implementation of Government initiatives coordinated by the National Housing Council which was established in January 2014. This includes the planned construction of 150,000 additional affordable and low-cost housing units in various strategic locations nationwide and the implementation of rent-to-own schemes for the lower income group. The consequent narrowing of the demand-supply mismatch should further ease price pressures.

Chart 1.9

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



In an environment of rising house prices and growing bank exposures to the housing market, it is important that the valuation practices of banks remain sound and adequately account for the risk of a price decline. This is particularly so in locations where house price increases have been stronger. From the supervisory reviews conducted by the Bank, property valuation standards of banks remain generally sound. Banks typically apply internal pricing parameters and LTV ratios which are differentiated across locations and borrower profiles, based on wider sources of property valuation information. Lower LTVs were consistently observed among banks for properties in locations that have experienced stronger price increases. The practice of requiring periodic valuations by qualified professional valuers to support approved loan amounts and impairment assessments is also well-established across the industry.

A related risk to imprudent valuations is that of borrowers taking advantage of rising house prices and low borrowing costs to borrow more than they can comfortably afford against elevated property values. This can also arise from existing borrowers who refinance the housing loans in order to borrow more against the higher current value of the properties (also referred to as the practice of “equity withdrawal”). More prudent loan affordability assessments by banks substantially mitigate this risk. The Bank’s supervisory monitoring found no evidence to suggest widespread practices of equity withdrawal. Notwithstanding this, the Bank requires banks that refinance existing housing loans at amounts higher than the original

outstanding loan amount to perform affordability assessments based on standards applied to personal financing for the additional amount borrowed.

More broadly, risks from a decline in house prices to the banking sector are assessed to be contained. Close to half (48%) of outstanding housing loans have a current LTV below 70%. This has been broadly stable over the years. This provides a comfortable buffer for banks against a decline in property values in the event of default. The vast majority (about 84%) of housing loan borrowers are also owner occupiers or longer-term investors, with strong incentives to maintain the loan repayments in an event of financial stress. Changes in house prices therefore tend to have a small effect on repayment behaviours. This assessment is corroborated by the low and declining level of impaired and delinquent housing loans.

Banks’ excess capital buffers stood at more than five times the estimated losses from a 40% contraction in house prices and stressed default rates

Based on a single factor sensitivity analysis conducted on the housing loan portfolio of banks with a stressed probability of default (PD) of up to 13% and a severe correction of 40% in house prices, the excess capital buffers of banks stood at more than five times the estimated expected losses. Under a macro top-down stress test over a four-year horizon, the excess capital buffers of banks continued to be more than sufficient (by eight times) to absorb the estimated potential losses of RM11.6 billion per year. The losses in this scenario encompass losses from banks’ exposures to the property sector at large, including non-residential property and exposures to the construction sector.

Non-residential property market

Financial institutions’ exposures to the non-residential property market comprised mainly end-financing by banks for the purchase of shops, land, industrial buildings and office space. The growth in bank financing for such purposes moderated to 14.9% (2013: +17.8%) during the year. The slower growth was more pronounced in the financing of land and

office space, while demand for industrial properties and shops appears to remain strong (Chart 1.10). The financing of shopping complexes has also picked up in pace.

To some extent, the sustained growth in the financing of shop houses reflects developments in the residential property market, given that shops are seen among property investors as an alternative investment to residential properties. The number of borrowers with loans for the purchase of both residential and non-residential properties grew by 10.8% (2013: +12.9%). Speculative activities in this segment of the market remain subdued, with little evidence of borrowers purchasing multiple shop units. Still, relatively strong demand amid a sustained level of rental rates has continued to support price increases. In the first nine months of 2014, the increase in the average transaction value of shops strengthened to 9.4% (2013: +7.3%), although remaining well below the peak of 17.7% recorded in 2011 (Chart 1.11). As highlighted in the previous Report, investing in shops and other non-residential properties entails a broader set of risks. Investors should be aware of these risks and adjust their return expectations accordingly.

Average land prices in major employment centres maintained the upward trend since 2009, recording a compounded annual growth rate of 25.2% for the period up to the third quarter of 2014. This was attributed to the scarcity of development land and the conversion of agricultural land for commercial use. The bulk of land transactions were purchases by

Chart 1.11

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



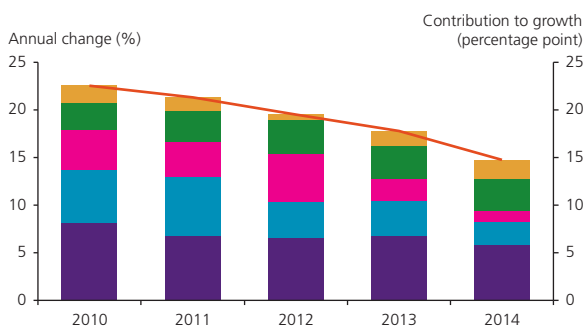
* First nine months
Source: National Property Information Centre

property developers to replenish land banks and to gain exposure to high growth areas in and around major city centres.

In the office space segment, overall rental rates have held firm, growing cumulatively by about 27% since 2007 on the back of sustained demand (Chart 1.12). The overall vacancy rate for office space improved for the second consecutive year to 16.1% (2013: 17.1%; 2012: 17.6%), reversing the increasing trend since 2009. Vacancy rates in the Klang Valley were at 19% and followed a similar improving trend. Supply pressures are expected to recede further with the staggering of some planned incoming supply. This should contribute to a further easing in vacancy rates over the medium-

Chart 1.10

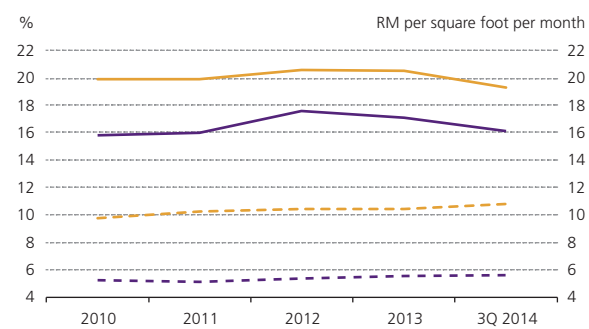
Property Market, Non-residential: Loan Growth and Contribution to Growth by Segment



Source: Bank Negara Malaysia

Chart 1.12

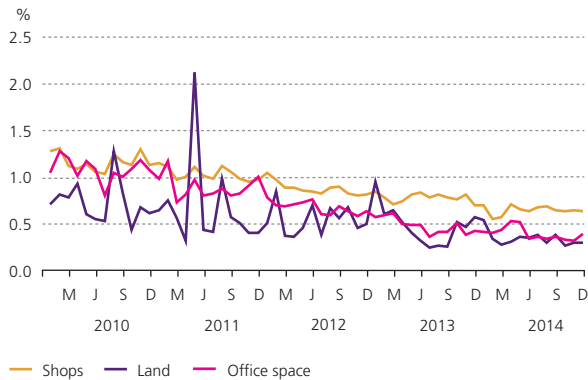
Property Market, Non-residential, Office Space and Shopping Complex: Vacancy Rate and Rental Rate



Source: National Property Information Centre, Knight Frank and Jones Lang Wootton

Chart 1.13

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



Source: Bank Negara Malaysia

term. Rental rates for older office buildings remain somewhat depressed due to tenant preferences for newer and green buildings with better facilities and transport connectivity. The on-going process of refurbishing and upgrading efforts for many of these buildings should boost tenancy and rental rates going forward, while new supply needs to be continuously kept in check.

Conditions in the shopping complex segment warrant continued monitoring. Rental rates have been on an uptrend over the past several years. This reflects the persistent strong tenant demand for retail space in prime areas, supported by the penetration of a growing number of international retailers. Of late, new supply of shopping complexes has picked up slightly, partly in response to this anticipated demand. This may pose future risks if demand disappoints. The overall vacancy rate for shopping complexes improved marginally to 19.3% (from 20% between 2010 and 2013), supported by encouraging growth in the retail sector. Delinquency rates for end-financing provided by banks for the purchase of non-residential properties remained low and stable (Chart 1.13).

MANAGING CREDIT RISK EXPOSURES TO BUSINESSES

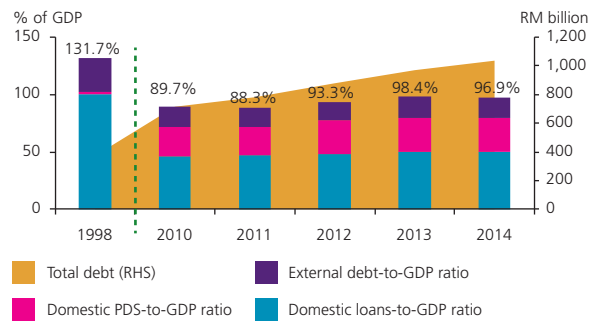
Total outstanding domestic and external borrowings (including outstanding loans, debt securities and sukuk) by non-financial businesses in Malaysia (including GLCs and excluding financial institutions and the Government) grew more moderately by 6.8% (2013: +10.4%). As at end-2014, total business sector debt amounted to RM1,037 billion

and was lower as a share of GDP (Chart 1.14). The negligible growth of 0.05% in external borrowings, compared to 22.6% in 2013, largely accounted for the moderation in overall growth, contrasting with the pickup in the growth of domestic borrowings of 8.5% (2013: +7.8%) (Chart 1.15). Business loans from banks and development financial institutions (DFIs) regulated by the Bank recorded a higher growth of 9% (2013: +7.9%), with the growth in financing to small and medium enterprises (SMEs) remaining robust at 13.3% (2013: +12.7%). Businesses also continued to raise financing through new issuances of PDS and sukuk in the domestic capital markets, led by the power and property-related sectors amid continued growth in these sectors.

Sustained debt servicing capacity of businesses amid more significant exchange rate and price movements

Chart 1.14

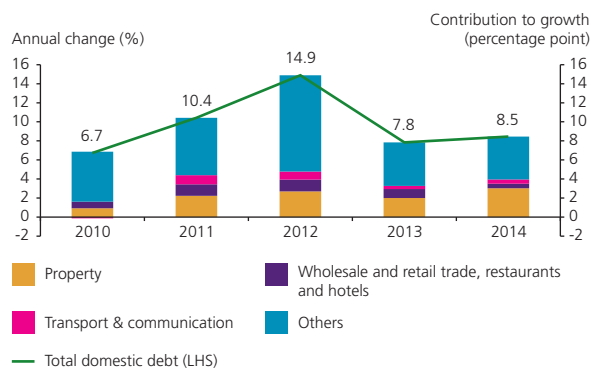
Business Sector: Debt-to-GDP Ratio



Source: Bank Negara Malaysia

Chart 1.15

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



Source: Bank Negara Malaysia

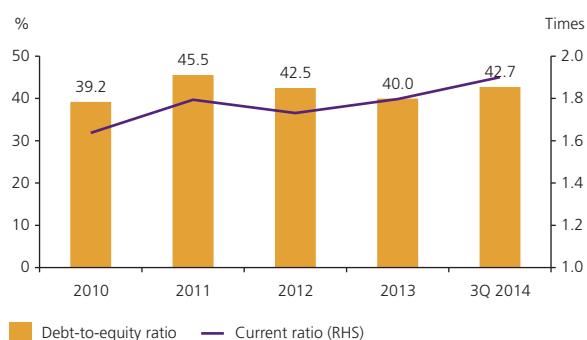
Generally healthy corporate balance sheets enabled businesses to adjust without much difficulty to the more significant movements in exchange rates and commodity prices that were experienced during the year. The overall leverage of the Malaysian business sector (based on financial data of 160 companies that are listed on Bursa Malaysia, covering major economic sectors and about 80% of market capitalisation), although marginally higher, remains comfortably within prudent levels (Chart 1.16). As elaborated in the box article ‘Malaysian Corporate Leverage and Its Systemic Implications’, there is limited evidence of increased risk-taking by Malaysian businesses, with businesses generally preferring to conserve internal funds for their operational needs and external factors (including global interest and exchange rates) having little effect on business risk-taking. Consistent with this, the bulk of the increase in business borrowings were related to earlier planned fund-raising and for working capital needs.

Businesses generally remained profitable, with median operating margin and return on assets holding broadly steady in the first nine months of the year at 12% (2013: 12.9%) and 4.9% (2013: 4.8%) respectively (Chart 1.17). The sharp fall in oil prices in the final quarter of the year may alter overall results for businesses in the oil and gas (O&G) sector and the weak ringgit may impact results of some domestic-oriented businesses with high import content. Any impact on the O&G sector, however, is comfortably buffered by the reasonably high median interest coverage ratio (ICR) of 4.3 times. More broadly, the median ICR for all businesses continued to be

healthy at 6.4 times (2013: 7.7 times) in the first nine months of the year (Chart 1.18). This was reinforced by the sound overall liquidity position of businesses, with the median current ratio (current assets to current liabilities) and ratio of cash-to-short-term debt at 1.9 times (2013: 1.8 times) and 1.3 times (2013: 1.4 times) respectively. The ratio of bank loan repayments-to-disbursements also remained high at 95.9% (2013: 94.2%). Overall, businesses in Malaysia compare favourably to those in other regional economies in terms of the distribution of debt owed by businesses that have healthy indicators of leverage and debt servicing capacity (Table 1.5) (further details provided in the box article ‘Malaysian Corporate Leverage and Its Systemic Implications’).

Chart 1.16

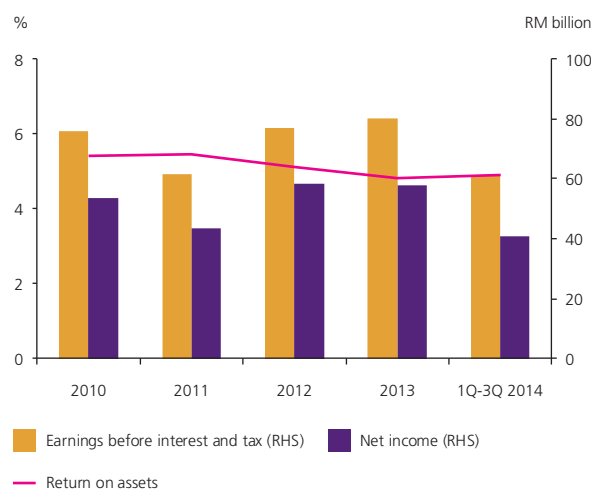
Business Sector: Leverage and Liquidity Indicators



Source: Bloomberg and internal computation

Chart 1.17

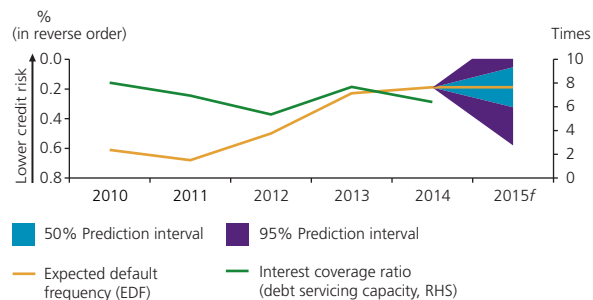
Business Sector: Profitability Indicators



Source: Bloomberg and internal computation

Chart 1.18

Business Sector: Debt Servicing Capacity and Credit Risk Outlook



f Forecast

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

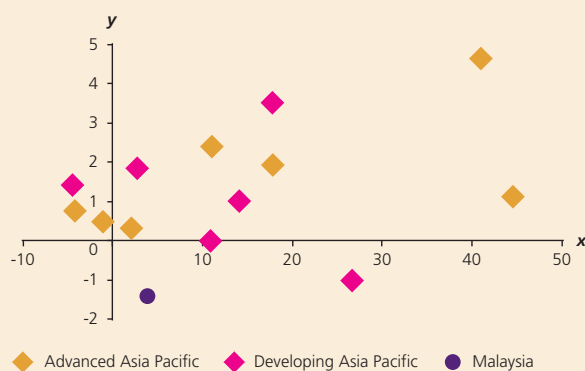
Malaysian Corporate Leverage and Its Systemic Implications

The capital structure and financial condition of corporations have important effects on macroeconomic and financial stability outcomes. One of the ways in which a firm maximises its value is by maintaining an optimal mix of debt and equity (leverage profile) to finance assets that generate cash flows for the firm¹. A variety of factors influence a firm's leverage decisions, including accessibility, cost and the diversity of funding sources. Such decisions, in turn, can positively affect a company's competitiveness and growth potential, leading to innovation and productive investments in an economy. However, a rapid and significant increase in corporate leverage can also increase financial stability risks, particularly where it is accompanied by prolonged low interest rates, compressed risk premiums and a rising share of foreign currency borrowings. Higher debt burdens as a result of changes in borrowing costs and variability in exchange rates could increase the propensity to default by more vulnerable firms, inflicting credit losses and funding pressures on financial intermediaries. A broader contraction in credit flows to key economic sectors can, in turn, precipitate a severe economic slowdown.

Recent assessments by the BIS and the IMF have highlighted the risks arising from high and rising debt levels in some emerging economies. Corporate debt levels in many Asia Pacific economies have increased relative to 2003-2007 averages, with corporate bond issuances surpassing levels recorded prior to the Global Financial Crisis (GFC) as borrowing costs dipped to multi-year lows in line with global and local interest rates (Chart 1). This may complicate adjustments by businesses in an environment of slower growth and tighter funding conditions. The adjustments are likely to be more difficult in economies where the markets judge that policy responses have been insufficient to address macroeconomic and financial vulnerabilities, and where firms are more dependent on external financing, in particular from foreign capital flows.

Chart 1

Non-financial Corporate Credit-to-GDP and Debt Issuances-to-GDP Ratios



Note: **x**: Ppt change in corporate credit-to-GDP (2003-07 average vis-à-vis 2013)
y: Ppt change in corporate debt issuances-to-GDP (2007 vis-à-vis 2013)

Source: International Monetary Fund and internal estimates

Against this setting, this article examines: (i) the domestic and external financing determinants of Malaysian corporate sector leverage, comparing conditions before and after the GFC; and (ii) the susceptibility of corporations to shocks as global liquidity levels recede and funding conditions tighten. Additional insights are provided on sector- and institution-specific dynamics that explain the profile of Malaysian corporate leverage. In the final part of the article, results of stress tests conducted by the Bank on a sample of large corporates and the corresponding contagion impact on the financial system are presented.

