

2015

## RISK DEVELOPMENTS AND ASSESSMENT OF FINANCIAL STABILITY IN 2015

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## RISK DEVELOPMENTS AND ASSESSMENT OF FINANCIAL STABILITY IN 2015

### OVERVIEW

Financial market volatility remained elevated in 2015. The prospect of the US Federal Reserve's interest rate normalisation trajectory, a weaker outlook for global growth including that for PR China and emerging economies, and the unprecedented slide in crude oil prices were major themes driving investor behaviour for most parts of the year. In the case of Malaysia, portfolio flows were largely driven by a broader retreat of global funds from emerging markets and commodity producing economies, and overseas investments by domestic institutional investors as part of portfolio diversification strategies. As in previous episodes of heightened volatility and large capital flows, the deep financial markets and presence of strong domestic institutional investors in Malaysia continued to support orderly market conditions. While funding conditions were occasionally tighter amid the large volume of portfolio outflows, ample liquidity remains in the banking system. The provision of liquidity through the Bank's reverse repurchase facilities and, more recently, the lowering of the Statutory Reserve Requirement preserved adequate liquidity conditions and helped to smooth out adjustments by individual banks to heightened deposit competition. Malaysian banks, insurers and takaful operators continue to remain profitable and maintain strong capital positions. Banks, in particular, have shown a high degree of earnings resilience in spite of more challenging business conditions, allowing them to maintain strong buffers through conservative earnings retention policies. These factors have continued to firmly support domestic intermediation activities and sustained confidence in the Malaysian financial system.

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Domestic financial stability preserved and well-supported by sound institutions and orderly financial market conditions

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Risks to domestic financial stability arising from household indebtedness and rising property

prices continued to moderate. Outstanding household borrowings extended the slower pace of growth observed since the first implementation of macroprudential measures in 2010. The share of borrowings by highly leveraged lower income households declined further, reflecting improvements in affordability assessments. Enhancements to lending practices of banks to reflect strengthened processes for assessing affordability are now mostly in place. While the Bank has implemented standards on responsible financing, lending decisions reflect the risk appetite of respective financial institutions and their business models. The standards remain an important measure to maintain the sound asset quality of banks going forward. Concerns over the mispricing of risks amid strong competition in the retail financing segment were also assessed by the Bank to have abated as banks either adjusted lending rates to reflect more realistic assumptions of credit and liquidity risks, or increased capital buffers. Aggregate household financial asset-to-debt ratio has been maintained above two times over the past five years, although leverage levels remain considerably higher among lower income households. Lowering the debt levels for these households will continue to be important to provide a buffer against unexpected events and rising costs. Risks to financial stability continue to be manageable as potential losses from household lending even under assumptions of severe stress conditions remain well within banks' excess capital buffers.

In the property market, growth in aggregate house prices appears to have stabilised as house buyers and developers continued to adjust to macroprudential and fiscal measures aimed at curbing excessive speculation and risk-taking. Slower housing transactions mainly in the higher-priced segments, combined with continued strong demand for affordable home units, have encouraged a rebalancing of housing supply. This in turn is reducing risks associated with an unsustainable supply of housing concentrated in specific segments. Given the prevailing acute demand-supply gap in affordable housing, risks of a more generalised correction in house prices were assessed to remain low. An increase in the supply of affordable housing

by the Government and private sector remains key to bring about a further easing of upward pressures on house prices. In the non-residential property segment, risks have increased in the office space and shopping complex segments. With challenging business conditions and more incoming supply over the next two years adding further to supply pressures, ensuring the effective management of new supply in these segments will be essential. At present, exposures of banks to these segments are limited, with continued low and stable delinquencies observed.

Growth in non-financial corporate borrowings continues to be driven by domestic investment activities and supported by generally healthy corporate balance sheets. While corporate leverage has increased in the last year, it remains within reasonably prudent levels. Despite lower profitability in some business segments that were more affected by lower commodity prices and softer demand, overall debt servicing capacity of businesses remains sound and continues to be supported by adequate liquidity buffers. This positioned the businesses to cope with the more significant movements in exchange rates and commodity prices experienced during the year. Additionally, risks to financial stability from external and foreign currency-denominated corporate debt continue to be mitigated by the regulatory approval process that is in place, as well as financially strong domestic conglomerates (including Government-linked corporations) and multinational corporations that account for a significant share of external debt. The overall quality of business borrowings was thus sustained. While loan performance in some sectors deteriorated in line with economic developments, this had limited impact on overall business loan performance.

The Bank will maintain a heightened degree of vigilance over developments in the household, property and business sectors. This will continue to be underpinned by a strong focus on sound lending standards and risk management practices among banks as well as large non-bank lenders. The Bank will also intensify its supervision of life insurers, with a focus on the adequacy of internal oversight arrangements and controls over investment management and strategy in an environment of heightened market volatility. Domestic and external headwinds will continue to challenge businesses and households in the period ahead, making it more important for financial

institutions to intensify their risk management and actively identify and manage borrowers that may be affected in this environment. Importantly, the Malaysian financial system is in a much stronger position to cope with these developments and the effects of continued volatility in the global financial system that can be expected ahead.

## MANAGING RISKS ARISING FROM HOUSEHOLD INDEBTEDNESS

The growth of aggregate household borrowings moderated further during the year. Household borrowings from banks and non-banks expanded by 7.3% as at end-2015, extending the slower pace of growth since 2010. This was due mainly to a sustained slower expansion in financing for personal use (+4.6%) while financing for house purchases has remained robust (+11%). The expansion in loans for the purchase of securities and non-residential property also moderated. A significant proportion (61.4%) of household debt in Malaysia is secured by property and securities (principal-guaranteed investments), thereby substantially reducing net exposures on household debt (Chart 1.1, Chart 1.2 and Chart 1.3).

### Household debt extended the slower pace of growth observed since 2010

The level of household debt-to-gross domestic product (GDP) ratio continued to be elevated at 89.1% amid the more moderate growth in nominal GDP in 2015 (Chart 1.4). The capacity of households to service debt has however generally remained firm. This continues to be supported by a broadly stable domestic employment and income outlook. The share of borrowings by highly leveraged lower income households that earn RM3,000 or less a month declined further to account for 23.6% (2014: 24.3%; 2013: 28.4%) of total household debt or 20.4% (2014: 20.9%; 2013: 25.1%) of total banking system financing to the household sector, reflecting improvements in affordability assessments. The aggregate leverage (measured as a ratio of outstanding debt to annual income) for households in this group has been hovering at about seven times since macroprudential measures were implemented. A moderation in the level of indebtedness for this

group is likely to be gradual given the relatively long average remaining maturity of household borrowings (about nine years). However, continued income growth and a deceleration in new financing growth will contribute towards reducing leverage over time. Lower income households also continue to be supported by various financial assistance programmes provided by the Government to ease their financial burden in the face of rising costs. In addition, households that are already highly leveraged have more than half of their borrowings in the form of fixed rate financing which reduces their sensitivities to changes in financing cost. In the higher income groups, aggregate leverage levels have remained stable, averaging at about three times.