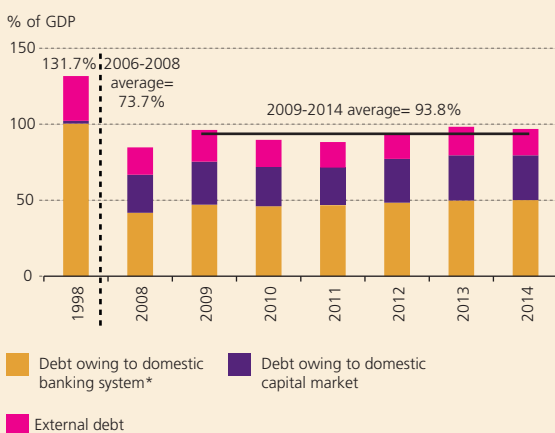
¹ Panel estimations in this article therefore employed debt-to-asset ratio as the primary measure of a company's leverage burden relative to its total (book) asset value. Rajan and Zingales (1995) suggest this as the more appropriate definition of leverage as this is viewed as a proxy of residual value for shareholders in the case of liquidation. Other measures such as debt-to-equity and debt-to-sales are used as robustness tests.

Determinants of Corporate Leverage

In Malaysia, the increase in non-financial corporate sector² debt levels has been relatively modest, growing broadly in line with domestic economic expansion (see Chapter 1 – Chart 1.28). Corporate leverage levels remain relatively stable within historical averages both prior to and after the GFC, and below levels recorded prior to the Asian Financial Crisis (AFC) (Chart 2). Funding of Malaysian corporations is predominantly (82%) sourced from the domestic banks and capital markets and denominated in ringgit. Following the rapid development of the domestic corporate bond and sukuk markets since the AFC³, corporate financing has also been more evenly distributed between domestic banks and the capital market (Chart 3). Benefitting from more efficient financing costs and the ability to access longer term funding as a result of the broad investor base, liquid capital markets and a conducive regulatory framework, domestic corporations have increasingly tapped into the Malaysian corporate bond and sukuk markets to meet financing needs. In particular, the sukuk market has experienced solid increases in non-sovereign issuances since 2000, in line with the rising contribution of private sector investments to GDP. This has reduced concentrations in bank and external financing observed prior to the AFC.

Chart 2

Corporate Debt-to-GDP Ratios

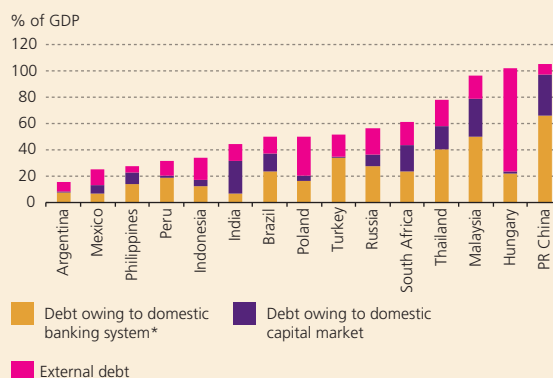


Note: * For Malaysia, this includes debt owing to locally-incorporated foreign banks

Source: Bank Negara Malaysia

Chart 3

Cross-country Comparison of Corporate Debt and Funding Sources



Note: * For Malaysia, this includes debt owing to locally-incorporated foreign banks
Data as at end-2014 for Malaysia, whereas data for other sampled countries are based on the IMF Global Financial Stability Report April 2014

Source: International Monetary Fund and internal estimates

Panel data estimations using firm-level data (consolidated at the group level)⁴ covering 130 firms (representing more than half of the market capitalisation of the domestic equity market, excluding financial institutions) between 2004-2013 were used to establish key determinants of corporate leverage in Malaysia. Three clusters of potential explanatory factors of debt accumulation (firm-specific characteristics, domestic macroeconomic factors and external factors)⁵ were regressed against the debt-to-asset ratios of firms using a dynamic

² Includes government-linked companies.

³ Malaysia's past experience in resolving corporate sector fragilities and the adverse feedback loop to the banking and real sectors during AFC prompted multi-pronged efforts to develop domestic capital markets and reduce reliance on funding from banks and volatile foreign capital inflows. These efforts included the establishment of the National Bond Market Committee in 1999 and initiatives to develop an effective benchmark yield curve, widen issuer and investor base, and deepen secondary market liquidity.

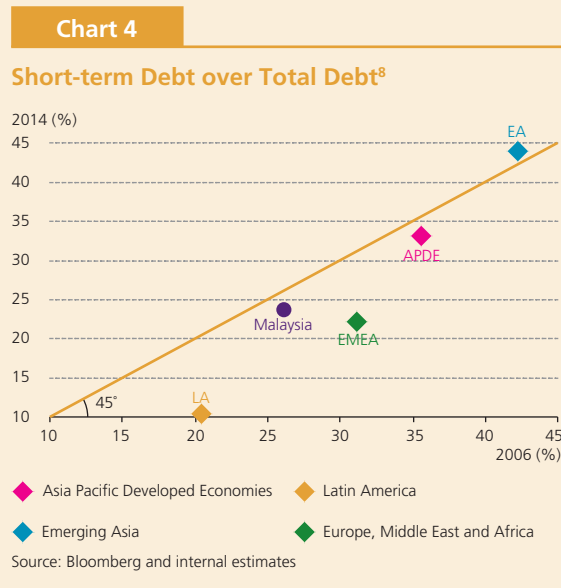
⁴ Data is based on consolidated financial statements of the parent and its domestic and overseas subsidiaries, including the equity accounting of interest in associates.

⁵ Regressors include cash balances, total assets, current ratio, short-term debt, firm growth, tangibility and profitability, terms of trade, inflation, portfolio investments, private debt securities (PDS) spread and stock outstanding, loans to domestic businesses, credit-to-GDP ratio, size of banking sector, GDP growth, money supply (M2), gross fixed capital formation, cross-border bank loans, average lending rate, outstanding global bonds, MYR-USD spot rate, Brent crude prices, Merrill Option Volatility Estimate (MOVE) index, Chicago Board Options Exchange Volatility Index (VIX) and global liquidity conditions.

panel regression model⁶. The panel dataset was further divided into two subsample periods, to capture the dynamics of factors influencing corporate indebtedness pre- and post-GFC. The final estimations demonstrated that the increase in Malaysian corporate leverage for the entire sample period was largely driven by firm-related and domestic macroeconomic factors, with only a diminutive influence from global interest rates and risk appetite, and the credit and liquidity conditions of international markets⁷ (Table 1).

Decomposing Corporate Leverage in Malaysia

Steady issuances of medium-term debt in Malaysia, particularly between 2012 and 2013, have led to a lengthening of the average maturity of outstanding domestic corporate debt to 5.6 years in 2014 from 3 years in 2006 (Chart 4). The higher composition of medium- to long-term funding renders Malaysian corporations less susceptible to rollover and funding risks which have been more pronounced in jurisdictions which experienced spikes in short-term debt funding in recent periods.



While banks remained as an important funding provider for most Malaysian firms, firms in capital intensive industries - namely the utilities, infrastructure, oil and gas, telecommunication and transportation sectors - rely more on market-based financing due to the larger and longer-term funding required in particular for projects and investments with long gestation periods. These sectors accounted for approximately 60% of total outstanding debt securities issued in Malaysia. Conversely, bank borrowings account for a larger share of financing by firms in the manufacturing, wholesale and retail trade and property-related sectors where capital expenditure requirements are comparatively lower and firms tend to be more widely dispersed in terms of size. Total bank borrowings outstanding of these sectors accounted for 60% of total domestic business loans. The average maturity of such loans of 8.4 years in 2014 (2012: 7.8 years) suggests that funds raised continue to be mainly used for business investments. More than half (53%) of bank borrowings are for working capital, while about 29.5% is channelled into real-estate, including the purchase of land and commercial property for development and business use, and to fund construction-related activities.

⁶ To capture the dynamic adjustments in leverage, a dynamic panel model using Arellano Bond one-step Generalised Method of Moments (GMM) estimator was used. Although the two-step GMM estimator is more efficient, the standard errors are downward biased and tend to underestimate the true value of the standard deviation of the estimates (see Arellano and Bond, 1991 and Soto, 2009).

⁷ The coefficient estimates for external factor variables, pre- and post-GFC, are mostly statistically insignificant or with near zero coefficients.

⁸ Sample countries are not intended to be exhaustive, and are grouped as follows: (1) APDE - Australia, Japan, Hong Kong SAR and South Korea, (2) EA - PR China, India, Thailand, Indonesia, and the Philippines, (3) EMEA - Russia, Poland, Turkey, and South Africa, and (4) LA - Argentina, Brazil, Chile, Colombia and Mexico.

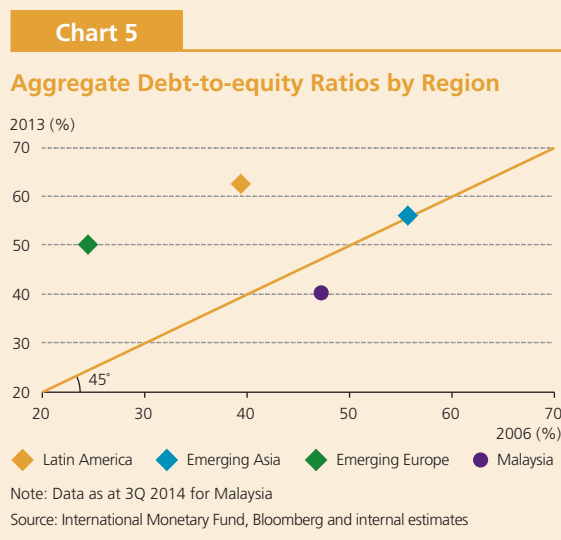
Table 1

Key Determinants of Corporate Leverage in Malaysia

	Determinant	Relationship	Observed sector- or firm-specific behaviour
Firm-specific characteristics	Debt-to-asset ratio (up to 2 lags)	Positive, significant at 1% and 10% level	<ul style="list-style-type: none"> Corporations adjust leverage gradually to exogenous shocks, reflective of the dynamism in the capital structure decision by Malaysian corporations.
	Profitability	Negative, significant at 1%	<ul style="list-style-type: none"> Profitable firms with sufficient retained earnings are able to reduce reliance on debt financing and utilise more cost-effective internal funds.
	Cash balances	Negative, significant at 10%	<ul style="list-style-type: none"> Consistent with the pecking order theory, Malaysian firms prefer internal funds over raising debt and equity in order to maintain financing flexibility, minimise information flow to capital markets and competitors, and prevent ownership dilution⁹.
	Firm size (up to 4 quarterly lags)	Positive, significant at 1% to 10% level	<ul style="list-style-type: none"> Larger firms with more diversified and consistent cash flows and access to a larger collateral pool are more likely to increase the use of debt. This is reinforced by better access to the capital market or bank financing at more favourable borrowing costs due to improved creditworthiness.
	Short-term debt	Positive, significant at 1%	<ul style="list-style-type: none"> Most corporations are inclined to assume shorter-term debt as it is the cheapest method to temporarily adjust to optimal levels of debt. However, the near-zero coefficient suggests limited influence of short-term debt on Malaysian corporate leverage. This posits that Malaysian firms tend not to adjust to a target leverage level using short-term debt.
Domestic factors	Average lending rate (ALR) for new business loans	Negative, significant at 5%	<ul style="list-style-type: none"> Lower lending rates typically induce greater appetite for risk taking and debt accumulation as the cost of borrowing is reduced more generally. However, the post-GFC ALR for new domestic business loans was, on average, only 0.6 ppts lower compared to pre-2008 level, providing marginal incentives for Malaysian firms to increase leverage.
	Real GDP growth	Negative, significant at 10%	<ul style="list-style-type: none"> Firms' willingness and ability to issue additional debt to finance planned investments should rise in tandem with economic expansion. However in Malaysia, the inverse relationship is more dominant. Increasing domestic demand raises retained earnings of sampled firms (predominantly domestic-oriented) that are channelled into acquisition of assets or planned investments, and concomitantly, reduces the need for debt financing. Similarly, firms may delay investments or purchases of capital equipment to conserve cash balances amid periods of economic contraction.
	Change in M2-to-GDP ratio	Negative, significant at 5%	<ul style="list-style-type: none"> A larger monetary base indicates greater availability of funds for financing. Nonetheless, M2 growth is negatively related to Malaysian corporate leverage at a very small quantum. This could be due to M2 capturing the level of official liquidity, as opposed to private liquidity¹⁰.
	Banking sector growth	Positive, significant at 5%	<ul style="list-style-type: none"> Growing number and size of well-capitalised banks pre- and post-GFC provided uninterrupted access to financing to fund investment activities or working capital of Malaysian firms¹¹.
External factors	Change in MYR-USD spot rate	Insignificant	<ul style="list-style-type: none"> Firms which benefit from a stronger domestic currency can tactically increase external debt prior to an anticipated appreciation. The rising strength of ringgit post-GFC relative to major currencies should have induced higher external debt accumulation. However in Malaysia, such effects were more than offset by domestic macroeconomic factors and firm-specific capacity (asset growth, cash balances), given that the sampled firms are mostly reliant on domestic demand and funding sources.
	Change in (i) global bonds outstanding and (ii) cross-border bank loans	Insignificant	<ul style="list-style-type: none"> Many emerging market corporations saw growing incentives to raise leverage amid compressed global interest rates and risk premiums, and stronger local currencies post-GFC (issuances of emerging market private sector debt between 2009-2012 more than doubled relative to preceding four years). However, only a fraction of the largest Malaysian firms capitalised on this environment as evidenced by the lack of explanatory power on leverage.
	Change in Brent crude oil prices	Insignificant	<ul style="list-style-type: none"> In theory, rising oil prices and lower global risk aversion post-GFC should result in higher corporate leverage.
	Merrill Option Volatility Estimate index	Insignificant	<ul style="list-style-type: none"> However, the near-zero coefficient or statistical insignificance of such regressors indicate immaterial effects on debt accumulation of Malaysian firms, consistent with the more pronounced influence from domestically-driven factors.

External borrowings of Malaysian corporations¹² increased at a modest annual rate of 4.2% between 2008 and 2014, averaging at 18% of GDP. This trend was underpinned by the continued cross-border expansion of larger firms, and to a smaller degree, the compression in corporate risk premiums globally. Approximately 41% of these external borrowings are in the form of long-dated debt securities, the bulk of which are issued by large home-grown conglomerates with operations in multiple jurisdictions. These larger firms are supported by centralised treasury management functions which are able to source financing more efficiently from both the domestic and global funding markets to take advantage of differential funding costs. Industry engagements confirm that the vast majority of such firms are able to leverage on enterprise-wide cash and risk management systems which allow for the better management of risks associated with higher external borrowings. Almost a quarter of such external borrowings are sourced from affiliates located abroad by multinational companies which also tend to be less sensitive to interest and exchange rate volatility. The bulk of corporate external borrowings are denominated in major currencies such as the US dollar (76.1%) and Singapore dollar (5.8%). Risks from currency mismatches are expected to be manageable based on information obtained by the Bank for approved external borrowings by domestic corporations, which showed that a significant portion is hedged with financial derivatives and foreign revenue streams from cross-border investments and operations.

Against the above factors, corporate leverage of Malaysian firms on aggregate has remained below the level observed prior to the GFC, in contrast to other emerging economies (Chart 5). Strong and relatively stable corporate earnings over the past years have allowed firms to sustainably increase debt levels to fund growing capital expenditure and investments. This has been



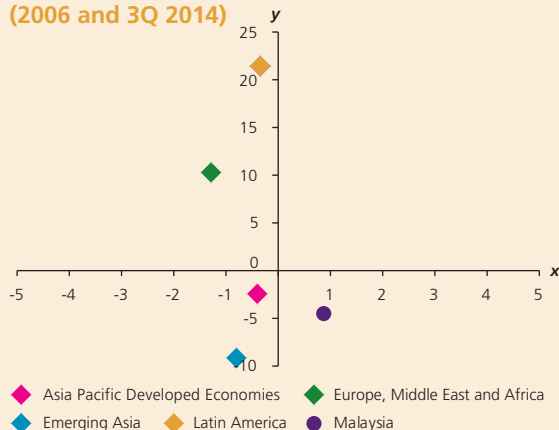
- ⁹ Mat Nor and Sulong (2007) and Abdul Rahman and Ali (2006) showed that owner-managed firms are common among Malaysian companies. Ow-Yong and Guan (2000) posited that listed companies in Malaysia evolved from traditionally family owned firms, and some continue to be managed as such.
- ¹⁰ Traditional monetary aggregates on a national level are unable to capture the full range of liquidity-creating instruments or the full impact of the activities of large cross-border financial intermediaries. See Chen et al. (2012), p5, and Adrian and Song Shin (2009).
- ¹¹ Growth in private debt securities (PDS) outstanding has no explanatory power on Malaysian corporate leverage. The propensity of Malaysian firms to increase leverage diminishes as the stock of outstanding PDS and sukuk rises. With a finite pool of foreign and domestic investors and relatively thinner trading liquidity for PDS, the dominance of private issuances in Malaysia over the past decade by large conglomerates has potentially crowded out funding by mid- and small-sized corporations in the capital market despite reducing borrowing costs and improved market access.
- ¹² Data on external borrowings are compiled in accordance with the IMF's Balance of Payments Manual, Fifth Edition and the External Debt Statistics: Guide for Compilers and Users (2003). Gross external debt, at any given time, is the outstanding amount of those current, not contingent, liabilities that require payment(s) of interest and/or principal by the debtor at some point(s) in the future and that are owed to non-residents by residents of an economy.

supported by improved debt servicing capacity observed at the aggregate and individual firm levels (Chart 6 and Chart 7).

By disaggregating corporate sector averages, the share of Malaysian corporate debt that represents potential “vulnerable debt” based on the individual borrowing firm’s leverage and financial indicators is low in comparison with regional peers (Chart 8, Chart 9 and Chart 10)^{13,14,15}. More leveraged domestic firms generally registered higher return on asset (ROA) and interest coverage ratios (ICR),

Chart 6

Leverage Ratio and Debt Servicing Capacity (2006 and 3Q 2014)

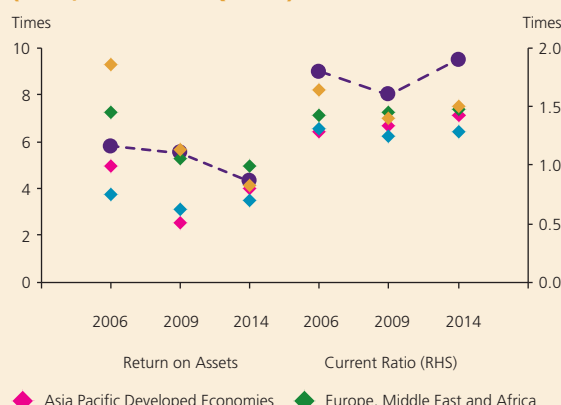


Note: x: Ppt change in interest coverage ratio (2006 vis-à-vis 2014)
y: Ppt change in leverage ratio (2006 vis-à-vis 2014)

Source: International Monetary Fund and internal estimates

Chart 7

Profitability and Liquidity Ratio (2006, 2009 and 3Q 2014)

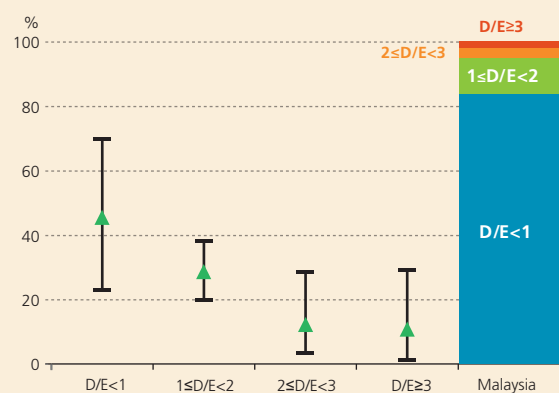


Note: x: Ppt change in interest coverage ratio (2006 vis-à-vis 2014)
y: Ppt change in leverage ratio (2006 vis-à-vis 2014)

Source: Bloomberg and internal estimates

Chart 8

Distribution of Potential Vulnerable Debt by Leverage Ratio

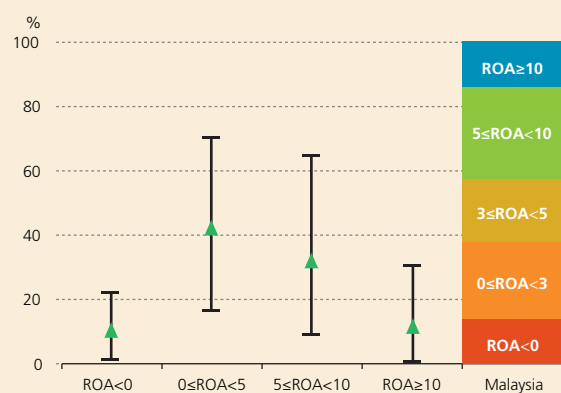


*D/E refers to debt-to-equity
Note: Data as at 3Q 2014 for Malaysia

Source: International Monetary Fund and internal estimates

Chart 9

Distribution of Potential Vulnerable Debt by Profitability



*ROA refers to return on assets
Note: Data as at 3Q 2014 for Malaysia

Source: International Monetary Fund and internal estimates

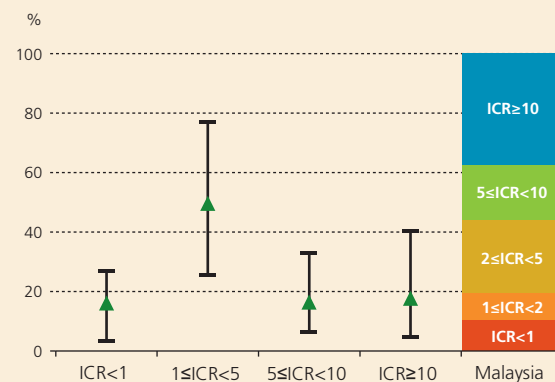
¹³ Potential vulnerable debt of Malaysian corporates is represented by the bar, distributed by the amount of debt of borrowing firms that have financial ratios above or below specified thresholds. Riskier debt is represented in red and amber shades.

¹⁴ Each line represents the composition range of sampled public listed companies across 13 regional countries, for each bucket of a particular financial ratio. The upper boundary and the lower boundary represents the maximum and minimum composition range recorded by these sampled firms. The green indicator represents the average composition range of each bucket.

¹⁵ Countries in the sample consists of Asia Pacific nations including the Philippines, Hong Kong SAR, Singapore, Thailand, New Zealand, Vietnam, PR China, India, Japan, Indonesia, Australia, Chinese Taipei, and South Korea.

Chart 10

Distribution of Potential Vulnerable Debt by Interest Coverage Ratio



*ICR refers to interest coverage ratio
Note: Data as at 3Q 2014 for Malaysia

Source: International Monetary Fund and internal estimates

while also being supported by stable cash balances. More than 83% of domestic corporate debt is considered non-risky based on a debt-to-equity ratio of borrowing firms of less than 1, with a median debt-to-equity ratio below 1 (about 64% of sampled Asia Pacific countries recorded a median above 1). More than 42% of debt is taken by firms registering a ROA above 5%, providing substantial earnings buffers against potential shocks. The median ROA compared favourably to sampled countries and remained healthy at above 4%. In terms of debt servicing capacity, 80.5% of debt is owed by Malaysian firms that have sufficient earnings to cover more than two times interest expenses, providing flexibility to adjust to higher debt expenses or lower operating profits moving forward. The median ICR for Malaysian firms exceeded 5, higher than 84% of sampled Asia Pacific countries.

Corporate Stress Tests

While the leverage profile of Malaysian corporations does not exhibit signs of excessiveness, the prevailing uncertainty in global financial and economic conditions has raised the spectre of growing corporate defaults with their attendant damaging feedback loops to the financial and real sectors. With this in mind, the Bank undertook stress tests which simulated four major shocks under two adverse scenarios on a set of non-financial corporations with total domestic exposures¹⁶ exceeding RM2 billion¹⁷ at each entity level. The contagion impact on the financial system from potential systemic risks transmitted through the asset- and liability-side exposures of these corporations with financial institutions was then assessed¹⁸ (Table 2). Under conservative assumptions¹⁹, the impact of cumulative earnings, foreign currency and funding shocks on the liquidity buffers, solvency and debt servicing capacity²⁰ of each sampled firm was simulated homogeneously. A corporate entity which registered a post-shock cash over short-term obligations (CASTO) ratio of less than 1, and where the liability-to-asset ratio exceeds 1 is deemed as illiquid and insolvent respectively. An entity with a post-shock ICR of less than 2 times is assumed to default on all outstanding credit obligations.

¹⁶ Refers to the sum of borrowings with Malaysian banks and corporate debt securities issued in the domestic bond market.

¹⁷ These non-financial corporations collectively accounted for approximately 40% of total exposures to domestic financial system, including all locally-issued private debt securities held by Malaysian banks, insurers, DFIs and takaful operators.

¹⁸ Due to incomplete information on bilateral exposures among non-financial corporations, the stress test did not incorporate the effects of potential cross defaults within or outside a non-financial conglomerate.

¹⁹ The stress test disregards the present balance sheet health or future profit-generating capacity of sampled corporations and any form of hedging on foreign currency mismatches and potential translation gains.

²⁰ As measured by the cash over short-term obligations (CASTO) ratio, liability-to-asset ratio, and ICR respectively.

Table 2

Key Assumptions and Shock Parameters for Adverse Scenarios**Key Assumptions and Shock Parameters for Sampled Corporations**

Earnings shock	<ul style="list-style-type: none"> Up to 50% decline in operating profit
Foreign currency shock	<ul style="list-style-type: none"> Up to 3.5 standard deviations shock on the 6-month moving average of USD/RM rates over the past 20 years <ul style="list-style-type: none"> Discount any form of natural or financial hedging, or any foreign currency translation gains
Funding cost shock	<ul style="list-style-type: none"> Up to 100 bps increase in borrowing costs of ringgit denominated bank loans Up to 100 bps increase in the coupon rate for new corporate bond or sukuk issuance for the next 2 years <ul style="list-style-type: none"> Issuer's credit rating and tenure of new issuances assumed to be unchanged

Simulated Contagion Effects on Banks and Insurance Companies

Liquidity risk shock	<ul style="list-style-type: none"> Affected corporations (those with post-shock CASTO<1 and ICR<2 times) were assumed to withdraw 66% of deposits placements with banks within a month
Credit risk shock	<ul style="list-style-type: none"> Average loss given default of 51%
Market risk shock	<ul style="list-style-type: none"> Up to 100 bps increase in yields across different PDS ratings and tenures Outstanding corporate bond and sukuk held by financial institutions were assumed to be classified as "held-for-trading" and "available-for-sale"

The simulated earnings shocks recorded the highest impact on corporations' debt servicing capacity, reducing the aggregate ICR by 0.66 ppt to 1.32 ppts, and individual firm ICR by 33.5 ppts to 67.1 ppts under both adverse scenarios. The effects of higher debt servicing expenses for foreign currency denominated and floating rate ringgit borrowings were less pronounced, shrinking aggregate ICR by a narrow range of 0.03 ppt to 0.11 ppt. At the firm-level, the impact varied widely between 11.8 ppts and 41 ppts. Maintaining the credit profile of issuers and tenure of new (rolled-over) issuances constant, the higher PDS yields on the maturing corporate bonds – of which half is assumed to be replaced concurrently – had negligible impact on aggregate ICR (individual ICR of sampled corporations fell between 1.72 ppts and 5.74 ppts). In terms of the liquidity impact, CASTO ratios were less affected by the effects of higher interest expenses on ringgit variable rate loans (individual firm CASTO reduced between 0.13 ppt and 0.5 ppt), relative to outstanding non-ringgit debt (individual firm CASTO shrank between 1.06 ppts and 2.63 ppts). A cursory examination of firm-level financials suggests that the solvency positions of all sampled firms are estimated to remain intact across all simulated shocks, even when discounting the higher asset valuation effects arising from a weaker ringgit. This demonstrates that most Malaysian firms have adequate revenue generating assets to cover potentially higher foreign currency liabilities.

The direct contagion effects on the financial system arising from potential distressed corporations appear to be well contained. Cumulative asset-side shocks to the banking system from credit and market losses remained manageable at 16.8% of total banking system capital, driven primarily by the impact of earnings shock on sampled corporations. For insurers, the cumulative shocks eroded total capital available by a mere 1.1%. In terms of liability-side pressures, banks are estimated to experience erosions in the stock of liquidity buffers by up to 0.9 ppt and 0.4 ppt within the one-week and one-month maturity buckets respectively, as measured under the current Liquidity Framework. Even after simulating large withdrawals of deposits by affected sampled corporations, banks' aggregate liquefiable assets could still withstand an additional 15.9% in deposit outflows within the one-month horizon.

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Table 1.5

Business Sector: Distribution of Debt by Financial Indicators

As % of total business debt	Malaysia	Average for regional comparators
Debt-to-equity ratio <1 time	83.1	46.2
Return on assets >5%	42.5	44.5
ICR >5 times	56.5	34.1

Source: International Monetary Fund and internal estimates

Business resilience also improved on account of the negligible growth of outstanding external borrowings which amounted to RM186.2 billion. This was attributed in part to maturing bonds by businesses in the transportation and O&G sectors. External borrowings as a share of total business debt correspondingly declined to 18% (2013: 19.2%) as at end-2014. The borrowings largely comprised financing by corporations in the more capital-intensive manufacturing, O&G and utility industries. The bulk of borrowings relate to intra-group funding obtained by onshore corporations from overseas parents, and issuances of bonds and notes by resident corporations for their overseas operations. As such, most of these borrowings are supported by foreign currency (FCY) receivables which act as a natural hedge against exchange rate movements. Businesses in Malaysia are also hedging their foreign exchange (FX) risks through financial derivatives with onshore financial institutions.

Growth in external borrowings was negligible in 2014, most of which are to finance global operations and supported by FCY receivables

The overall quality of business loans in the banking system remains sound, with the ratio of impaired loans continuing to improve (Table 1.6). The improvements have generally been broad-based, including for SMEs. Banks' exposures to the transportation, storage and telecommunications sector continued to record a higher impaired loans ratio relative to other sectors, on account of the weaker

past performance of the aviation and shipping industries. Bank exposures in this sector are however contained, accounting for 6.2% of total business loans from the banking sector. Meanwhile, businesses that raised debt in the capital markets have also improved their credit standing. The number of rating upgrades exceeded downgrades by a ratio of 1.5 to 1, compared with a ratio of 1.1 to 1 in 2013 for domestically rated outstanding PDS and sukuk.

Within the business sector, the financial condition of large borrowers has a material bearing on the stability of financial institutions given the significance of exposures to such borrowers. Large borrowers, defined as corporations with credit exposures (including direct financing and holdings of PDS and sukuk) exceeding RM2 billion with Malaysian financial institutions, accounted for 29.1% of total exposures of banks and DFIs, and 23.2% of exposures of insurance and takaful fund assets, to businesses. The aggregate debt servicing capacity of the large borrowers continues to be supported by reasonably healthy cash buffers and earnings. The median current ratio for the large borrowers improved to 1.9 times (2013: 1.4 times) as at end-September 2014. The median ICR remained stable at 5.2 times which is above a prudent level of at least two times. External borrowings of these businesses are also largely hedged with FCY receivables or financial derivatives. This provides reasonable buffers for the borrowers to continue servicing debt obligations in the event of a decline in profitability, higher exposures to FCY debt or higher borrowing costs. Among large borrowers, those with an ICR lower than the median level of 5.2 times, accounted for less than 18.6% of total exposures of banks and DFIs, and 3.1% of total exposures of insurers and takaful operators. Under stress tests performed by the Bank which

Table 1.6

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

	% of Total Business Loan	Gross Impaired Loans Ratio			Gross Loans-in-arrears Ratio		
		2014	2012	2013	2014	2012	2013
Overall		3.0	2.8	2.5	1.0	0.4	0.3
Manufacturing	20.2	5.7	6.1	5.0	0.2	0.1	0.1
Wholesale and retail trade, restaurants and hotels	19.7	2.2	2.0	1.7	0.5	0.4	0.3
Real estate activities	17.2	1.0	0.7	0.7	0.1	0.1	0.1
Construction	11.6	3.8	3.1	3.0	0.7	0.3	0.2
Transport, storage & communication	6.2	5.8	6.2	5.8	0.9	0.9	0.8
SMEs	45.8	3.0	2.7	2.6	0.9	0.5	0.5

Source: Bank Negara Malaysia

simulated the potential impact of severe shocks from a significant depreciation of the ringgit against the US dollar and higher funding costs, the impact on the overall debt servicing capacity of large borrowers is muted. The potential impact of severe simulated shocks of a 50% decline in operating profit would be more significant, although earnings would still be able to cover interest obligations (further details provided in the box article 'Malaysian Corporate Leverage and Its Systemic Implications').

Aggregate debt servicing capacity of large borrowers continues to be supported by healthy cash buffers and earnings

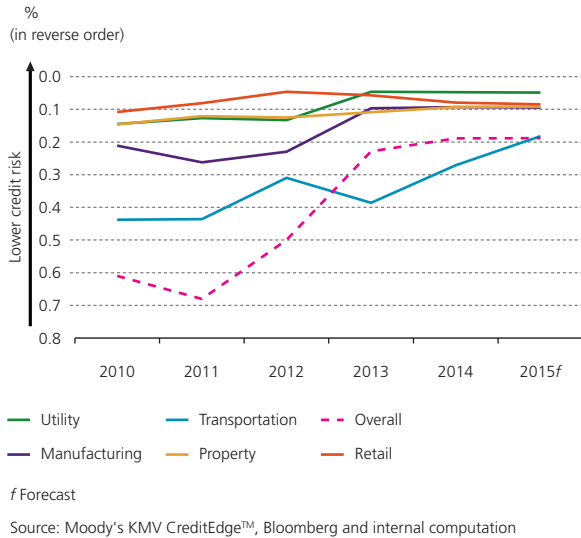
Banks continue to maintain sound underwriting and risk management standards, as well as conservative loan loss provisioning practices, in managing exposures to the business sector. Following the Bank's issuance of enhanced standards for managing exposures to single counterparties in 2013, banks have further strengthened internal policies and processes for controlling credit concentrations. This includes having in place more comprehensive and detailed limits on exposures to single counterparties that take into account economic and financial

dependencies between entities, and more granular approaches to differentiating limits between business segments based on risk profile. Banks also continue to enhance internal systems for measuring and monitoring sectoral and counterparty concentrations as part of the capital management process. This ensures that adequate capital is allocated against such risks in line with the regulatory capital requirements under Pillar 2 of the capital framework. Additionally, banks have improved the monitoring of repayment risks taking into account the maturity profile of business loans, particularly those with bullet or balloon repayment terms.