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### The share of borrowings by highly leveraged low-income households declined further

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Aggregate household balance sheet remains healthy as households continue to accumulate more financial assets than debt. In 2015, aggregate household financial assets grew by RM97.9 billion, compared with an increase of RM70.4 billion in household debt. Deposits and deposit-like instruments continue to form the major component (43%) of household financial assets (Chart 1.5). This has supported adjustments by households, particularly those living in the urban centres, to higher living costs. Such adjustments partly explained the more moderate pace of growth (+4.8%) in household bank and non-bank deposits for the year and lower household investments in equities and unit trust funds. In addition, households also experienced some erosion in the value of equity and non-principal-guaranteed investments, reflecting movements in the domestic financial markets. A further reason for the moderate increase in household financial assets was the sustained demand for housing, including first-time house buyers, against a backdrop of elevated house prices. Housing wealth is estimated to have risen by a compounded annual growth rate of about 11% over the past five years as more households look to investments in properties to help finance children's education, provide some financial security for the next generation and prepare for retirement including medical costs. Notwithstanding this, aggregate household

financial asset-to-debt ratio has remained above two times, indicating continued resilience. Encouragingly, aggregate household liquid financial asset-to-debt ratio has remained in excess of 1.4 times, preserving ready access to funds for households to meet debt obligations.

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### Aggregate household financial asset-to-debt ratio remained above two times, over the past five years

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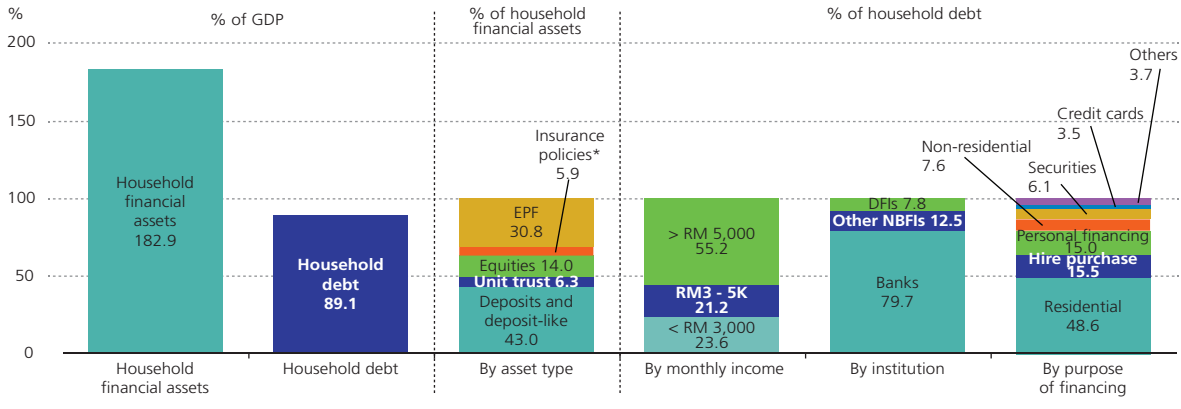
Risks to domestic financial stability from household leverage continue to be largely mitigated by sound credit underwriting standards and risk management practices of banks. Banks remain the largest providers of financing to households, accounting for about 80% of total household debt. Among banks, enhancements to lending practices to reflect strengthened processes for assessing affordability are mostly in place. This has been important to maintain the sound asset quality of banks and resilience of households going forward. Concerns over the mispricing of risks amid strong competition in the retail financing segment were also assessed by the Bank to have abated. Average lending rates on new financing for the purchase of residential properties adjusted upwards during the year by about 15 basis points in response to more realistic estimations by some banks of credit and liquidity risks. Some banks also took measures to boost capital buffers given sustained competition in the vehicle financing segment which continued to bear down on lending rates. For the year as a whole, the overall average lending rate for all new loans to households averaged at 5.1% (2014: 4.9%).

Lending practices among non-banks remained a key focus of the Bank's supervision and engagements with other authorities primarily responsible for such institutions. In 2015, outstanding personal financing granted by non-bank financial institutions (NBFIs), including major credit co-operatives, recorded a lower increase of RM3 billion (2014: RM4.4 billion; 2013: RM10.2 billion). The average financing amount disbursed also declined further to about RM22,000 per facility from levels as high as RM68,000 prior to the implementation of measures that promoted more prudent assessments on the ability of borrowers to take on more debt. The Bank and

**Household debt remains supported by asset and wealth accumulation**

**Chart 1.1**

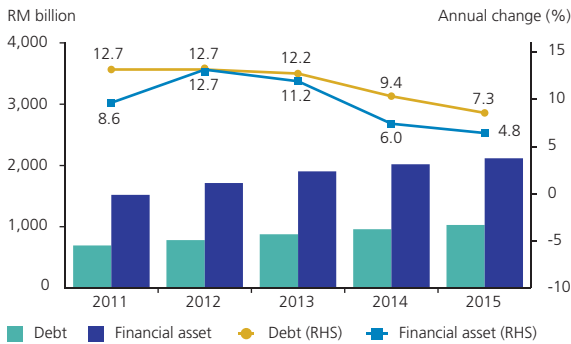
**Household Sector: Profile of Borrowings and Financial Assets**



**Growth in debt moderated further...**

**Chart 1.2**

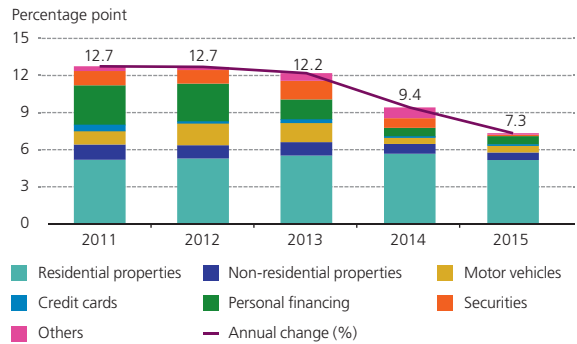
**Household Sector: Debts and Financial Assets**



**...underpinned by slower expansion in unsecured financing**

**Chart 1.3**

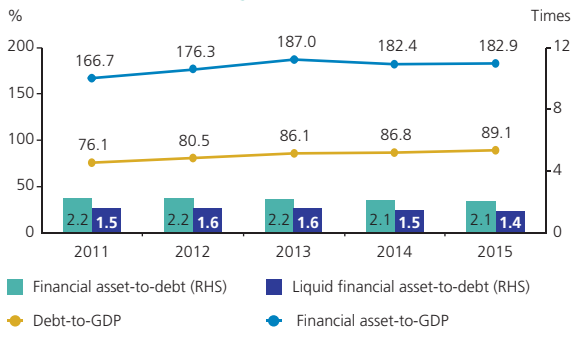
**Household Sector: Contribution to Growth in Debt**



**Household financial assets remained above two times of debt...**

**Chart 1.4**

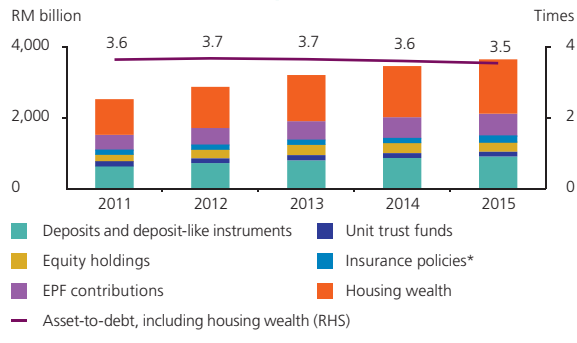
**Household Sector: Key Ratios**



**...including housing wealth, household assets remained above three times of debt in 2015**

**Chart 1.5**

**Household Sector: Composition of Assets**



Source: Bank Negara Malaysia, Bloomberg, Bursa Malaysia, Department of Statistics, Malaysia, National Property Information Centre, Securities Commission Malaysia and internal computation

\*Surrender value

the Malaysia Co-operative Societies Commission (SKM) continue to collaborate closely to promote further improvements in loan affordability assessments, particularly among the medium- and large-sized credit co-operatives that account for the bulk of personal financing to households. An inappropriate easing of lending standards by NBFIs remains a concern that could impose excessive financing burdens on households over the long term and increase arbitrage risks. Financial education of borrowers and close vigilance will thus remain important. Towards this end, the Credit Counselling and Debt Management Agency (AKPK) has continued to expand its outreach, providing financial counselling and advice to over 80,000 individuals in 2015. Of this number, a steady rate of enrolment into AKPK's debt management programme (DMP) was maintained, an indicator that borrowers are getting the help that they need to proactively manage debt.