While businesses may be affected by increased uncertainties in the coming year, this is not expected to have a material impact on the overall debt servicing capacity of businesses which is expected to continue to be well-supported by healthy business balance sheets. The credit risk outlook for businesses as a whole, as observed in the Expected Default Frequency (EDF), improved further to 0.19% (2013: 0.23%) as at end-2014 (Chart 1.19). The EDF for the top five industries that Malaysian financial institutions are most exposed to has been generally stable. Notably, the EDF for the transportation industry reversed the earlier deterioration in 2013 following the on-going corporate restructuring and business reorganisations in the airline and shipping industries which should improve future growth and earnings prospect. As expected,

Chart 1.19

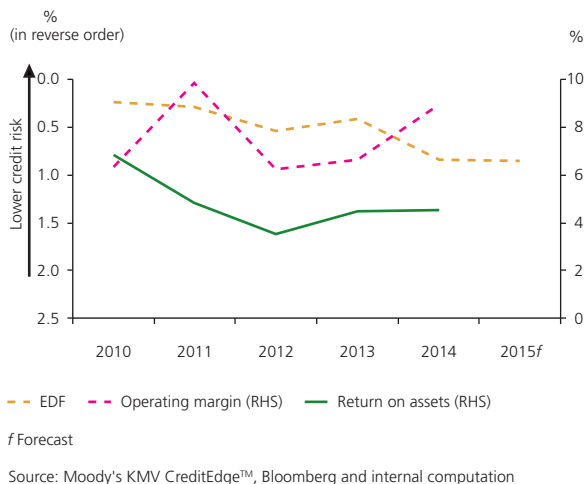
Business Sector: EDF by Industry



the recent decline in global oil prices adversely affected the credit risk outlook for businesses dependent on engineering, procurement, construction and commissioning (EPCC) in the O&G sector (Chart 1.20). The exposure of banks to the sector, however, are small at below 2% of total credit exposures to businesses. A simulated materialisation of default incidences in the O&G sector is assessed to have limited impact with estimated potential losses totalling RM226.2 million or 0.2% of the excess capital of banks.

Chart 1.20

Business Sector: Profitability and EDF for EPCC O&G Industry



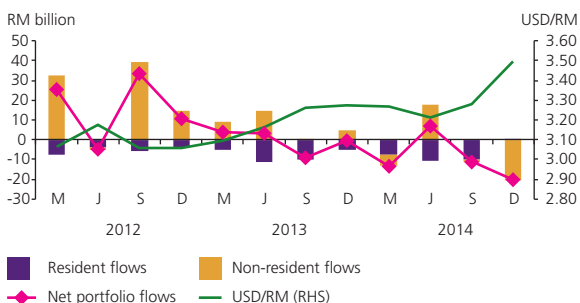
MANAGING RISKS FROM FINANCIAL MARKET VOLATILITY

The domestic financial markets experienced several episodes of heightened movements in short-term portfolio flows throughout the year. Developments, mostly on the external front, weighed heavily on investor sentiment and risk appetite with portfolio investors retreating from emerging markets. Falling oil prices particularly towards the end of the year and in the early part of 2015 added to investor concerns over the potential impact on the domestic economy. The ringgit depreciated by 6.1% for the year and by 3.6% in December, to end the year at RM3.4950 per US dollar. The market capitalisation of the FTSE Bursa Malaysia contracted by 2.9%, while the FTSE Bursa Malaysia Kuala Lumpur Composite Index (FBM KLCI) closed lower for the year at 1,761.3 points. Yields on Malaysian Government Securities (MGS) edged upwards between 0.2 bps to 45.4 bps across the 1-year to 10-year tenures during the year. Despite increased risk aversion, orderly conditions in the domestic financial markets were preserved. The presence of strong financial institutions and a large pool of domestic institutional investors continued to provide the necessary liquidity and demand in the domestic financial markets. This helped to ease and contain the volatility. Overall, movements in short-term portfolio funds and falling oil prices did not have a destabilising impact on the domestic financial markets. The Malaysian financial institutions have continued to record net gains from mark-to-market valuations and trading activities, reflecting generally prudent risk-taking behaviours. Despite the outflows of portfolio funds, domestic funding conditions remain favourable and supportive of financing activities. This is underpinned by the stable profile of banks' funding which is largely deposit-based and in local currency. Aggregate surplus liquidity in the system also remains at a high level amounting to RM269.9 billion as at end-2014.

Aggregate net portfolio outflows for the year as a whole amounted to RM37.9 billion (2013: net outflows of RM3 billion) (Chart 1.21). Of this, net outflows by non-residents amounted to RM9.6 billion (2013: net inflows of RM29.1 billion), while overseas investment activities of domestic institutional investors also contributed towards net outflows by residents amounting to RM28.3 billion (2013: net outflows of RM32.1 billion). Uncertainties over global growth prospects, rebalancing of portfolios and a sharp decline in oil prices contributed

Chart 1.21

Financial Market: Quarterly Net and Gross Portfolio Flows and Ringgit Exchange Rate Movement

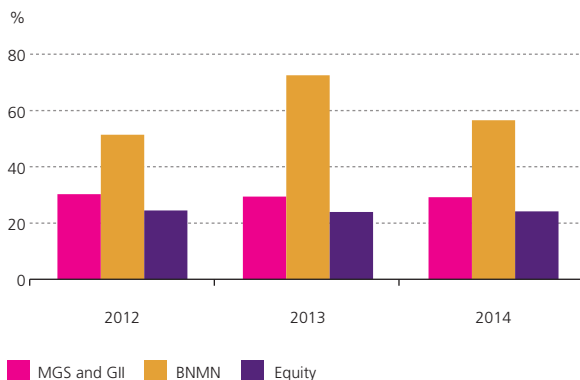


Source: Department of Statistics, Malaysia

to non-resident selling and liquidation of Bank Negara Monetary Notes (BNMN) upon maturity. Consequently, foreign holdings declined to 56.6% (2013: 72.5%) of outstanding BNMN at end-2014. These notes are used in the Bank’s monetary policy operations to absorb excess liquidity from the banking system. Despite the selling and liquidation of BNMN by non-residents, bond yields were not materially affected. Non-resident holdings of both MGS and Government Investment Issue (GII) were broadly unchanged at 29.2% of outstanding MGS and GII as at end-2014 (2013: 29.4%). Holdings of equities by non-residents remained steady at 24.1% of total market capitalisation (2013: 23.9%) (Chart 1.22).

Chart 1.22

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



Holdings of MGS, GII 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

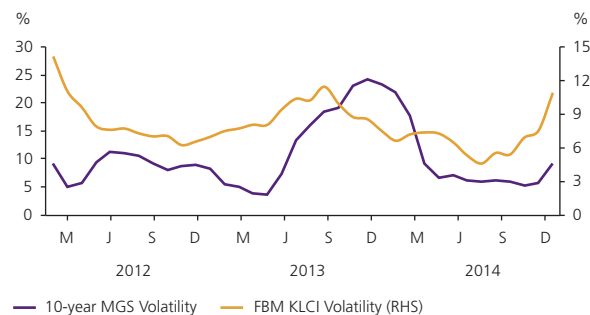
Volatility in 10-year MGS and equities averaged lower at 8.9% and 6.7% respectively for the year (2013: 13.6% and 9% respectively) (Chart 1.23). The level and composition of the Bank’s Financial Market Stress Index (FMSI) correspondingly declined further in 2014, driven mainly by lower indicator of stress in the bond, FX and money markets (Chart 1.24). Nonetheless, the declining oil prices caused renewed volatility in December, particularly in the equities market (average volatility in December: 10%). Non-residents disposed a net RM3 billion worth of Malaysian equities. Similar trends were also observed in other emerging markets’ average volatility in December (Thailand: 10.5%, Indonesia: 11.5%, Philippines: 12.3%).

Domestic institutional investors including financial institutions provided the necessary liquidity and demand to maintain orderly conditions in the domestic financial markets

Concerns that non-resident sell-offs would significantly drain liquidity from the domestic financial markets were unfounded. Market liquidity, measured in terms of price and volume, in the domestic bond and equity markets remained intact with bid-ask spreads and turnover

Chart 1.23

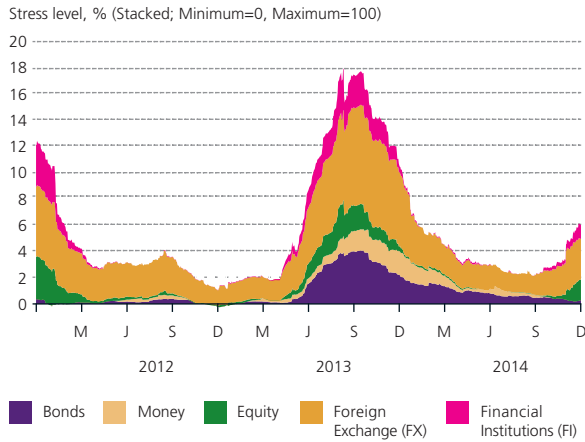
Financial Market: 90-Day FBM KLCI and MGS Yields Volatility



Source: Bloomberg

Chart 1.24

Financial Market: Financial Market Stress Index (FMSI)



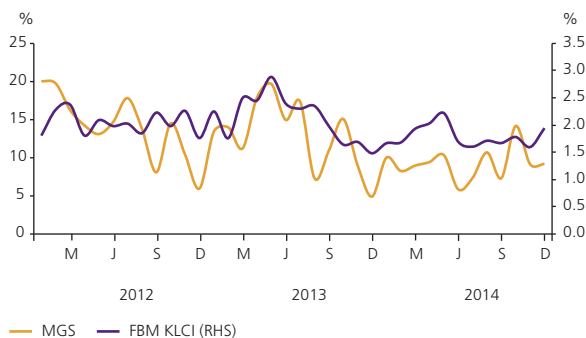
Note: 1. The FMSI is a risk monitoring tool for the financial market that is developed based on the European Central Bank's (ECB's) Composite Indicators of Stress Index (CISS). It is constructed from indicators of volatility in five components of the domestic financial markets - the foreign exchange (FX), equity, bond, money markets and financial institutions (FIs).
2. The stress level at a specific date is expressed as a value between 0 and 100, which signifies the lowest to highest stress level.

Source: Bloomberg and internal computation

ratios contained within a narrow range (Chart 1.25 and Chart 1.26). During the year, MGS yields in the short- to medium-end of the yield curve trended higher on market expectations of an increase in the OPR – a decision which was taken by the Bank in July 2014 (Chart 1.27). MGS yields rose briefly again in December across all tenures amid thinner trading volume as investors consolidated their investment portfolios towards the year-end. The yields subsequently trended lower in early 2015 as investor demand returned. Gross outflows totalled RM0.4 billion in December with MGS yields rising within a range of

Chart 1.25

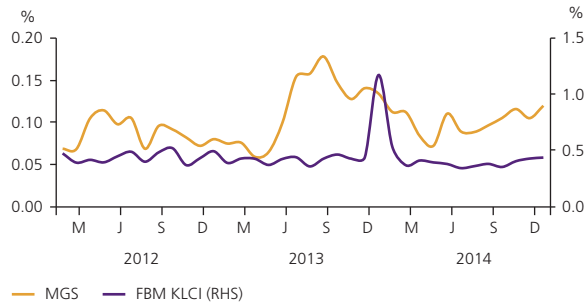
Financial Market: FBM KLCI and MGS Monthly Turnover Ratio



Source: Bloomberg

Chart 1.26

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



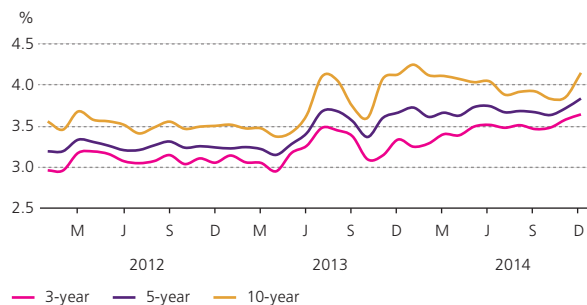
Source: Bank Negara Malaysia

between 9.7 bps to 47.9 bps across the 1-year to 10-year tenures during the month. Throughout the year, domestic institutional players including banks increased their holdings of public debt securities by 9.6% or RM34.9 billion, thus providing stabilising effects on yields (Chart 1.28). Yields on PDS rose in line with developments in the MGS market (Chart 1.29). Credit spreads against MGS widened slightly but overall conditions for fund raising activity by businesses remained favourable, given the healthy corporate balance sheets and positive growth outlook. For the year, a total of RM117.3 billion in new PDS was issued (all issuers including financial institutions).

The FBM KLCI reached a historical new high of 1,892.7 on 8 July before reversing in the final quarter to end the year at 1,761.3 points (2013: 1,867.0 points) (Chart 1.30). Despite a general rally in equity prices throughout most parts of the year, valuations did not appear to be out of line when compared with other regional equity markets and long-term average valuations.

Chart 1.27

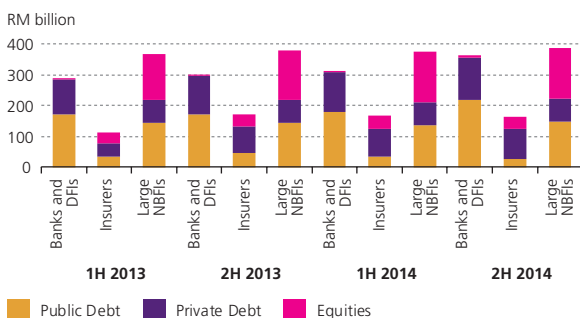
Financial Market: MGS Yields



Source: Bank Negara Malaysia

Chart 1.28

Financial Market: Holdings of Securities by Domestic Institutional Investors



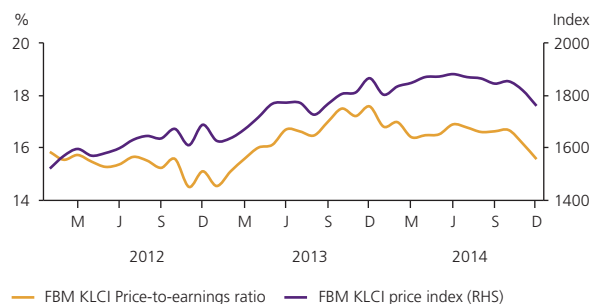
Source: Bank Negara Malaysia

At the end of the year, the price-to-earnings (PE) ratio for the FBM KLCI stood at 15.8 times against a long-term average PE ratio of 16.6 times (2013: 17.6 times).

Activities of financial institutions showed no evidence of significant shifts in risk-taking behaviours. While banks' treasury portfolio expanded by 20.9% to RM396.3 billion (17.6% of total assets) during the year, this was mostly in the form of liquefiable assets such as government securities and BNMN as banks prepared to meet strengthened liquidity requirements which will take effect in June 2015 (2013: RM327.7 billion) (Chart 1.31). Amid continued volatility in the domestic financial market, banks resized their trading book portfolio (2014: 18.3%; 2013: 20.6% of total securities respectively). Holdings of BNMN and other money market instruments continued to dominate the trading book of banks (68.5%

Chart 1.30

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

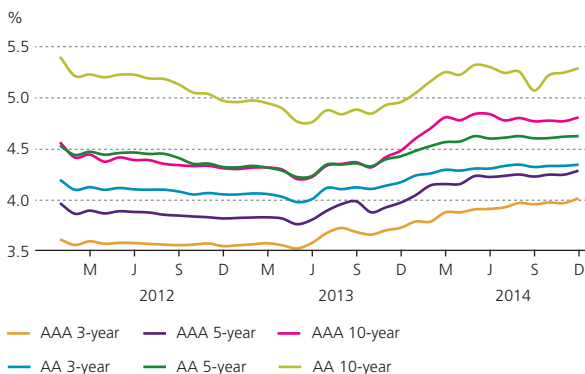


Source: Bloomberg

of banks' trading book portfolio or 12.5% of the banks' total securities portfolio). Overall, the banking system continued to record net gains from the trading and investment portfolios, albeit at a lower level from the previous year, accounting for 12.7% of total pre-tax profit (2013: 20.1%). Banks' capital charges for market risks (including interest rate risk and equity risk) were relatively stable at 1.9% of total capital, reflecting continued active risk management by banks (2013: 2%). The aggregate FX risk exposures of banks fluctuated in tandem with movements in the exchange rate against significant foreign currencies during the year, reaching 6.7% of total capital in July 2014 before ending the year at 4.9% of total capital (2013: 5.7%) (Chart 1.32). Banks continue to actively manage FCY exposures using amongst others, internal value-at-risk limits, which are applied both for each significant currency and all currencies combined. Results of internal stress tests by banks are also integrated into risk management strategies

Chart 1.29

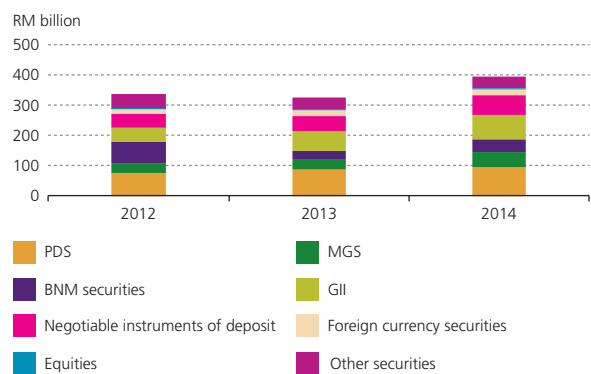
Financial Market: PDS Yields



Source: Bank Negara Malaysia

Chart 1.31

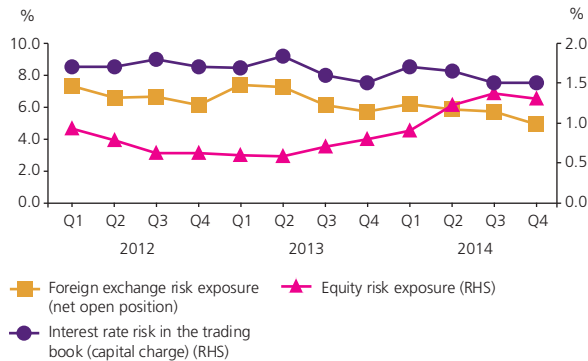
Banking System: Composition of Securities Portfolio



Source: Bank Negara Malaysia

Chart 1.32

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



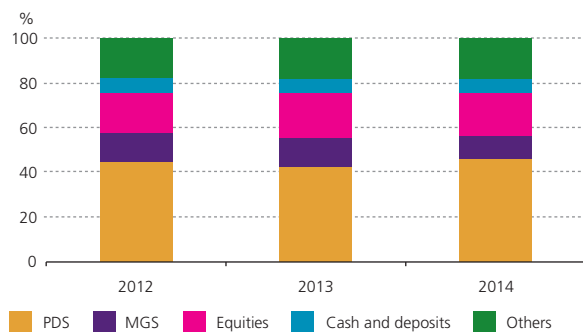
Source: Bank Negara Malaysia

and practices which include the setting of risk limits, portfolio management strategies and capital planning.

Insurers' (including takaful operators) holdings of securities as a share of total assets were broadly unchanged, at 71% of total assets. The structural composition of these assets has been consistent over the years, mostly concentrated in PDS and equities. Measures by life insurers to enhance returns on the investment portfolio have led to higher aggregate holdings of PDS which increased by 14% (2013: +2.9%). In contrast, total MGS holdings declined by 4.5%, mainly in the shorter tenures where yields exhibited higher increases, in order to reduce insurers' mark-to-market valuation losses. The overall risk profile of investments remains prudent, with MGS and PDS rated 'AA' and above combining to account for over 60% of the total securities portfolio of insurers (Chart 1.33 and Chart 1.34). Capital allocation against market risk remained the

Chart 1.33

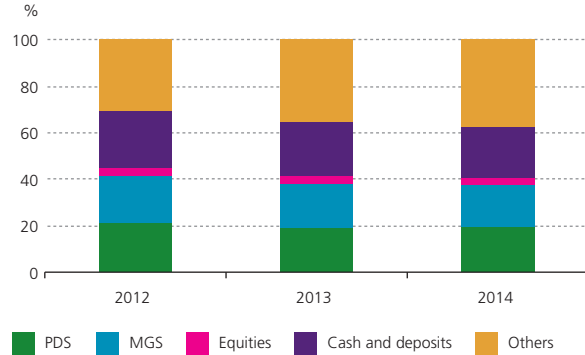
Life Insurance and Family Takaful Sector: Assets Composition



Source: Bank Negara Malaysia

Chart 1.34

General Insurance and General Takaful Sector: Assets Composition



Source: Bank Negara Malaysia

highest for equities, which accounted for 62% of total market risk capital charges (Chart 1.35).

Developments in the domestic financial markets have a substantial impact on the profitability of insurers as the bulk of the assets are classified as held-for-trading and available-for-sale. For the year, net capital and revaluation losses amounted to RM0.9 billion (2013: RM1.5 billion). The profitability of life insurers (measured by the excess of income over outgo) continues to be highly influenced by investment performance given the dependence on investment activities to generate sufficient returns to fulfil future obligations (Chart 1.36). Life insurers have generally maintained sound risk management practices which are also reinforced by prudent reserving standards under the Risk-Based Capital (RBC) framework. This has preserved strong buffers in the industry against adverse

Chart 1.35

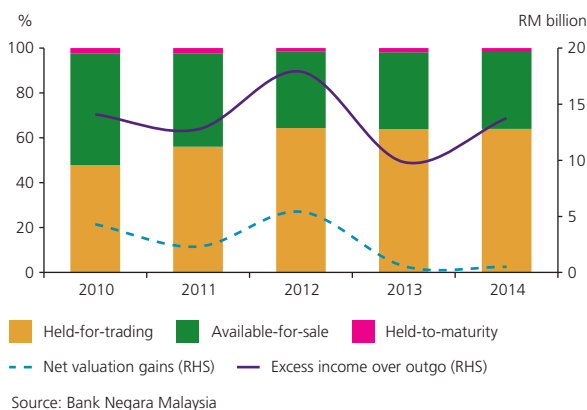
Insurance Sector: Market Risk Composition



Source: Bank Negara Malaysia

Chart 1.36

Life Insurance and Family Takaful Sector: Assets Classification and Relationship between Profitability and Investment-related Activities



market development and correspondingly the continued ability of insurers to meet claims and benefit payments. General insurers were less impacted by investment performance which contributes less than half of operating profits. Underwriting performance continues to have more significant impact on profitability reflecting a focus on sound underwriting to sustain overall profitability (Chart 1.37).

Overall liquidity in the banking system remained ample, with aggregate surplus liquidity amounting to RM269.9 billion. Banks' funding and liquidity positions were stable despite outflows of portfolio funds and increased competition for deposits during the year. Ringgit liquidity buffers were well above

Chart 1.37

General Insurance and General Takaful Sector: Assets Classification and Relationship between Profitability and Investment-related Activities

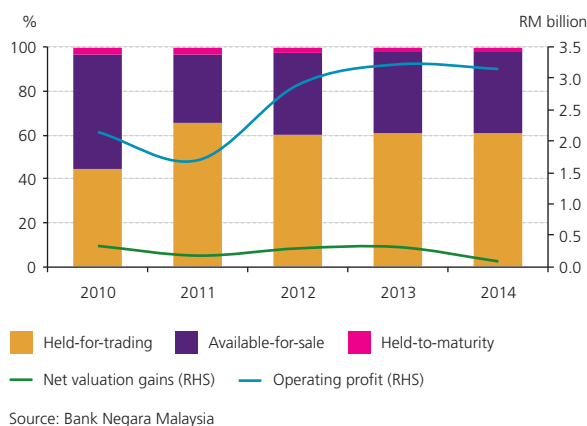
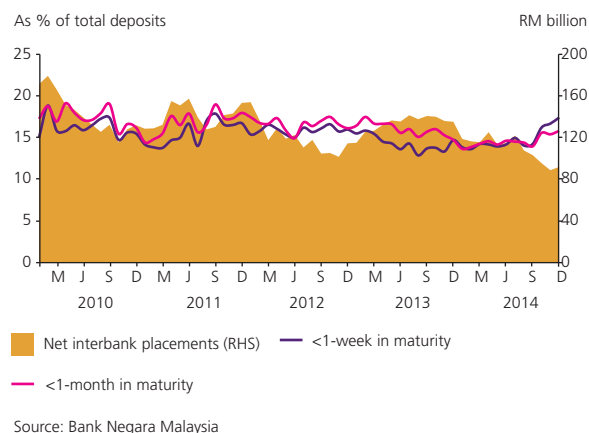


Chart 1.38

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



the minimum regulatory requirements (Chart 1.38). The level of banking system liquid assets relative to total assets and short-term liabilities showed a marked increasing trend in the second half of the year (Chart 1.39). This was mainly due to the increase in the accumulation of liquefiable assets such as government securities and BNMN.

The loan-to-deposit ratio rose to 86.7% (end-2013: 84.7%), given the slower pace in deposit growth (+7.6%) relative to loan growth (+9.3%). The trend observed in deposit growth is a natural consequence of the deepening of the financial markets. Notwithstanding this, ringgit deposits continued to account for about 70% of banks' funding base. In terms

Chart 1.39

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

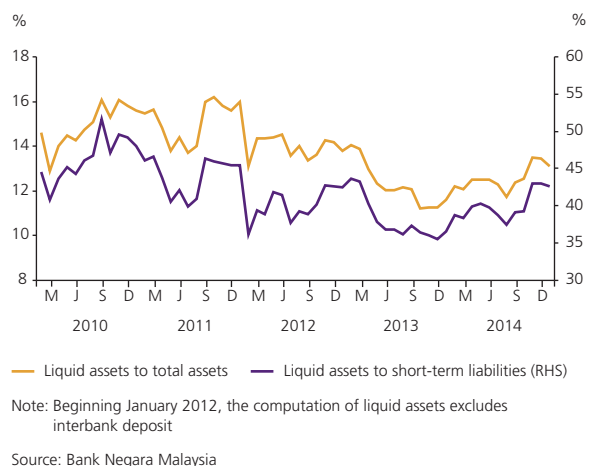
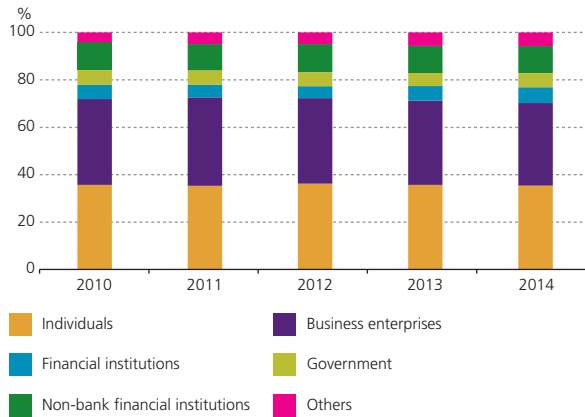


Chart 1.40

Banking System: Composition of Deposits by Holder



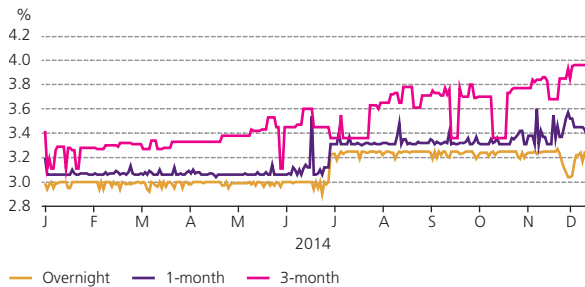
Source: Bank Negara Malaysia

of composition of deposits, this has been relatively stable, with individuals accounting for 35.4% of bank deposits whilst domestic business enterprises make up another 34.8% (Chart 1.40). This has been a source of stability in the overall funding profile of banks in Malaysia. Banks are expected to maintain sound funding strategies going forward including ensuring a high composition of stable funding sources. Non-resident deposits continued to account for a very small share (less than 4%) of total deposits.

In the interbank market, the three-month Kuala Lumpur Interbank Offered Rate (KLIBOR) edged higher throughout most of the year (Chart 1.41). In the initial period, this mostly reflected market expectations of an increase in the OPR. Later in the year, as banks prepared to observe the strengthened liquidity requirements consistent with Basel III, competition for retail and corporate deposits increased with some banks moving to shore up the stable funding sources which are

Chart 1.41

Financial Market: Ringgit Interbank Rates



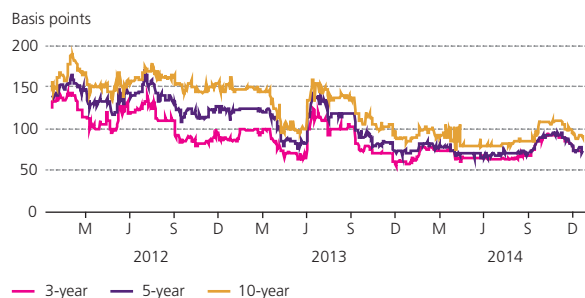
Source: Bank Negara Malaysia

treated more favourably under the new liquidity standard. The withdrawal of funds by several large corporates for investments abroad further intensified competition for deposits. This drove deposit rates higher, particularly for corporates, in the second half of the year, while the spread between the three-month KLIBOR and overnight indexed swap (OIS) widened to 85 bps at the end of 2014 (2013: 34 bps). These movements reflected temporary shifts in the distribution of liquidity across banks rather than any funding constraints or increased risk aversion. Further adjustments in the deposit and interbank rates are expected as banks react to additional details provided by the Bank on the operationalisation of the Liquidity Coverage Ratio (LCR) rules. Barring any shocks, the expectation is for interbank rates to stabilise.

Banks' FCY funding has increased since 2011, but remains reasonable at 13.9% of overall funding (2013: 11.2%). The 5-year cross-currency swap spreads narrowed to between 65 bps and 95 bps (2013: 68 bps and 145 bps) (Chart 1.42), reflective of improved investors' confidence in the onshore US dollar liquidity conditions. Overall, the banking system recorded a small net surplus in US dollar liquidity of RM6.6 billion and RM5.1 billion in the less than one-week and one-month maturity buckets respectively as at end-2014 (Chart 1.43). The FCY currency and duration mismatches of banks continue to be well-contained. The volume of FX forward purchases has risen in tandem with the increase in FCY liabilities, indicating that the banks are actively hedging the FCY exposures. With the exception of 2011, the shortfall recorded by banks in major foreign currencies, in particular the US dollar and Singapore dollar, has generally remained below 5% of banks' total capital. Rollover and

Chart 1.42

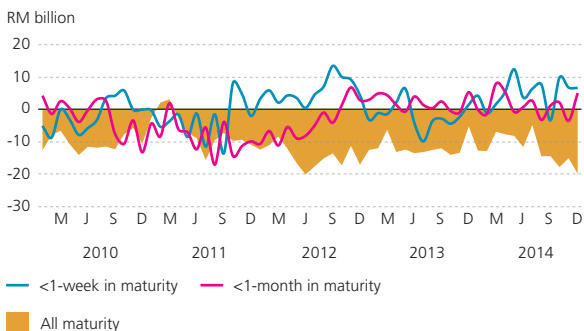
Financial Market: USD/RM Cross-currency Basis Swap Spread



Source: Bank Negara Malaysia

Chart 1.43

Banking System: US Dollar Liquidity Mismatch



Source: Bank Negara Malaysia

funding risks are further mitigated by the more robust FCY risk management practices observed among banks. These include: (i) sound internal policies and controls to reduce over-reliance of overseas operations on centralised funding by the parents; (ii) proactive steps to ensure adequate alternative liquidity sources; and (iii) lengthening of maturity structure of the liabilities to reduce maturity mismatch.

Under simulated scenarios of severe portfolio outflows (more than double the levels exhibited during the financial crisis in the advanced economies) over a short duration, the banking system and insurance industry 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 book, FCY exposures and credit losses from businesses affected by significant exchange rate volatility. The banks' capital levels are estimated to remain above 10% while insurers' Capital Adequacy Ratio (CAR) is expected to remain above 130%. In terms of US dollar liquidity shortfall under the simulated scenarios, the potential shortfall for the banking system is assessed to be small (less than 7% of the Bank's international reserves as at end-2014).

MANAGING CONTAGION RISK FROM EXTERNAL EXPOSURES AND OVERSEAS OPERATIONS

Counterparty risk from financial institutions' external exposures

External exposures of financial institutions expanded in line with the growth in domestic banks' overseas operations and regional trade and

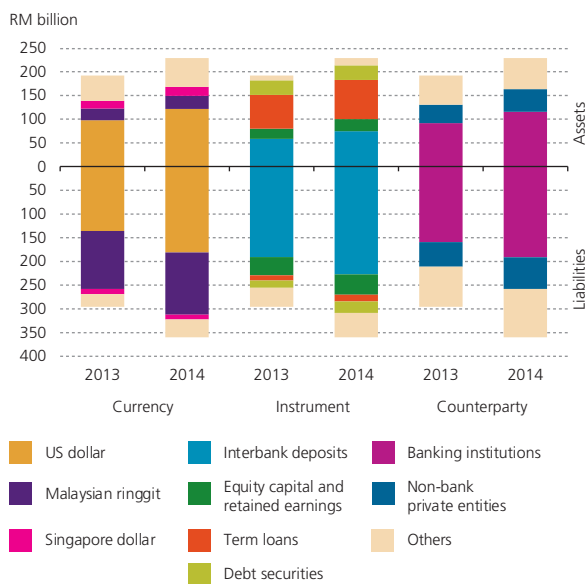
investment activities. A large part of the increase in external exposures has been attributed to centralised liquidity management practices among the domestic banking groups that operate across jurisdictions.

External assets and liabilities of banks expanded amid growth in regional operations and centralisation of liquidity and funding management among groups with overseas operations

This enables surplus liquidity to be pooled more efficiently across operating entities within the group and redistributed to entities with shortfalls. Consistent with such practices, both external claims and liabilities of Malaysian banks (including entities in the Labuan International Business and Financial Centre (LIBFC)) increased during the year, mainly due to higher intra-group fund placements (Chart 1.44). Claims by Malaysian banks (asset side) on all external counterparties increased by 19.3% (2013: +8.4%) to RM228.8 billion, while claims by all external counterparties

Chart 1.44

Banking System: External Claims and Liabilities



Note: Banking system includes entities operating in LIBFC

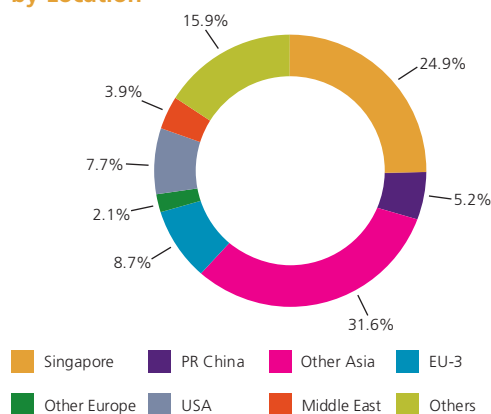
Source: Bank Negara Malaysia

on Malaysian banks (liability side) similarly rose by 21.8% (2013: +22.7%) to RM359.8 billion. The net external liabilities position of RM131 billion does not indicate a growing reliance by banks on external funding for the Malaysian operations. As elaborated earlier in this Chapter, local currency deposits remain the main source of funding for both the operations in Malaysia and overseas. In addition, corresponding with the significant presence of locally incorporated foreign banks (LIFBs) operating in Malaysia, the external liabilities also reflect higher capital funds maintained in the form of equity investment by overseas parents and retained earnings held with these LIFBs (about 12% of external liabilities). Excluding such equity investment and retained earnings, the Malaysian banking system recorded a significantly lower net external liabilities position of RM88.3 billion as at end-2014.