### Household impaired loans and delinquencies remained low across all types of financing facilities, despite higher delinquencies in selected segments

The overall quality of banks' household loans improved further with household impaired loans and delinquencies (loans-in-arrears of between

one and three months) remaining low across all types of financing facilities (Table 1.1). Based on the Bank's ongoing engagements with banks and key NBFIs lenders, higher delinquencies have been observed in the compact car hire purchase and personal financing segments. This likely reflects financial difficulties facing the more highly leveraged households in the lower income group of borrowers. This is consistent with enrolments in AKPK's DMP where about half are borrowers earning less than RM3,000 per month, and more new cases involving borrowings in these financing segments. For some borrowers, this has also started to increase challenges faced in maintaining regular home financing repayments, resulting in slightly higher house financing delinquencies.

### Potential losses to banks from default incidences under stressed scenarios remain limited and well within banks' excess capital buffers

Stress tests conducted by the Bank indicated that the potential losses to banks in the unlikely event of simultaneous default incidences occurring across all types of household borrowings under severe assumptions are estimated to be limited at RM65.4 billion (Table 1.2). Of this amount, estimates of potential losses attributed to households earning a monthly income of RM3,000 and below are only about

Table 1.1

#### Household Sector, Banking System: Gross Impaired Loans and Gross Delinquent Loans

	Gross Impaired Loans						Gross Delinquent Loans					
	Ratio (%)			Annual Change (%)			Ratio (%)			Annual Change (%)		
	2013	2014	2015	2013	2014	2015	2013	2014	2015	2013	2014	2015
<b>Overall</b>	<b>1.3</b>	<b>1.2</b>	<b>1.1</b>	<b>-1.1</b>	<b>-1.0</b>	<b>-1.6</b>	<b>2.1</b>	<b>1.8</b>	<b>1.5</b>	<b>-7.4</b>	<b>-5.3</b>	<b>-10.5</b>
Purchase of residential properties	1.5	1.3	1.1	-7.0	-3.9	-1.4	1.6	1.4	1.3	-4.5	-2.6	1.7
Purchase of non-residential properties	0.7	0.6	0.6	-1.4	0.3	-0.1	0.8	0.7	0.7	-3.2	6.9	-1.6
Motor vehicles hire purchase	1.2	1.2	1.0	19.4	1.8	-19.8	4.6	3.9	2.9	-11.8	-11.4	-25.5
Personal financing	1.7	1.7	1.9	-1.6	3.4	16.1	1.2	1.1	1.1	-3.1	-0.3	2.7
Credit cards	1.3	1.2	1.3	4.1	-6.6	10.8	1.5	1.5	1.3	1.8	1.2	-13.3

Source: Bank Negara Malaysia

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 <sup>1</sup>
Stressed PD (%) (Baseline PD, %)	12.3 (4.1)	14.4 (4.8)	13.2 (4.4)	18.0 (6.0)	
Stressed LGD (%) (Baseline LGD, %)	40.0 (22.5)	75.0 (55.8)	95.0 (84.7)	95.0 (85.5)	
Potential losses (RM bil)					
All borrowers	20.2	15.8	7.9	6.1	65.4
– Borrowers earning ≤ RM3,000 per month	2.5	5.0	2.6	1.1	15.3
– Borrowers earning ≤ RM5,000 per month	6.2	9.4	4.3	2.6	28.2

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

Source: Bank Negara Malaysia

RM15 billion. This is well within the excess capital buffers (above the regulatory minimum) of RM117.3 billion held by banks as at end-2015. These potential losses have not taken into account the available savings and financial buffers of individual households or responses by the banks to manage such scenarios. Over the past two years, banks have also gradually increased the level of provisions and regulatory reserves for collective impairment to 1.5% (2014: 1.4%) of total outstanding loans. This forms part of ongoing measures during periods of healthy profits to strengthen buffers against potential loss events. This level currently stands above the minimum regulatory requirement set by the Bank of 1.2% of total outstanding loans, net of individual impairment provisions.

## MANAGING DEVELOPMENTS IN THE DOMESTIC PROPERTY MARKET

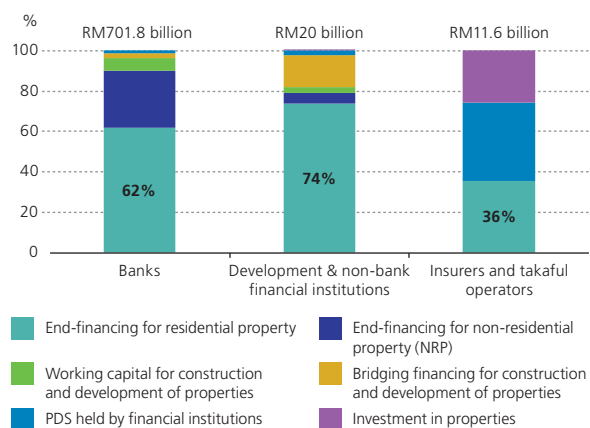
Total exposures of Malaysian financial institutions to the domestic property market stood at RM733.4 billion. This represented 25.7% (2014: 24.1%) of total financial system assets at end-2015. Banks continue to account for the bulk of the exposures, with about 90% of the exposures related to end-financing for the purchase of residential and non-residential properties (Chart 1.6). Growth in bank financing for the purchase of residential properties has remained strong, expanding by 11.7% with some moderation observed in line with the slower growth in the housing market.

### Residential property market

Aggregate house price growth continued to moderate since second quarter of 2014, reflecting adjustments in investor demand for housing and the ability to borrow based on affordability assessments. These were intended effects of the pre-emptive macroprudential and fiscal measures implemented since 2010, aimed at mitigating potential risks to financial stability from the strong growth in house prices, hence improving housing affordability, particularly for first-time home buyers. The average growth in house prices, measured by the Malaysian House Price Index (MHPI), has declined from 9.6% registered for the

Chart 1.6

### Property Market: Financial Institutions' Exposures to Property Market



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

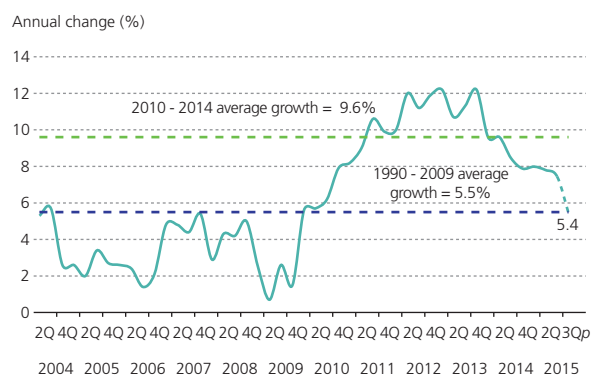
period for 2010-2014 to around 8% registered over five consecutive quarters since second quarter of 2014 (Chart 1.7 and Table 1.3). At this level, it remains above the long-term average house price growth of 5.5% for 1990-2009.