As at end-2014, overall external claims by Malaysian banks accounted for 10.2% (2013: 9.3%) of total banking system assets. The bulk of these claims are denominated in the US dollar, with Singapore (24.9%) and Hong Kong SAR (10.7%) accounting for the largest share of claims by location (Chart 1.45). Risks to the Malaysian banking system from continuing uncertainties surrounding financial and economic conditions in the euro area are limited, with claims by Malaysian banks on European counterparties or claims which are denominated in euro accounting for less than 1% of total banking system assets. Based on the Bank's network contagion analysis of cross-border exposures of Malaysian banks to major

Chart 1.45

Banking System: Composition of External Claims by Location



Note: Banking system includes entities operating in LIBFC

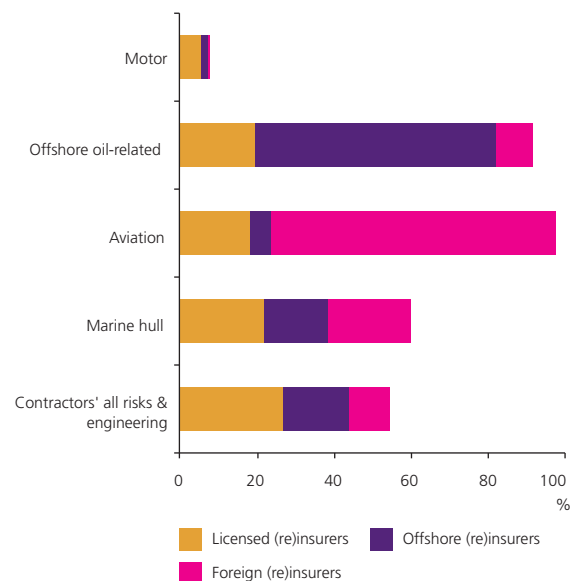
Source: Bank Negara Malaysia

banking counterparties overseas, the direct and indirect impact on the Malaysian banking system from a single or simultaneous event of distress in the banking system of one or two countries continues to be limited. The simulated contagion impact arising from a hypothetical banking system distress scenario originating from Singapore was only felt in the third contagion round. Similarly, the simulated default of two or more banking systems has limited impact on Malaysian banks (refer to box article on 'External Connectivity and Risk of Contagion to the Malaysian Banking System' in the previous Report).

External claims by Malaysian insurers (including takaful operators) are predominantly in the form of reinsurance exposures on general insurance and takaful risks. Total reinsurance ceded by general insurers (reinsurance of life business is negligible) increased by 8.4% to RM3.1 billion. This represented 29.5% of total capital available (2013: 30.4%) and mainly involved large and technical risks in the aviation, O&G, marine hull and engineering business classes (Chart 1.46). The bulk of overseas reinsurance exposures are to entities in Europe and the US (Chart 1.47). Counterparty risks remained low as the major reinsurance counterparties continue to maintain strong ratings and sound financial positions. Despite the challenging global economic conditions, global

Chart 1.46

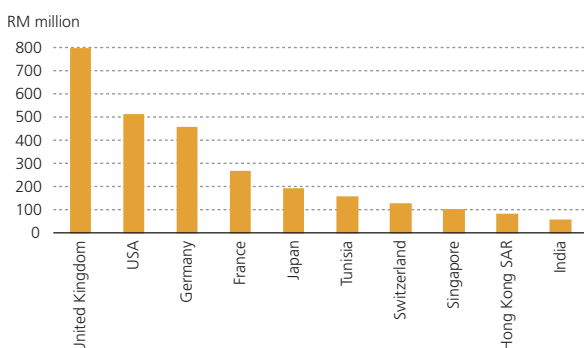
Insurance and Takaful Sector: Reinsurance Ceded Ratio



Source: Bank Negara Malaysia

Chart 1.47

Insurance and Takaful Sector: Foreign Based Reinsurance Exposure by Major Countries



Source: Bank Negara Malaysia

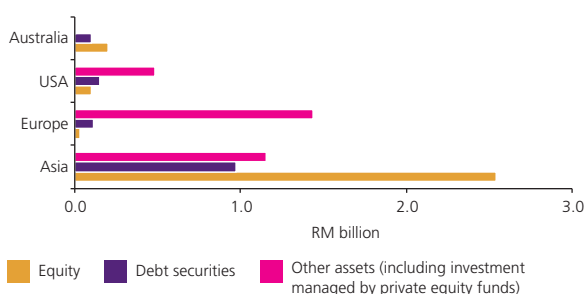
(re)insurers recorded improved profitability with an average return on equity of 12% (2013: 10.8%) and higher total capitalisation of USD575 billion (2013: USD540 billion) based on AON Benfield's report on 'Reinsurance Market Outlook'.

In the last two years, investments abroad by life insurers have grown at a faster pace as part of insurers' diversification and yield enhancement strategies. Insurers have generally remained quite cautious, controlling such exposures within relatively low internal investment limits and focusing on the more liquid financial markets in Asia (Chart 1.48). Accordingly, total investments abroad remain small at less than 3% of insurance fund assets or 9.7% of the industry's capital base.

As elaborated in previous Reports, the potential impact on Malaysia from deleveraging activities by European financial institutions is low, with risks receding further since the GFC. This is

Chart 1.48

Insurance and Takaful Sector: External Investment Exposures by Region



Source: Bank Negara Malaysia

based on several factors which continue to hold, including: (i) the nature of European bank claims on Malaysia where close to half (about 47.1%) are ringgit-denominated claims represented by equity in and assets of European banks' subsidiaries in Malaysia; (ii) the strong and consistent operating profits and stable market shares of these Malaysian subsidiaries; and (iii) the strong capacity of domestic banks and other foreign banks in Malaysia to provide similar financial products and services in the event of any withdrawal or scale-back of activities by European banks. In addition, the recent stress tests and asset quality review carried out by the European Central Bank affirmed that the majority of European banks are able to withstand stress from adverse economic developments. Malaysia has negligible exposures to the 24 banks that were assessed to have capital shortfall. Based on the Consolidated Banking Statistics published by the Bank for International Settlements (BIS Statistics), European banks' claims on Malaysia (including entities in the LIBFC) declined to USD62.7 billion (2013: USD65.2 billion) or 19.2% of GDP as at end of the third quarter of 2014. Malaysia has seven locally-incorporated European banking entities with headquarters in the UK, Germany and France (EU-3). Excluding the UK-based banks, total foreign claims by European banks on Malaysia as reported in the BIS Statistics only accounted for USD14.2 billion or 4.3% of GDP.

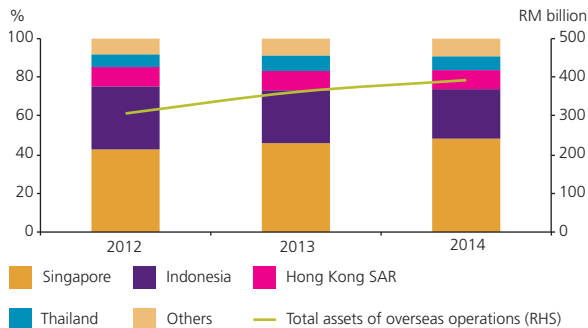
Overseas operations of domestic banking groups

Domestic banking groups (DBGs) expanded further their regional footprint during the year. Total assets of overseas subsidiaries and branches of DBGs grew by 8.5% to RM392.8 billion as at end of the third quarter of 2014 (2013: +18.1%). The share of assets from overseas operations to total assets of DBGs now accounts for 19.6% (2013: 19.2%), ranging between 0.2% and 32.9% of total assets of individual DBGs. The bulk of this continues to be concentrated in Singapore (48.3%) and Indonesia (25.6%) (Chart 1.49). In terms of profits, overseas operations contribute between 7.5% and 31% of the profits of individual DBGs.

The overseas operations of DBGs continued to demonstrate a stable risk profile, characterised by operations that are mainly focused on traditional lending activities, a low-risk funding structure which is supported by a high component of local currency deposits, and sound asset quality. On-going improvements to risk management at

Chart 1.49

Banking System: Asset Composition of Overseas Operations of DBGs



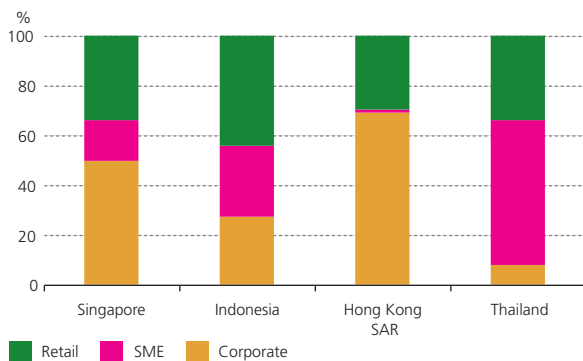
Note: - Data as at 3Q 2014
- Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

the entity and group levels commensurate with the growing size of overseas operations further mitigate the potential for risks to be transmitted to domestic banking operations. This supported the sustained contribution of overseas operations to overall group profitability despite more volatile regional financial market conditions. During periods of heightened volatility, the overseas branches and subsidiaries continued to maintain healthy growth and profits. Loan growth recorded by the overseas operations of DBGs remained robust at 10.1% (2013: +15%) for the year. The distribution of loans has been broadly unchanged and reflects the economic structure and stage of economic and financial sector development in the respective economies (Chart 1.50 and Chart 1.51). Overall loan quality has also improved, with the median gross impaired loans ratio at 0.3% (2013: 1.8%).

Chart 1.50

Banking System: Loan Composition of Selected Overseas Operations

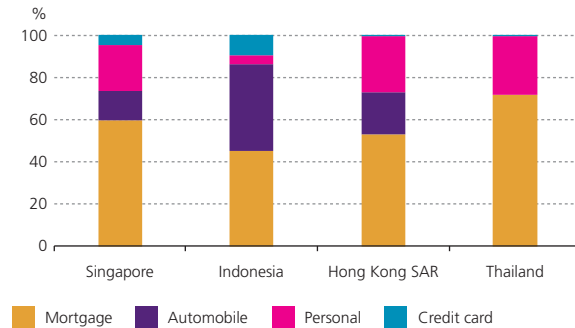


Note: - Data as at 3Q 2014
- Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Chart 1.51

Banking System: Retail Loan Composition of Selected Overseas Operations



Note: - Data as at 3Q 2014
- Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Risks to the domestic banks from potential funding shocks occurring in the overseas operations of DBGs are contained. Although most DBGs adopt a centralised liquidity management model for greater efficiency, the overseas operations are largely funded by local currency deposits, with small reliance on the Malaysian parent for funding (Chart 1.52). The median loan-to-deposit ratio of large overseas operations with significant financing activities was 90.6% (2013: 86.6%), ranging between 69.3% and 109.7% for individual entities. For the overseas operations with higher loan-to-deposit ratios, steps are already being taken to bring the ratio within more prudent levels. Liquidity stress tests which are periodically conducted by the Bank indicate that DBGs have comfortable liquid asset buffers to meet the liquidity needs of the overseas operations under normal and stressed situations.

Chart 1.52

Banking System: Funding Structure of Selected Overseas Operations



Note: - Data as at 3Q 2014
- Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

In recent years, some DBGs have also issued multi-currency debt papers to reduce currency mismatches within the funding structures.

The capital ratios of the large overseas subsidiaries of DBGs remained strong, ranging between 10.8% and 16.8% (Chart 1.53). These ratios already reflect strengthened capital adequacy requirements in some economies which have implemented Basel III standards. Heightened volatility in regional financial markets during the year contributed to lower net income from overseas trading and investment portfolios for some DBGs. This in turn resulted in a lower, but still healthy, median return on equity for overseas operations of 8.3% (2013: 11.2%).

Risks and developments in the overseas operations of DBGs are captured in the Bank's consolidated supervision framework and stress test. Apart from reporting requirements imposed on DBGs on the performance and risk profile of overseas operations, the Bank also regularly conducts on-site examinations on the overseas entities. For significant overseas branches and subsidiaries, on-site examinations are conducted on an annual basis. These on- and off-site supervisory assessments and stress tests enable the Bank to identify potential needs of overseas operations for capital or liquidity support from domestic parent banks, and assess their impact on the resilience of domestic banks. During the year, the Bank continued to hold regular engagements with host regulators through established supervisory colleges and bilateral meetings. These platforms facilitated in-depth discussions of supervisory issues specific to the banks in the

respective jurisdictions, and the coordination of supervisory responses to address these issues. At a broader level, a regional cross-border crisis management and resolution framework has also been put in place by the Executives' Meeting of East Asia-Pacific Central Banks (EMEAP) to support effective co-operation between EMEAP central banks and supervisory authorities in the event of a crisis triggered by a distressed financial institution with significant operations in the region.

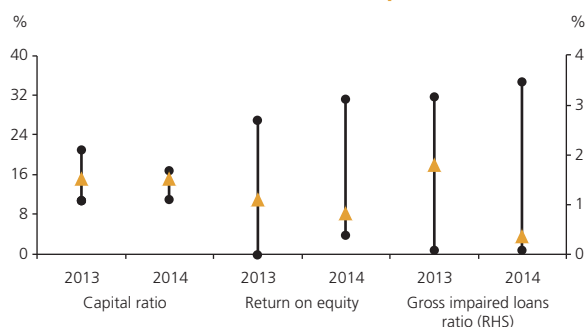
INTERLINKAGES OF THE BANKING SYSTEM WITH NON-BANK FINANCIAL INSTITUTIONS (NBFIs)

The prospect for NBFIs that are not regulated by the Bank to propagate shocks to the financial system remained limited. Although the financial intermediation activities of NBFIs have expanded, their risk profiles and channels through which risks and vulnerabilities can transmit to the banks have remained unchanged. Investments in common asset classes such as listed equities and debt securities continued to be the most prominent channel for the transmission of risks.

Financial intermediation activities of NBFIs continued to increase during the year. In the last five years, the share of financial system assets attributed to these NBFIs has increased steadily to about 39% from 36% in 2009 (Chart 1.54). In assessing the potential for NBFIs to propagate shocks to the financial system, the Bank monitors the extent to which these institutions carry on bank-like activities involving maturity transformation, liquidity transformation and leverage. While a number of NBFIs are active in credit intermediation, the level and nature of these activities among NBFIs continue to pose limited systemic risks. The share of credit intermediation by NBFIs has declined since 2011 (Chart 1.55), currently forming about 60% of financial intermediation by NBFIs and less than half the size of credit intermediation undertaken by entities regulated by the Bank. These activities predominantly take the form of traditional, non-complex financing and investments in plain vanilla financial instruments. Pre-emptive measures were introduced to reduce opportunities for regulatory arbitrage by NBFIs engaged in lending activities as lending standards have been strengthened in the banking sector. These measures serve to further contain the build-up of systemic risks going forward.

Chart 1.53

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

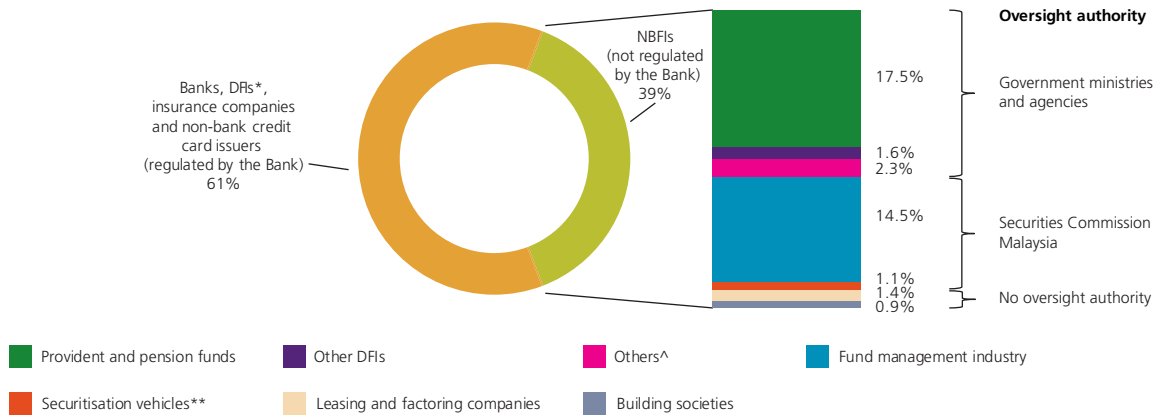


Note: - Data as at 3Q 2014
- Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Chart 1.54

Size and Composition of Financial System Assets



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

**Refers to outstanding asset-backed securities and asset size of national mortgage corporation

^Refers to pawnbrokers, moneylenders, co-operatives, non-bank providers of hire purchase financing, non-bank provider of education financing and social security organisation

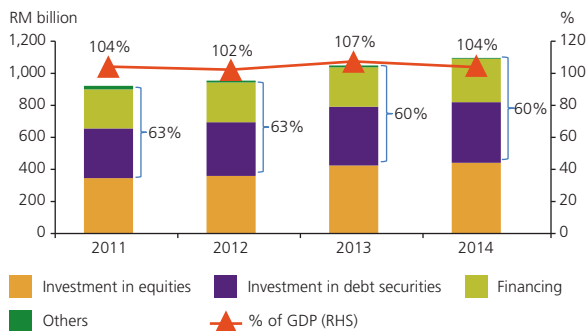
Source: Bank Negara Malaysia, Securities Commission Malaysia, Malaysia Co-operative Societies Commission, Ministry of Urban Wellbeing, Housing and Local Government, Bank Negara Malaysia survey, published financial statements and internal estimates

Investments in common asset classes such as listed equities and debt securities continued to be a key channel for the transmission of risks from NBFIs (such as provident and pension funds and fund managers) to the broader financial system (Diagram 1). A large scale sell-down of such assets by NBFIs in the event of financial stress could significantly affect market sentiment. This, in turn, would induce steep valuation adjustments that would affect the balance sheets of banks that hold such assets. At present, this risk remains low given the prevailing financial strength of NBFIs on

the whole. With strong balance sheet and quality investments, the large NBFIs continued to record healthy return on assets, ranging between 4.6% and 7% across individual entities (2013: 5.6% and 7.3%). Additionally, these NBFIs also have sufficient level of cash buffers to meet liquidity needs – cash and deposits placed with banks account for an average of 12.9% of total assets. In recent episodes of financial market volatility, the institutional funds managed by these NBFIs proved to be an important source of stability, in addition to banks and insurers, in mitigating the effects on asset valuations arising from the retrenchment by non-resident portfolio investors from the domestic financial markets.

Chart 1.55

Financial Intermediation Undertaken by NBFIs



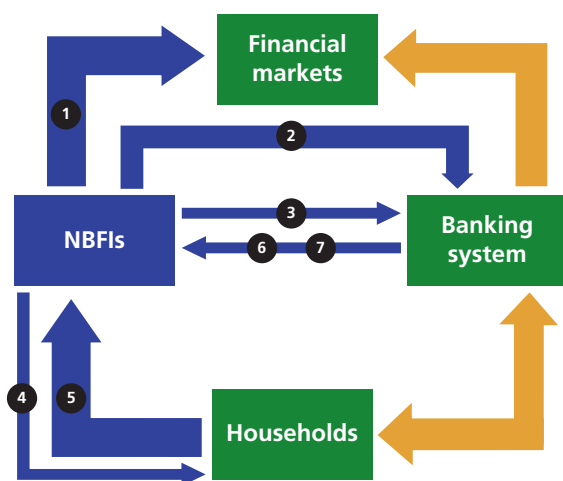
Note: Financial intermediation comprises (i) investment in equities; (ii) financing; (iii) investment in debt securities; (iv) securitisation; and (v) credit guarantee or enhancement. Credit intermediation comprises (ii) - (v).