## Growth in aggregate house prices stabilised at about 8% following measures to curb speculative activities

Elevated house prices continue to reflect imbalances that have been characterised by an acute shortage in the supply of houses within affordable price segments (below RM250,000) and an increasing share of supply of more expensive homes (priced above RM500,000). More recently, slower housing transactions mainly in the higher-priced segments, combined with continued strong demand for affordable home units, have encouraged some rebalancing of housing supply. This in turn reduces the risks associated with an unsustainable supply of houses concentrated in higher-priced segments and a subsequent correction in prices. In the first nine months of 2015, the overall volume and value of housing transactions contracted by 4.9% and 12.7% (2014: +0.4% and +13.9%) respectively. In sharp contrast, the volume and value of transactions for houses priced up to RM250,000 continued to record positive growth of 4.9% and 4.7% respectively. The provision of

Chart 1.7

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



p Preliminary

Source: National Property Information Centre

affordable housing under various federal and state programmes for first-time home buyers, along with a rising share of new launches by private developers in the affordable segment in response to shifting demand drivers should temper future increases in house prices if the additional supply materialises.

## Continued initiatives to increase the supply of affordable housing are key to ease upward pressure on house prices

Table 1.3

### Property Market, Residential: Growth of MHPI by Selected State and House Type

	2Q '14	3Q '14	4Q '14	1Q '15	2Q '15	3Q '15 <sup>p</sup>
	Annual change (%)					
Kuala Lumpur	8.5	8.0	7.2	9.4	6.9	5.3
Selangor	8.3	7.3	7.2	7.7	8.7	6.2
Johor	10.5	11.1	9.9	6.8	5.3	3.0
Penang	12.1	11.2	8.9	8.6	6.8	3.5
Malaysia	8.4	7.9	8.0	7.8	7.5	5.4
Terraced	9.5	8.6	8.2	7.7	7.4	5.2
Semi-detached	4.8	4.6	8.1	7.7	8.7	6.0
Detached	5.8	7.3	6.9	8.1	5.3	4.1
High-rise	10.6	9.5	7.9	8.2	7.9	6.0

<sup>p</sup> Preliminary

Source: National Property Information Centre

Risks of a more generalised correction in house prices are assessed to remain low given the prevailing acute supply-demand gap (Chart 1.8). Demographic factors such as Malaysia's relatively young labour force and increasing urbanisation continue to be key drivers of demand for affordable housing, while new launches of affordable houses priced below RM250,000 only accounted for less than 30% of total launches in the first nine months of 2015. A significant pick-up in the construction of new housing in this segment will be required before upward pressures on house prices begin to abate on a broader scale. The National Housing Council, established in January 2014, is pursuing strategies for joint initiatives by the Government and private sector to build one million units of affordable housing by 2018. In addition, the Government has announced plans to focus the construction of low-cost and affordable housing units in strategic locations closer to public transit stations. This should increase the take-up rate while reducing the need for households to incur debt to own vehicles. Such initiatives will contribute towards alleviating supply shortages. However, without a sustained and more significant increase in private sector-driven supply of affordable housing, demand will likely continue to outstrip supply in the foreseeable future.

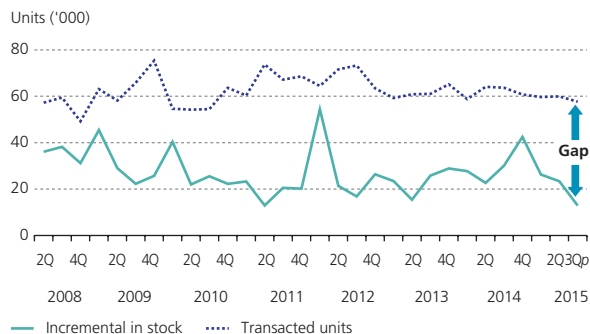
Banks' housing loan portfolio remains in good condition, underpinned by sound lending and valuation practices. Despite heightened competition amid a more moderate loan growth, supervisory reviews by the Bank have not indicated an imprudent easing of lending standards. Banks have demonstrated continued

diligence in extending loans where house price growth has been stronger. Valuations supporting credit decisions and impairment assessments are also reasonably conservative. About 70% of outstanding housing loans have a current loan-to-value (LTV) ratio of below 80%, providing banks with a healthy buffer against a risk of falling house prices.

The profile of banks' housing loans has remained fairly stable. Financing extended for the purchase of houses priced below RM500,000, which are at lower risk of significant price corrections due to sustained strong demand, accounted for 85% of outstanding house financing. In terms of borrowers, about 84% of housing loan borrowers have only one outstanding housing loan, of which 88% are first-time home buyers. Such borrowers have strong incentives to maintain loan repayments in an event of financial stress or negative equity on their homes, compared to investment buyers. By contrast, the annual growth in the number of borrowers with at least three outstanding housing loans (a proxy for speculative buyers) was maintained at a low and stable rate of 3.1%, down from the much higher rate of increase last observed in 2010 (+15.8%). Such borrowers continue to account for only 3% of housing loan borrowers. Evidence of 'equity withdrawal' by borrowers who refinance their housing loans at a higher quantum against the current value of their properties has also been limited. For the additional financing, the Bank has required financial service providers to conduct affordability assessments based on parameters that are consistent with those applied to unsecured personal financing.

Chart 1.8

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



p Preliminary

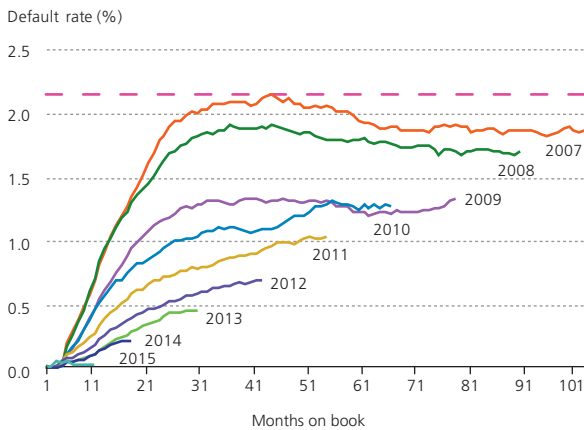
Source: National Property Information Centre

Banks' excess capital buffers stood at about six times the estimated expected losses from a simulated 40% contraction in house prices and stressed default rates

The vintage default rates for housing loans originated across the years since 2007 continued to show improvement (Chart 1.9). This reflects the stable and improving credit profile of banks' housing loans. Banks have maintained positive cumulative profit to cover up to two times

Chart 1.9

**Property Market, Banking System: Vintage Analysis for Housing Loans**



Source: Bank Negara Malaysia

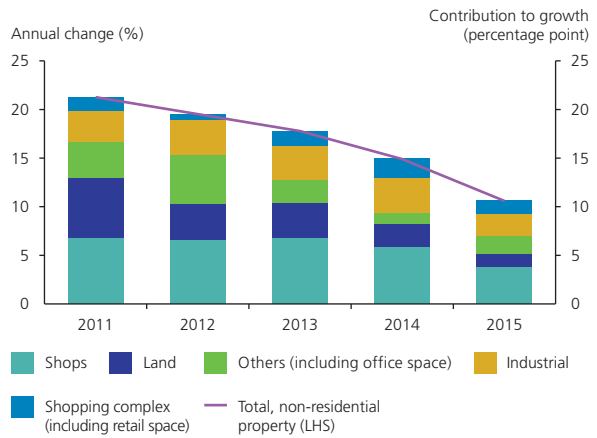
of actual historical default, for housing loans originated across the years. The share of impaired and delinquent housing loans also remains low at 2.4% of total housing loans. Based on a single factor sensitivity analysis conducted on the housing loan portfolio of banks, excess capital buffers of the banking system would remain sufficient to cover about six times the estimated expected losses. The sensitivity analysis assumes a stressed probability of default (PD) of more than 12% (three times the current PD of 4.1%) and a severe correction of 40% in house prices.

**Non-residential property market**

Financial institutions' exposures to the non-residential property market accounted for about 27% of total exposures to the overall property market. Such exposures represent less than 7% of total financial system assets. While this is not particularly large, developments in the non-residential property market have important implications for financial stability. This is due to the possible spillover to the broader economy and strong linkages with residential property developments which underpin a significant share of bank lending to households. In recent years, the construction of mixed property developments has further reinforced these dynamics. The bulk of exposures in the non-residential property market comprises end-financing by banks for the purchase of shops (39%), land (19.7%), industrial buildings (17%), shopping complexes (9.7%) and other non-residential properties including office space and hotels. Growth in bank financing for such purposes moderated to 10.6% (2014: +14.9%)

Chart 1.10

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



Source: Bank Negara Malaysia

during the year (Chart 1.10), with a fairly mixed picture continuing to emerge across the various sub-segments.

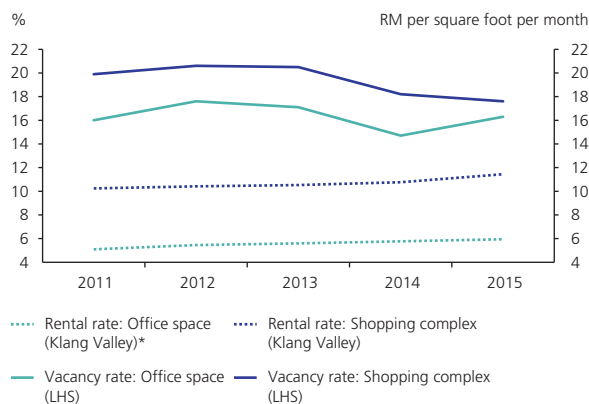
Developments in the shops segment have typically mirrored that of the housing market, given that shops are seen among investors as an alternative investment to residential properties. Despite slower activities in the segment, rental rates remained relatively stable, particularly in the Klang Valley. In the first nine months of the year, both transaction volumes and values for shops decreased by 9.3% and 5.3% (2014: -0.6% and +5.9%) respectively. Correspondingly, average transaction values expanded at a slower pace of 4.5% (2014: +6.5%). This is considerably lower than the much higher rates of increase recorded during 2011 of around 17.7%. The moderating growth reflects more modest investor demand as indicated by the slower increase in the number of borrowers purchasing multiple shop units or combined shop and residential units (+9.4%; 2014: +11.1%). This in turn reduces risks of sharp price adjustments in the future. In contrast, average land prices in major employment centres have maintained a strong upward trend since 2009, recording a compounded annual growth rate of 26.8% for the period up to the third quarter of 2015. The strength in land prices has continued to benefit from the scarcity of land for property development and construction of infrastructure and public transportation, as well as the conversion of agricultural land for commercial use.

Risks have heightened in the office space and shopping complex segments. In the office

space segment, the already high vacancy rate rose further to 16.3% (2014: 14.7%) amid the downsizing of companies in the oil and gas (O&G) sector (Chart 1.11). Vacancy rates within the Klang Valley have also risen to 20.4% (2014: 18.6%). While rental rates appear to be holding firm at present, supply pressures are expected to worsen with the large planned incoming supply over the next two years. This could cause vacancy rates to rise further and rental rates to decline. Rental rates for older office buildings are likely to remain somewhat depressed due to tenant preferences for newer or green buildings with better facilities and transport connectivity. Already, some property owners are offering rental holidays and other benefits in order to lock in rental over the medium term. The ongoing process of refurbishing and upgrading many of these buildings should help to support tenancy and rental rates going forward. At the same time ensuring the effective management of new supply will continue to be critical. Conditions in the shopping complex segment present similar challenges ahead. At present, there are more than 50 shopping complexes being built across major employment centres in an environment of more subdued consumer sentiment. An oversupply of commercial properties if left unchecked, may lead to deeper imbalances in the property market with spillovers to the other parts of the economy. A comprehensive and carefully-designed national planning policy, including staggering the supply of large office space and shopping complexes, is therefore needed (refer to box article on 'Assessing Demand-Supply Conditions

Chart 1.11

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



\* As at third quarter 2015

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

in the Malaysian Property Market' in Chapter 1 of Bank Negara Malaysia Annual Report 2015). Direct risks to banks from exposures to the office space, shopping complex and hotel segments remain small. The share of bank loans in these segments was broadly unchanged at 3.3% (2014: 3.2%) of total bank loans. More generally, the overall delinquency rate for end-financing provided by banks for the purchase of non-residential properties has also remained low and stable at 0.4%.

## MANAGING CREDIT RISK EXPOSURES TO BUSINESSES

Outstanding Malaysian non-financial corporate sector debt (comprising domestic and external financing, private debt securities (PDS) and sukuk) rose to RM1,212.9 billion or 104.8% of GDP as at end-2015. An analysis of the drivers of corporate leverage has shown that the increase in Malaysian corporate leverage over the last decade is largely explained by firm-related and domestic macroeconomic factors, rather than an increase in risk appetite associated with low global interest rates and ample liquidity conditions (refer to box article on 'Malaysian Corporate Leverage and Its Systemic Implications' published in last year's Report). This is further borne out by the slower accretion of debt by corporations in Malaysia relative to most other emerging market economies (EME) peers. According to the International Monetary Fund, the average corporate debt-to-GDP ratio for EME increased rapidly following the Global Financial Crisis (GFC), rising by 23 percentage points between 2007 and 2014. In comparison, Malaysian corporate debt grew at a compounded annual rate of 8.4% since the GFC, with the corporate debt-to-GDP ratio increasing by 1.9 percentage points over the same period (Chart 1.12).