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

In the more recent period, a small number of the large NBFIs have increased investments in other less liquid asset classes such as real estate, infrastructure and private equities for income diversification. These investments however remain relatively small, representing less than 5% on average of the total assets of individual NBFIs. NBFIs have also continued to increase investments in overseas assets. The extent of cross-border investments varies across institutions, ranging between 7.2% and 23.6% of total assets (2013: 2.8% and 19.9%). As this trend intensifies over the next few years, this would lower the spillover risks to the domestic financial system. However, it also has the potential to alter banks' funding structures as a result of lower levels of

Diagram 1.1

Interlinkages of NBFIs with the Banking System



Exposure		
NBFI Assets (proxied through large NBFIs due to data availability)	1 Investments in financial markets	<ul style="list-style-type: none"> • 34.0% of outstanding debt securities • 27.4% of equity market capitalisation
	2 Shareholding in banking system	<ul style="list-style-type: none"> • 34.0% of equity issued by listed domestic banks
	3 Deposit placement in banking system	<ul style="list-style-type: none"> • 6.5% of banking system deposit base
	4 Financing to households	<ul style="list-style-type: none"> • 4.7% * of household debt
NBFI Liabilities (all NBFIs)	5 Households deposits, investments & contributions	<ul style="list-style-type: none"> • 49.2% of household financial assets
	6 Debt securities held by banking system	<ul style="list-style-type: none"> • 7.7% of banking system capital
	7 Borrowings from banking system	<ul style="list-style-type: none"> • 15.0% of banking system capital

Thickness of blue lines illustrates significance of the exposures

* Excludes loans granted by the Treasury Housing Loan Division

Source: Bank Negara Malaysia, Securities Commission Malaysia, Malaysia Co-operative Societies Commission, Ministry of Urban Wellbeing, Housing and Local Government, published financial statements and internal estimates

deposits placed by NBFIs with banks. At present, this risk is not significant, given that NBFI deposits are small and collectively account for only 6.5% of banking system deposits – mainly (about 85%) belonging to provident and pension funds as well as a few large unit trust funds. On average, these deposit balances account for less than 5% of the deposit base of individual banks. The channelling of these deposits by NBFIs into alternative investments is therefore unlikely to cause a shortfall in the liquidity of banks.

The bulk of the investment activities of the large NBFIs are funded through contributions from investors and fund owners, and internally-generated funds. These NBFIs have correspondingly low leverage ratios (measured in terms of total assets-to-equity), generally below 1.05 times. Reliance on the capital market for funding has consistently been low for the majority of the NBFIs, including the larger NBFIs. Outstanding PDS issued by NBFIs amounted to RM45.4 billion or 9.7% of outstanding PDS as at end-2014. Excluding the Cagamas group of companies, which is one of the largest PDS issuers, outstanding PDS issued by NBFIs is small at RM17.1 billion or 3.7% of outstanding PDS. The tenure of debt issuances by NBFIs is largely matched by assets of similar duration. The maturity gap for Cagamas group is less than 3 months. The maturity

gap for other NBFIs that issue debt securities is similarly small, with an average tenure of PDS issued (funding) of 10.5 years, whilst average financing granted (assets) generally does not exceed 10 years. Funding through the domestic repurchase agreement (repo) market and securities borrowing and lending is also negligible. Direct exposures of the banking system to NBFIs through loans and bank holdings of NBFI debt securities were broadly unchanged and remain small at 2.2% of banking system assets (2013: 2.1%). Relative to capital, these exposures stood at 15% (2013: 14.7%) and 7.7% (2013: 8.2%) respectively of total banking system capital.

Linkages with the banking system, through reputational and financial contagion, can also arise through NBFI holdings of bank equity. In 2014, average holdings by NBFIs of listed domestic banks' equity increased to 34% of equity issued by banks (2013: 31.3%). At present, such risks are assessed to be well-contained as banks' equity is held primarily by a few large NBFIs that have continued to demonstrate sound corporate governance and strong financial positions. Under the Financial Services Act 2013 and Islamic Financial Services Act 2013, substantial shareholders of licensed financial institutions are subject to a shareholder suitability regime. This regime entails the requirement for the Bank's prior approval to be obtained for the acquisition of any

interest of more than 5% in equity of any bank or insurer. Additionally, the approved shareholders must meet standards specified in the shareholder suitability policy document on an on-going basis. The rigour of shareholder suitability assessments by the Bank are to commensurate with the level of shareholding in a licensed bank or insurer. These safeguards serve to mitigate contagion risks to banks that may arise from equity holdings by NBFIs.

FINANCIAL INSTITUTION SOUNDNESS AND RESILIENCE

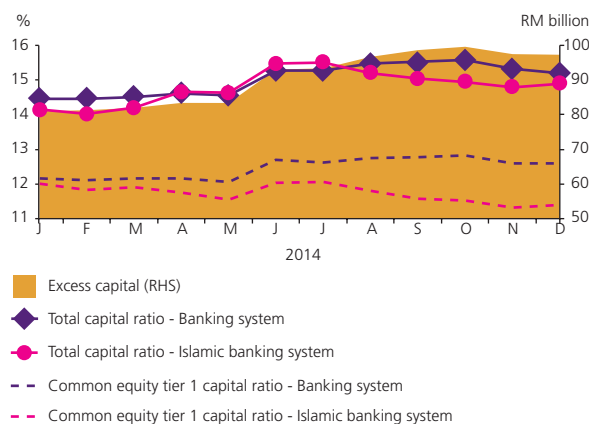
Financial institutions continue to demonstrate strong financial positions. Sound governance and risk management practices have been the mainstay of the positive overall performance of financial institutions amid periods of heightened volatility and business conditions that have been challenging at various times. Sustained improvements in operational efficiency, observed over several years now, have further contributed to the positive performance. The majority of financial institutions have maintained relatively stable risk profiles, as reflected in their composite risk rating (CRR). The CRR captures the Bank's annual assessment of the inherent risks and the quality of risk management of a financial institution across significant activities and subsidiaries, taking into account its capital management practices and sustainability of earnings.

Capitalisation maintained at strong levels

The banking and insurance industries maintained a high level of capitalisation throughout the year. The capital position of the banking system strengthened further from the previous year. As at end-2014, the Common Equity Tier 1 (CET1), Tier 1 and total capital ratios of the banking system stood at 12.6%, 13.3% and 15.2% respectively. More than 90% of total capital continues to be in the form of high quality loss absorbing capital comprising equity, retained earnings and reserves. During the year, banks issued RM15.1 billion of new equity, more than double the amount issued last year, partly to replace old-style Basel II capital instruments that are being gradually phased out under the Basel III capital standard. Continued profitability and generally conservative earnings retention policy sustained banks' retained earnings at RM61.8 billion at the system level. Capital buffers in excess of the minimum regulatory requirement correspondingly rose to RM97.4 billion (Chart 1.56). The strong buffers support the ability of banks

Chart 1.56

Banking System: Capital Adequacy Ratios and Excess Capital



Source: Bank Negara Malaysia

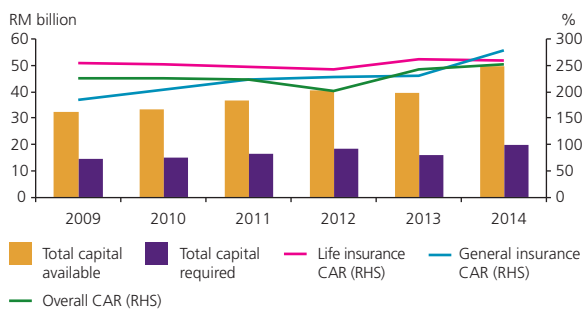
to comply with minimum capital requirements (which are also being progressively strengthened) under a range of adverse conditions. Assuming that fully-loaded Basel III minimum capital levels are in effect today (disregarding any transitional arrangements), banks would still have a buffer of RM53 billion above the minimum total capital requirement. The stronger capital ratios of the banking system also reflect the stable risk level of banks' portfolios. The ratio of total risk-weighted assets-to-total assets was broadly unchanged at 63.6% (2013: 63.8%), with credit risk from loan portfolios continuing to form the bulk of total risk-weighted assets. The leverage ratio, which measures the Tier 1 capital base relative to non-risk weighted assets, as reported by banks during the observation period, was almost double the prescribed minimum level of 3% under Basel III.

Sustained capitalisation and profitability amid sound asset quality and prudent risk management practices of financial institutions

For the insurance industry, the aggregate CAR improved slightly to 253% (2013: 246.1%) with excess capital buffers totalling RM30.2 billion (Chart 1.57). Insurance risk (which measures the risk of an underestimation of insurance liabilities, adverse claims experience, expense,

Chart 1.57

Insurance Sector: Capital Adequacy Ratio



Source: Bank Negara Malaysia

and lapse risks) remained the largest component of risk. Overall insurance risk charges remained largely unchanged, reflecting the generally stable level of reserves held and insurers' mix of business. The potential impact on insurers arising from the severe floods in selected states at year-end is not expected to be significant, with losses on a gross basis expected to be contained below 1% of total capital of impacted companies. During the year, general insurers recorded a higher CAR, partly following refinements to the treatment of premium liabilities under RBC framework. Life insurers' CAR was almost unchanged at 260.1% (2013: 260.9%) despite higher market and credit risk charges from increasing investments in equities and PDS for yield enhancements. These investments were largely in highly-rated securities and blue chip equities, which have low capital charge. The CAR for takaful operators, which became effective in 2014, stood at 192.8% with an excess capital buffer of RM2.9 billion.

Steady profitability amid narrow margins

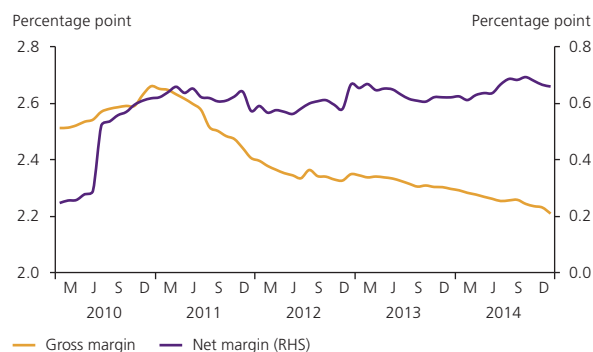
The pre-tax profit of the banking system, including Islamic banks, expanded by 7.6% to RM32 billion with returns on assets and equity of 1.5% and 15.2% respectively, similar to levels recorded last year. The main drivers of earnings performance were net interest/profit income from financing and funding activities (+5.3%), and fees and commission revenue from financing-related activities (+5.7%). Revenue from other fee-based businesses, mainly investment banking and payment-related services, has continued to grow steadily in importance. This now accounts for almost 13.5% of gross income, compared to about 9.5% two years ago. While helping to counteract the effect

of compressed interest margins on revenue in recent years, particularly in the retail lending market, the contribution to income from these activities remains relatively small in comparison with core financing activities.

Lending rates adjusted upwards slightly in response to the increase in the OPR in July 2014 and as banks reviewed the pricing parameters to better reflect risks in line with the Risk-Informed Pricing Standards which came into effect in March 2014. The historically low delinquency levels across major financing segments and already high loan loss coverage ratio continued to lend support to banks' net interest margins which improved to 0.66 ppts (2013: 0.61 ppts) (Chart 1.58 and Chart 1.59). At this level,

Chart 1.58

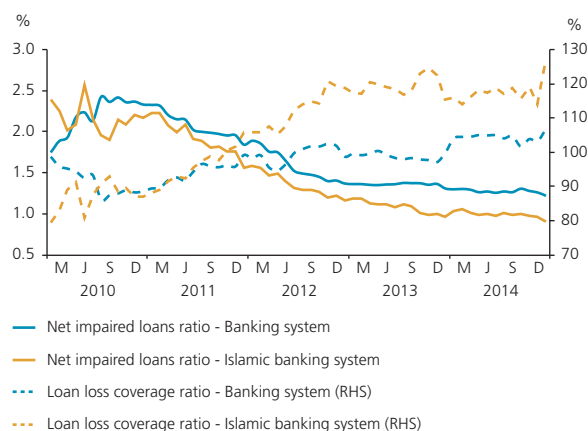
Banking System: Gross and Net Interest Margins



Source: Bank Negara Malaysia

Chart 1.59

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



Source: Bank Negara Malaysia

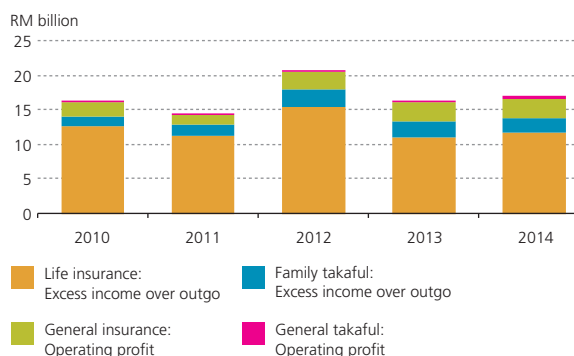
margins remain competitive and narrow. That necessitates banks to observe sufficient rigour in the pricing of risks and provisioning. These areas have been a major focus of the Bank's supervisory reviews in recent periods (see sections on household and business sectors for further details on supervisory observations of banks' practices).

Despite more volatile market conditions, banks recorded aggregate net gains of RM4.1 billion from the trading and investment portfolios. This has been supported by enhanced capabilities in managing risks from proprietary trading and investment activities, while banks have also generally remained prudent in risk-taking. Bank profitability also benefitted from continuing initiatives to improve productivity and operational efficiency. Banks have continued to keep a lid on overhead costs which increased modestly by 6.3% (2013: +5.7%) amid lower incremental investments in risk management and IT systems, having largely made these investments in earlier years. One of the areas that the Bank continues to keep a close watch on is the impact that cost control measures are having on risk management capabilities and compliance functions to ensure that these are not compromised. Retaining skilled talent, particularly in specialised functions, remains a key challenge for banks in an environment where staff are more mobile and those with sufficient experience are in high demand not only in Malaysia but also overseas. This has placed some pressure on staff costs. While competition is stiff for skilled resources, banks have kept the workforce trim over the past two years. Headcount and staff cost changed marginally by -0.8% and 1% respectively. As a result, costs per employee were broadly contained, increasing slightly by 1.1% during the year, while productivity, as measured by pre-tax profit per headcount, improved by 8.4%. In managing staff costs, banks have been reminded to ensure that incentives continue to be aligned with prudent risk-taking, and key control functions continue to be well-supported by competent and experienced staff, including in areas such as compliance.

The insurance and takaful sectors registered mixed performance in 2014 (Chart 1.60). The life insurance and family takaful sector recovered from significant investment losses incurred in 2013, to record a growth of 4.5% in excess income over outgo totalling RM13.8 billion in 2014 (Chart 1.61). Lower capital losses on the investment portfolio had the most significant

Chart 1.60

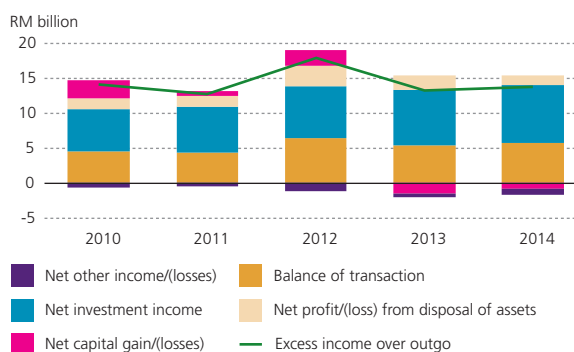
Insurance and Takaful Sector: Profitability



Source: Bank Negara Malaysia

Chart 1.61

Life Insurance and Family Takaful Sector: Composition of Excess Income over Outgo

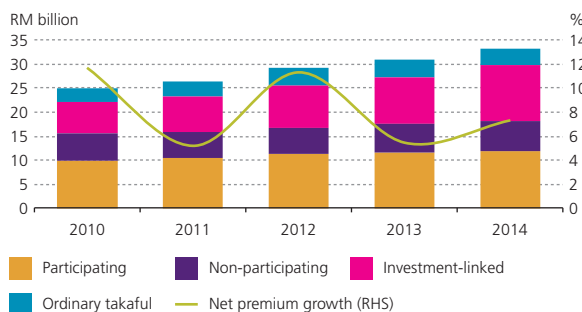


Source: Bank Negara Malaysia

impact on the performance of life funds. Such losses amounted to RM924 million for the year, 38.7% lower than losses incurred in the previous year. Income was also supported by the sustained growth in net premiums (Chart 1.62). A discernible trend in the life sector has been the growing share of investment-linked business which has expanded to account for 42% (2013: 39%) of new business premiums or 35.7% (2013: 32.8%) of total net premiums. The share of annual premium revenue (which forms the bulk of insurers' net premium revenue) contributed by investment-linked business has also increased steadily over the years to 39.1% (2002: 24%). This trend is likely to render life insurers more susceptible to premium income volatility – arising from the flexibility given to investment-linked policyholders to vary the premium contributions (this is also the feature that

Chart 1.62

Life Insurance and Family Takaful Sector: Net Premium Growth and Product Composition



Source: Bank Negara Malaysia

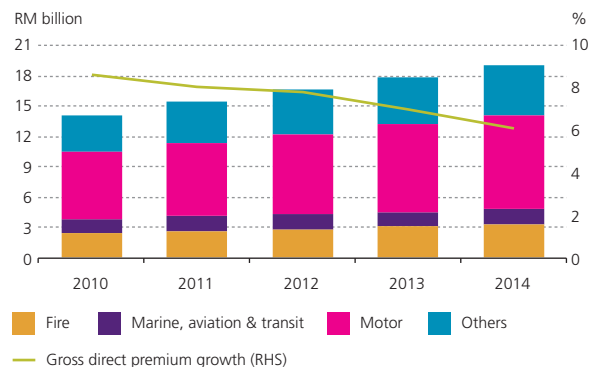
makes this product attractive to the public) and generally more variable demand which is largely influenced by financial market conditions. Effective cost control and proper assessments of the suitability of products to policyholder needs and financial circumstances, in turn, will become more important to maintain profitability.