Growth in non-financial corporate borrowings was driven by domestic investment activities and supported by generally healthy balance sheets

While non-financial corporate leverage has increased, it remains within reasonably prudent levels. The median debt-to-equity ratio of Malaysian corporations (based on 160 firms listed on Bursa Malaysia that account for 80% of market

capitalisation (excluding financial institutions) stood at 46.8% (year-to-date (YTD) 2014: 42.8%) as at end-September 2015. Generally healthy balance sheets enabled most businesses to absorb and adjust to the significant movements in exchange rates and commodity prices experienced during the year (Chart 1.13). Despite lower profitability in some segments that were more affected by lower commodity prices and softer demand, the median interest coverage ratio (ICR) remained high at 5.3 times (YTD 2014: 6.5 times) which is comfortably above the prudent standard of two times (Chart 1.14). Importantly, corporate debt-at-risk, measured as the share of debt borne by firms with an ICR of less than 1.5 times remained low and stable at 8.9% of total corporate debt. The debt servicing capacity of businesses also remain supported by sound liquidity positions, with the median ratio of cash-to-short-term debt (CASTD) at 1.2 times (YTD 2014: 1.3 times) (Chart 1.15). About three quarters of outstanding corporate debt continued to be funded domestically. In 2015, domestic borrowings (excluding loan stock) grew by 9.5% (2014: +8.7%) (Chart 1.16) in line with continued capital expenditures for private sector investments and public infrastructure projects (Chart 1.17). The increase in domestic borrowings remained close to the long-term trend of 8.6% between 2005 and 2015.

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## Risks to domestic financial stability from external and foreign currency corporate debt continue to be mitigated

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In 2015, the growth of total debt of non-financial corporations almost doubled (+13.2%) compared to the previous year (Chart 1.18), due mainly to the weaker ringgit which increased external debt obligations in ringgit-equivalent terms. Exchange rate valuation effects accounted for about 75% of the increase in corporate external debt recorded for the year. Discounting the effects, new external borrowings (net of debt repayments) was about the equivalent of RM15 billion, driven by a large planned capital raising exercise by an O&G player in the first quarter. Consequently, total corporate external debt as a share of GDP increased to 24.8% (2014: 20.5%) as at end-2015. Foreign currency (FCY)-

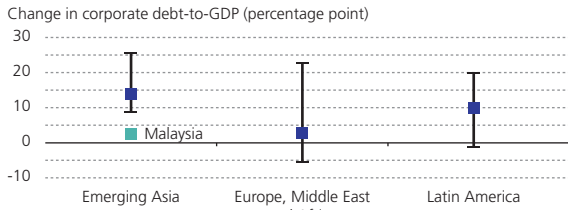
denominated borrowings from onshore financial institutions accounted for another 4% of GDP. At present, risks to domestic financial stability from the level of external and onshore FCY debt of corporations – mainly arising from currency risk and higher cost of rollover under tighter global financing conditions – continue to be mitigated. Trade credits and non-resident holdings of RM-denominated PDS and sukuk, which pose limited currency risks, accounted for about 22% of total corporate external debt. Also, about 43% of total corporate external debt comprised inter-company obligations which further reduce funding and liquidity risks to the corporations. In addition, close to 73% of external borrowings were of longer maturities exceeding one year, mitigating short-term rollover risks (Chart 1.19). In recent years, Malaysian conglomerates have increased issuances of international debt securities through their overseas subsidiaries which are mainly supported by FCY receipts from the expanding overseas operations and investments of these conglomerates. Including these, the overall corporate external debt level is estimated to be about one-third higher based on data compiled by the Bank for International Settlements.

Pursuant to regulatory requirements, corporations must obtain the Bank's approval for FCY borrowings in aggregate amounts exceeding the equivalent of RM100 million from non-resident financial institutions, special purpose vehicles and other unrelated entities. This serves to contain excessive FCY leverage by requiring corporations to demonstrate adequate debt servicing capacity from FCY revenue streams or through the use of financial derivatives to hedge against currency risks. Borrowings must also be for productive purposes. Financial institutions and corporations must additionally comply with reporting requirements which enable the Bank to monitor significant exposures and obtain early insights into heightened vulnerabilities. Data reported to the Bank indicates that a significant share of outstanding corporate external debt is borne by local outfits of multinational corporations (mainly in the form of inter-company loans) and domestic conglomerates. Such corporations are among the top 5% in terms of total number of borrowers with external borrowings which account for about 70% of total corporate external debt. Most of these borrowings are backed by FCY receipts from overseas operations or hedges with onshore financial institutions. Reflecting more volatile

**Non-financial corporate debt in Malaysia grew modestly post-GFC compared to EME peers**

**Chart 1.12**

**Business Sector: Cross-Regional Comparison of Change in Corporate Debt**

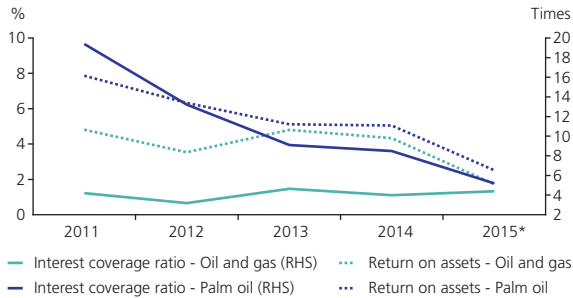


Note: Data for all countries are based on the IMF Global Financial Stability Report October 2015 for the period 2007-2014

**Lower profitability in commodity sectors which accounted for 6.2% of bank credit exposures**

**Chart 1.14**

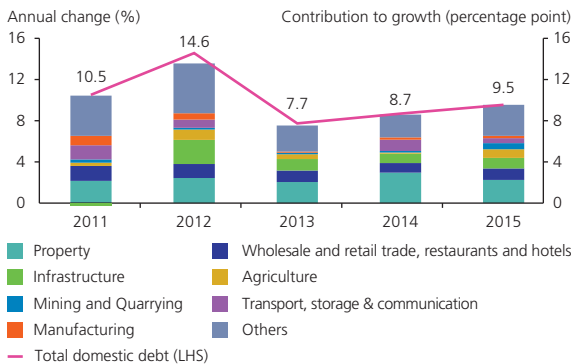
**Business Sector: Profitability and Debt Servicing Capacity for Commodity-related Sectors**



**Continued growth in corporate domestic borrowing across diversified sectors...**

**Chart 1.16**

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



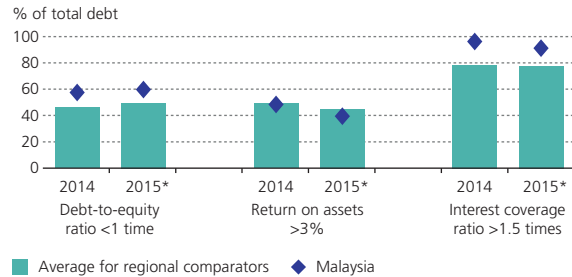
\* For Malaysia, data as at first nine months  
 \*\* Includes outstanding loans from the banking system, outstanding PDS and sukuk

Source: Bank Negara Malaysia, International Monetary Fund, Bloomberg and internal computation

**Borrowings supported by healthy balance sheets and low debt-at-risk**

**Chart 1.13**

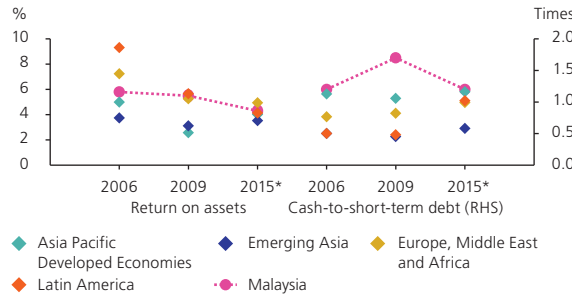
**Business Sector: Distribution of Debt by Financial Indicators**