Despite an increasing share of investments in higher yielding assets, overall investment yields of life insurers and takaful operators have remained within a range of between 5% and 6% per annum, reflecting conditions in the financial markets and substantially lower than the yields assumed in the pricing of products sold prior to the GFC. Consistent with the requirements of the RBC framework, insurers have over the years increased their reserves against guaranteed obligations to policyholders to reflect the lower yields, thus ensuring that these obligations will be met by insurers without difficulty. In the last year, some insurers have also started to reduce discretionary bonuses in line with actual investment performance and to preserve buffers within the life fund. Cash bonuses paid in 2014 correspondingly grew at a slower rate of 16%, relative to the average of 22% between 2010 and 2013.

The profits of the general insurance and general takaful sector declined slightly by 2.3% to amount to RM3.2 billion on the back of higher net claims incurred and lower net profit from disposal of assets. Although the overall loss ratio has been contained below 60% for the past three years, mainly reflecting improvements in the fire and motor 'Others' (which formed bulk of net claims incurred) businesses (Chart 1.63 and Chart 1.64),

Chart 1.63

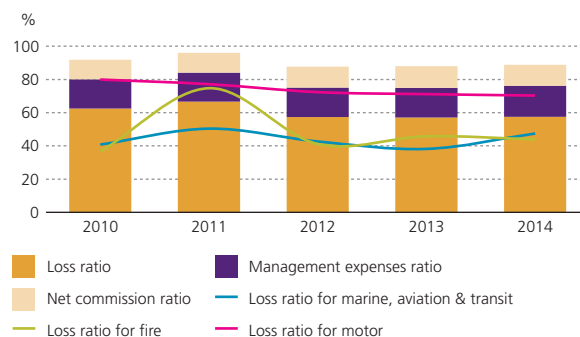
General Insurance and General Takaful Sector: Premium Growth and Business Composition



Source: Bank Negara Malaysia

Chart 1.64

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



Source: Bank Negara Malaysia

losses from the compulsory motor third-party liability insurance (motor 'Act') business continued to pose strains on overall claims experience. The loss ratio for this segment remains well in excess of 100%. Greater pricing flexibility resulting from the progressive deregulation of the motor premium tariff is expected to be positive for the performance of the industry as a whole. While this may also lead to the under-pricing of risks by some insurers to capture or retain market share, this risk is mitigated by the premium bands that will continue to apply for a specific period of time. More importantly, on-going improvements in data capture and underwriting capabilities, both at the industry and individual insurer levels, will also support sound pricing practices (see Chapter 2 under 'Transitioning towards a managed market-based pricing environment in

2016' for more information on the progress of the implementation of initiatives under the New Motor Cover Framework). Incentives are also preserved in the capital framework to encourage prudent pricing practices and provide adequate buffers against any under-pricing.

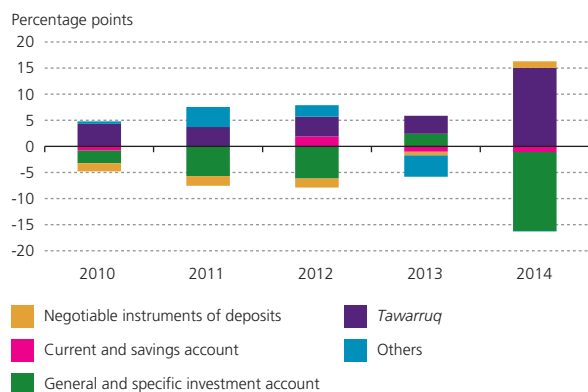
The multiple aviation incidents in 2014 did not have a significant impact on the domestic general insurance industry, with the bulk of risks reinsured in the global aviation market. Losses to domestic insurers from both aviation hull and liability claims were therefore minimal. With the most expensive year recorded for the global aviation insurance industry in 2014 since the 9/11 attacks, prospects are for aviation-related risk premiums to rise again after a relatively soft market cycle which had been supported by excess reinsurance capacity and few major claims.

Active management of risks by Islamic banks

The rate of return risk in the Islamic banking sector continues to be reasonably well-managed, underpinned by active risk reduction strategies pursued by Islamic banks. On the asset side, variable rate assets in the financing book, mainly in the form of *musyarakah* (partnership), *ijarah* (leasing) and variable *murabahah* (mark-up) contracts, expanded further by 28% (2013: +33%) to account for 54% (2013: 50%) of total financing. The growing composition of variable rate assets is expected to continue with the broader offering of products that have risk-sharing components, including equity-based financing products. On the liability side, Islamic banks issued more fixed rate funding instruments such as *tawarruq*, and negotiable instruments of deposits (NIDs) (Chart 1.65)

Chart 1.65

Islamic Banking: Annual Change in Deposit Composition by Instrument



Source: Bank Negara Malaysia

with longer contractual maturities to narrow the re-pricing gap between assets and liabilities. As at end-2014, fixed rate deposits, namely *tawarruq*, accounted for 35.7% (2013: 20.6%) of total deposits accepted by Islamic banks.

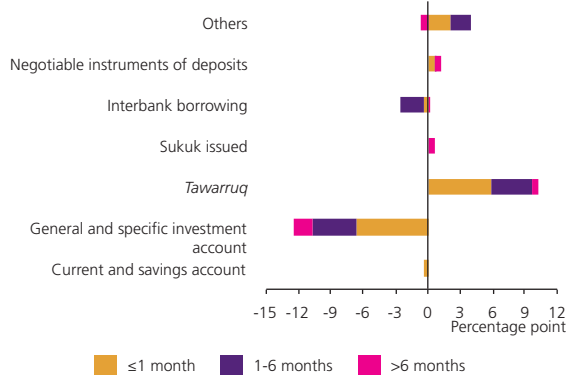
The shift towards *tawarruq* and NIDs was also partly in response to the regulatory requirement to clearly differentiate between deposit and investment account products in accordance with the Islamic Financial Services Act 2013. The strong demand for deposit products that are principal-guaranteed has resulted in the exponential growth of *tawarruq* (+98%) to account for 29% (2013: 17%) of the total funding base of Islamic banks. In contrast, *mudarabah*-based general or specific investment deposits declined by 31% to account for 19% (2013: 30%) of the funding base (Chart 1.66). Individual Islamic banks have been able to adjust to these developments with relative ease, mainly by offering relevant new products that customers can switch their funds into, thereby maintaining a stable funding base.

Multi-year stress test affirmed financial institutions' shock absorbing capacity

Stress tests conducted by the Bank affirm the strong capacity of financial institutions, both at the system and institutional levels, to withstand severe macroeconomic and financial strains. The multi-year solvency-based stress test exercise models a series of tail-risk events based on three hypothetical domestic GDP growth paths (one baseline and two adverse scenarios) and the corresponding macroeconomic and financial

Chart 1.66

Islamic Banking: Annual Change in Funding Composition by Instrument and Maturity



Source: Bank Negara Malaysia

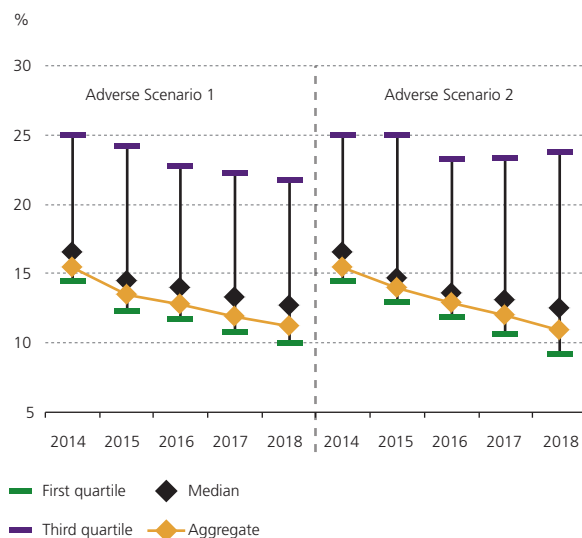
conditions over a four-year horizon from 2015 to 2018. The effects of the hypothetical scenarios, incorporating simultaneous shocks on revenue, funding, credit and market risks, were applied on financial institutions' income and operating expenses, balance sheet growth and capitalisation levels, disregarding any loss mitigation responses by financial institutions or policy interventions by the authorities.

Shock absorbing capacity of banks and insurers affirmed by a range of sensitivity and multi-year stress tests

At the end of the stress horizon, the post-shock aggregate total and CET1 capital ratios of the banking system were above 11% and 8% under the first adverse scenario (AS1), and above 10% and 7% under the second adverse scenario (AS2) respectively (Chart 1.67 and Chart 1.68). At the institutional level, more than 80% of banks remained above the minimum Basel III total, Tier 1 and CET1 capital ratio requirements of 8%, 6% and 4.5% respectively. Pre-provision net revenue contracted by 18.3% and 22.4% relative to the

Chart 1.67

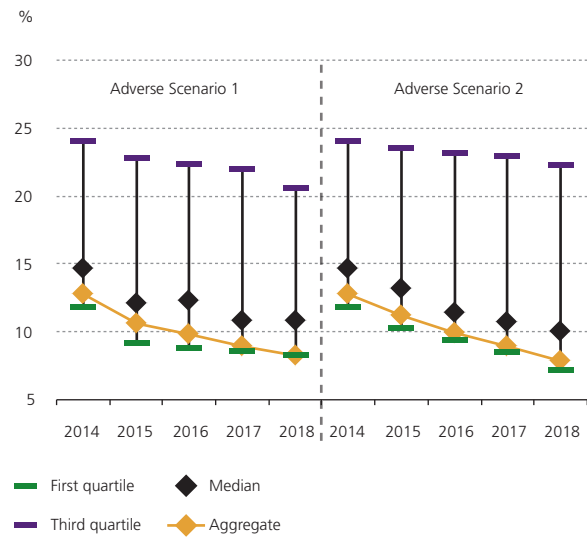
Banking System: Post-shock Total Capital Ratio in Adverse Scenario



Source: Bank Negara Malaysia

Chart 1.68

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



Source: Bank Negara Malaysia

baseline scenario in AS1 and AS2 respectively. Losses were driven primarily by credit risk shocks – forming more than 97% of overall losses in both scenarios. Of this, the defaults of selected large corporate borrowers constituted between 10% and 20% of total credit losses. The results indicate that even under severe macroeconomic and financial strains, banks on the whole continue to be well-positioned to absorb the impact of losses from available capital buffers, without taking into account any additions to capital throughout the period.

For the insurance industry, the post-stress CAR similarly remained above the minimum regulatory requirements under both AS1 and AS2. The impact on capitalisation for general insurers was more pronounced from the impact of shocks applied in relation to higher provisions for motor claims. The resulting operating losses reduced the CAR for general insurers from 279% in end-2014 to about 140% by 2018 under the most severe shocks applied on general insurance risk. Life insurers on the other hand were more affected by volatility in financial markets in 2015, but maintained a strong CAR throughout the stress test horizon, with the CAR declining from 260% at end-2014 to 184% by 2018.

An Overview of the Solvency Stress Test Scenarios for Banks and Insurers

The multi-year solvency-based stress test exercise models a series of tail-risk events based on three hypothetical domestic GDP growth paths (one baseline and two adverse scenarios) and the corresponding macroeconomic and financial conditions over a four-year horizon from 2015 to 2018.

The first adverse scenario (AS1) is a V-shaped scenario involving a recession, equivalent to a deviation from the baseline of 2.5 standard deviations of the long-term growth rate (calculated from the 30-year average annual growth rate), followed by a swift recovery to achieve potential growth in 2018. This scenario is reflective of Malaysia's past experiences with recessions that were accompanied by strong and fast recoveries. The scenario takes into account: (i) a synchronised sharp slowdown in the US and PR China; (ii) corrections in the domestic property market; and (iii) higher volatility in domestic financial markets which increases risk aversion, affects investor sentiments and reduces household wealth.

The second adverse scenario (AS2) simulates an L-shaped growth path with an initial mild decline, followed by a subsequent prolonged weakness in growth, amounting to a cumulative negative deviation from the baseline of 19.7 ppts, or five standard deviations of the long-term growth rate. The scenario takes into account: (i) a minor equity correction in the US with prolonged weakness in PR China; (ii) higher volatility in financial markets which increases risk aversion, affects investor sentiments and reduces household wealth; and (iii) lower commodity prices, impacting Malaysia's fiscal revenue.

Table 1.7

Solvency Stress Test Key Assumptions and Shock Parameters for the Adverse Scenarios

Key Assumptions	Shock Parameters
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) Decline in insurers' premium income growth Moderation in credit growth 	<ul style="list-style-type: none"> up to 71% up to 64%
Credit risk shocks <ul style="list-style-type: none"> Probability of default (PD) shocks <ul style="list-style-type: none"> Business loans Household loans Loss given default (LGD) shocks <ul style="list-style-type: none"> Business loans Household loans Default of selected corporations with large exposures to the banking system 	<ul style="list-style-type: none"> up to 12% up to 9% up to 60% up to 88% Corporations under watchlist and are susceptible to volatile exchange rate movements and prolonged stressed economic environment
Market risk shocks <ul style="list-style-type: none"> Increase in MGS yields Widening of PDS credit spreads Basis risk Decline in FBM KLCI Depreciation against major currencies 	<ul style="list-style-type: none"> up to 253 bps in the initial year of shock up to 195 bps 10% up to 51% up to 11%
External funding risk shocks <ul style="list-style-type: none"> Reversal of claims by non-residents 	<ul style="list-style-type: none"> up to 30% of interbank borrowing and deposits
General insurance risk shocks <ul style="list-style-type: none"> Increase in claims Increase in claims and premium liabilities (motor classes) 	<ul style="list-style-type: none"> up to 20% up to 1.5 times additional provision for adverse deviation

Table 1.8

Summary of Results of Key Stress Tests Conducted by the Bank

Simulated risk event	Shock assumptions	Broad results
Broad scenario analyses		
Spillovers from a series of downside risks and tail-risk events over a four-year period (Table 1.7, Chart 1.67 and Chart 1.68)	Shocks on revenue, funding, credit, market and insurance risk exposures	<ul style="list-style-type: none"> Post-shock aggregate TCR and CET1 capital ratio of the banking system remain above 10% and 7% respectively under the more severe scenario CAR of general and life insurers remain above 140% under the more severe scenario
Reversal of capital flows due to external shocks (e.g. decline in oil prices) and normalisation of global monetary conditions (section on 'Managing Financial Market Volatility')	Severe portfolio outflows (twice the amount recorded during the financial crisis in the advanced economies) over a short duration – shocks on funding, credit and market risk exposures	<ul style="list-style-type: none"> TCR of banks and CAR of insurers remain above 10% and 130% respectively US dollar liquidity shortfall less than 7% of the Bank's international reserves at end-2014
Sensitivity analyses		
Loss estimations to the banking system arising from simultaneous default incidences across all household income segments due to higher cost of living and borrowing (Table 1.2)	Doubling of baseline PD and stressed LGD	<ul style="list-style-type: none"> Estimated potential losses of about RM39 billion or 40% of excess capital <ul style="list-style-type: none"> About 10% of excess capital for borrowers earning RM3,000 or less per month)
Severe correction in house prices (section on 'Managing Developments in the Domestic Property Market')	Tripling of baseline PD for housing loans and 40% contraction in house prices	<ul style="list-style-type: none"> Excess capital stood at more than five times the estimated potential losses
Implications from volatile exchange rate movement, higher borrowing costs and lower operating margins on large borrowers, and contagion to banks and insurance companies (box article on 'Malaysian Corporate Leverage and Its Systemic Implications')	(i) Up to 3.5 standard deviations shock on the 6-month moving average of USD/RM rates over past 20 years (ii) Up to 100 bps increase in borrowing costs (iii) 50% decline in operating profit (iv) Simulated contagion effect on liquidity, credit and market risks of banks and insurance companies	<ul style="list-style-type: none"> Impact from higher FCY-denominated and floating rate ringgit borrowings <ul style="list-style-type: none"> Reduction of up to 0.1 ppt for aggregate ICR (between 11.8 ppts and 41 ppts for individual large borrowers) Impact from rollover of maturing PDS/sukuk under higher yields <ul style="list-style-type: none"> Negligible impact on aggregate ICR (between 1.7 ppts and 5.7 ppts for individual large borrowers) Impact from decline in operating profit <ul style="list-style-type: none"> Reduction of up to 1.3 ppts for aggregate ICR (between 33.5 ppts and 67.1 ppts for individual large borrowers) Cumulative asset-side shocks from credit and market losses* of 16.8% of total capital Reduction in stock of liquidity buffers by up to 0.9 ppt and 0.4 ppt within the one-week and one-month maturity buckets respectively
Contagion risk from cross-border exposures of Malaysian onshore banks to overseas exposures (box article on 'External Connectivity and Risk of Contagion to the Malaysian Banking System' – Financial Stability and Payment Systems Report 2013)	Direct and indirect impact on the Malaysian onshore banking system from a single or simultaneous event of distress originating from the banking systems of one or two countries	<i>Single trigger country</i> <ul style="list-style-type: none"> Direct impact from banking system distress in Singapore only felt in third round of contagion Indirect impact from banking system distress in the US and UK only observed after all major banking systems in the sample have experienced acute financial distress <i>Two trigger countries</i> <ul style="list-style-type: none"> Direct impact from pair-wise defaults only observed in the second to fourth rounds of contagion after all major banking systems in the sample have experienced acute financial distress

*Potential losses from assumed default of large borrowers with CASTO<1 time and ICR<2 times post-shock