**Overall debt servicing capacity remains supported by sound liquidity**

**Chart 1.15**

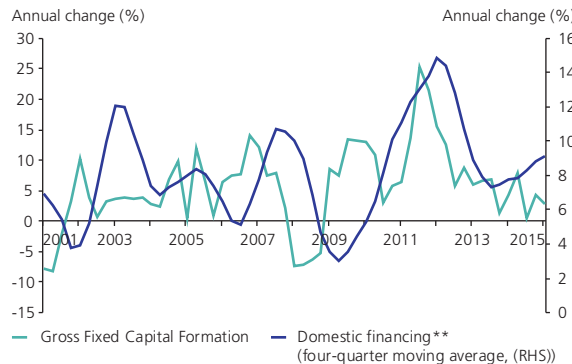
**Business Sector: Profitability and Liquidity Indicators**



**...consistent with domestic economic activities**

**Chart 1.17**

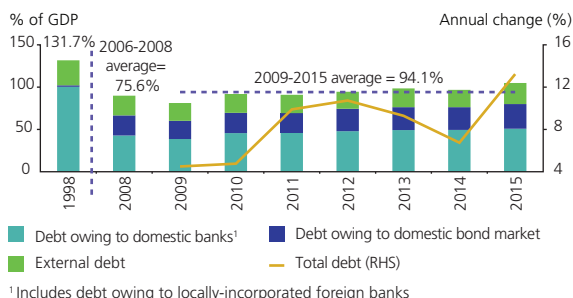
**Business Sector: Financing and Gross Fixed Capital Formation**



**Higher non-financial corporate external debt in 2015 due to exchange rate valuation effects**

**Chart 1.18**

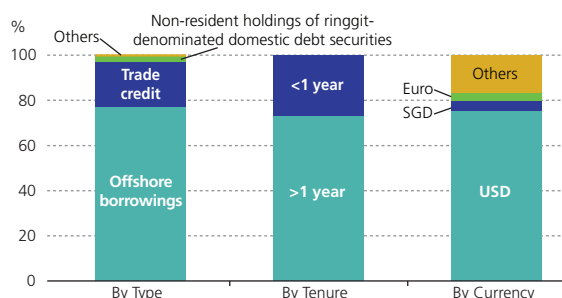
**Business Sector: Corporate Debt-to-GDP Ratio**



**High portion of inter-company loans and longer maturity borrowings reduces liquidity and rollover risks**

**Chart 1.19**

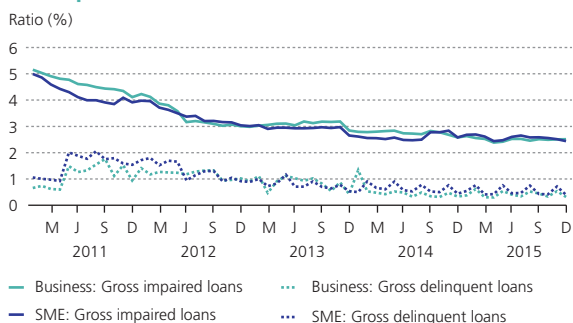
**Business Sector: External Debt Profile**



**Stable overall impairment and delinquency trends amid more challenging business environment**

**Chart 1.20**

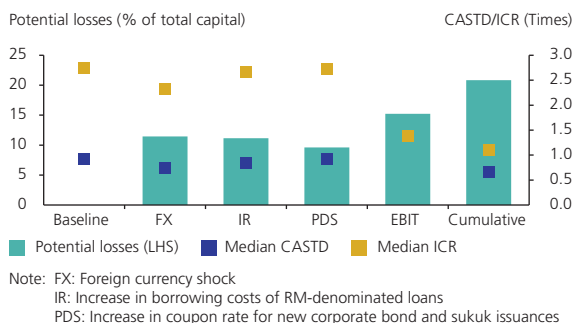
**Business Sector: Gross Impaired Loans and Gross Delinquent Loans**



**Excess capital of banks sufficient to cover more than two times the potential credit losses from large borrowers\* under simulated severe shocks**

**Chart 1.21**

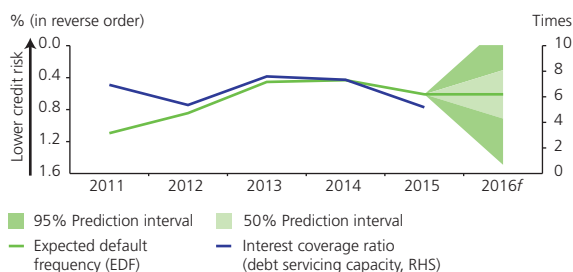
**Business Sector: Potential Credit Losses for Large Borrowers Under Stress Test**



**Overall debt servicing capacity of corporations expected to remain intact despite weaker credit risk outlook in 2016**

**Chart 1.22**

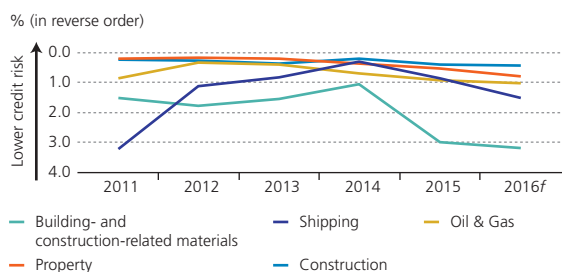
**Business Sector: Debt Servicing Capacity and Credit Risk Outlook**



**Softer outlook for commodity and real estate segments supported by sustained financials (refer to Table 1.5)**

**Chart 1.23**

**Business Sector: Credit Risk Outlook for Selected Sectors**



f Forecast  
\* Includes information from latest available financial statements of non-listed large borrowers  
Source: Bank Negara Malaysia, Bloomberg, Moody's KMV CreditEdge™ and internal computation

currency movements in the more recent period, foreign exchange-related financial derivatives with Malaysian corporations grew significantly by 20.7% to RM74.1 billion in notional terms in 2015.

## Sustained overall quality of business borrowings, although some sectors were more affected by domestic and global developments

Against regional comparators, businesses in Malaysia continue to perform reasonably well with a higher share of debt owed by businesses with healthy indicators of leverage and debt servicing capacity. This in turn is reflected in the sound overall quality of business loans in the banking system. The share of aggregate impaired and delinquent business loans, including SME borrowings, remained broadly stable despite more challenging business conditions (Chart 1.20). Businesses that raised debt in the capital markets have also generally maintained their credit standing. The year saw seven downgrades

for domestically-rated PDS and sukuk compared to six in the previous year, reflecting company specific weaknesses rather than systemic concerns, and were associated with only 1.8% of total outstanding PDS and sukuk.

Nevertheless, loan performance in some sectors deteriorated in line with economic developments although this had limited impact on overall business loan performance. The share of impaired loans was higher in the real estate, transportation and crude palm oil (CPO) sectors (Table 1.4). Of these, businesses in the real estate sector account for a relatively larger share of banking system exposures and hence have a greater bearing on risks to financial stability. Amid slower sales of new property launches, the debt servicing capacity of larger developers has remained intact, supported by more diverse projects and stronger financial buffers, while some smaller developers and SMEs faced increased challenges in servicing their debt. Despite a moderation in operating margins, the median ICR for corporations in the property segment remained strong at 5.3 times (YTD 2014: 6.6 times). At 1.5%, the ratio of impaired loans in this sector also remained low. In managing the challenges, developers have embarked on

Table 1.4

### Business Sector, Banking System: Gross Impaired Loans and Gross Delinquent Loans

	% of Total Domestic Debt <sup>1</sup> Exposure	% of Total Business Loan	Gross Impaired Loans Ratio (%)			Gross Delinquent Loans Ratio (%)		
			2013	2014	2015	2013	2014	2015
<b>Overall</b>			<b>2.8</b>	<b>2.6</b>	<b>2.5</b>	<b>0.4</b>	<b>0.3</b>	<b>0.3</b>
<b>of which: SMEs</b>		<b>48.7</b>	<b>2.7</b>	<b>2.6</b>	<b>2.4</b>	<b>0.5</b>	<b>0.4</b>	<b>0.4</b>
Real estate activities	16.8	18.1	0.7	0.7	1.5	0.1	0.1	0.1
Manufacturing	16.5	19.0	6.1	5.0	3.9	0.1	0.1	0.1
Wholesale and retail trade, restaurants and hotels	14.6	19.9	2.0	1.8	1.8	0.4	0.3	0.2
Construction	10.7	11.6	3.1	3.0	2.8	0.3	0.2	0.3
Transport, storage & communication	7.3	6.0	6.2	6.1	6.5	0.9	0.8	0.7
Primary agriculture	6.0	6.8	0.8	0.7	1.0	0.2	0.1	0.03
of which: Palm oil	4.0	4.5	0.8	0.5	1.2	0.1	0.02	0.01
Mining & quarrying	2.5	2.3	2.0	0.4	0.2	0.02	0.03	0.03
of which: Oil & gas <sup>2</sup>	2.2	2.0	2.0	0.3	0.1	0.01	0.01	0.004

<sup>1</sup> Includes business loan/financing, PDS and sukuk

<sup>2</sup> Includes upstream and downstream activities

Source: Bank Negara Malaysia

strategies to focus more on the affordable housing segment, including building smaller units in accessible locations and staggering new launches to improve the take-up rate.

Lower CPO prices contributed to lower share prices of a few palm oil companies and a higher impaired loans ratio of 1.2% (2014: 0.5%). Nonetheless, the profitability and debt servicing capacity of major players in this industry remained sound, with a median ICR of 5.2 times (YTD 2014: 9.5 times). Bank credit exposures to the CPO segment accounted for 4% of total credit exposures of the banking sector. Similarly, the O&G sector, particularly those operating in the upstream engineering, procurement, construction and commissioning (EPCC) segments, faced weaker profitability with little reprieve from declining global oil prices. The impact on the O&G sector was buffered by the reasonably high median ICR which was sustained at about 4.4 times. The exposures of banks to the O&G sector were small at 2.2% of total credit exposures to businesses. Lower freight demand, partly attributed to the O&G sector, affected the land and shipping transportation segments – particularly the latter which was also affected by global overinvestment in shipping capacity in recent years. The transport sector accounted for 3.9% of total bank credit exposures to businesses.

Spillovers from business sectors that are more exposed to demand from PR China – comprising mainly the electrical and electronics, petroleum and chemical products, commodities (CPO, O&G,

metals and rubber) and rubber products – are assessed to be manageable. Cumulatively, bank exposures to these affected sectors accounted for about 16% of total credit exposures to businesses, where the median ICR across the sectors were comfortably between 4.4 times and 26.5 times, remaining above prudent thresholds, except for the steel industry which faced legacy structural issues and stiff competition from PR China. Based on stressed PDs and LGDs under the adverse scenario of a simulated economic recession, the potential losses from exposures to these sectors, including the real estate segment which faces a weaker credit outlook due to domestic challenges, were estimated to amount to RM11.7 billion or 4.8% of total bank capital (Table 1.5).

### Aggregate debt servicing capacity of large borrower groups continues to be supported by stable and reasonably healthy cash buffers

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. In 2015, exposures of Malaysian financial institutions to large borrower groups, defined as corporations with credit exposures (including direct financing and holdings of PDS and sukuk) exceeding RM2 billion with Malaysian financial institutions, were lower at

**Table 1.5**

**Business Sector, Banking System: Potential Losses Based on Severe Assumptions on Probability of Default (PD) and Loss Given Default (LGD) for Selected Sectors**

	ICR (Times)	Stressed PD (%)	Stressed LGD (%)	Potential losses (RM billion)	% of banking system capital
Real estate activities	5.3	11.3	55.0	6.5	2.7
Palm oil	5.2	11.6	55.6	1.6	0.7
Metal	1.0	10.9	54.3	1.6	0.6
Rubber products	26.5	8.3	48.7	0.7	0.3
Oil and gas	4.4	8.3	48.7	0.6	0.2
Electrical and electronics	13.3	8.3	48.7	0.4	0.2
Chemical- and petroleum-related products	11.3	8.3	48.7	0.3	0.1
<b>Total</b>				<b>11.7</b>	<b>4.8</b>

Source: Bank Negara Malaysia, Bloomberg and internal computation

28.3% (2014: 30.1%) of total business exposures of banks and DFIs, and 80.8% (2014: 84.2%) of business exposures of insurers and takaful operators. The aggregate debt servicing capacity of the 43 large borrower groups monitored by the Bank continues to be supported by reasonably healthy cash buffers. As at end-September 2015, the median CASTD ratio for the large borrower groups remained above one time, albeit lower from the previous year at 1.2 times (YTD 2014: 1.6 times), while the median ICR has remained stable at 4.6 times. Credit exposures to large borrower groups with an ICR below the median declined to 12.3% (2014: 12.7%) of total business exposures of banks and DFIs, and 24.3% (2014: 26.1%) of business exposures of insurers and takaful operators. Among these borrowers, credit exposures to groups with relatively weaker ICR and CASTD or with a higher concentration of external debt remain low. Aggregate exposures of Malaysian financial institutions to 16 large borrower groups with a higher concentration

(>30%) of FCY borrowings accounted for about 11% of total credit exposures to businesses. Three out of these 16 large borrower groups have relatively weaker ICR and CASTD, with a combined debt owed to Malaysian financial institutions that accounted for less than 3% of total credit exposures to businesses.

These conditions continue to contain risks to financial stability, with the majority of large borrowers expected to be able to support debt repayments in the event of a substantial decline in profitability, further weakening of the ringgit or higher borrowing costs. Based on stress tests conducted by the Bank on the 43 large borrower groups, cumulative potential credit losses from simulated severe shocks (up to 50% depreciation in the ringgit since end-2014, 100 basis point increase in borrowing costs for loans, PDS and sukuk, and a 50% decline in operating profit) would remain manageable, with excess capital buffers of banks sufficient to cover more

**Table 1.6**

#### Debt Management and Resolution Mechanisms in Malaysia

A comprehensive and integrated set of institutional arrangements for debt resolution is vital to facilitate early rehabilitation of potentially distressed debt thus avoiding widespread credit defaults. Cognisant of the specific needs and characteristics of the diverse set of borrowers, the Bank has established separate debt management and resolution mechanisms for households, SMEs and large corporations.

Drawing upon experiences from the Asian Financial Crisis (AFC), these voluntary mechanisms provide a platform for borrowers and creditors to work out feasible, market-driven debt restructuring without resorting to lengthy and costly legal proceedings. This three-pronged approach aims to: (i) support balance sheet and cash flow restoration whilst avoiding premature failure of viable borrowers; (ii) improve the speed and value of debt recovery; and (iii) minimise potential losses to financial institutions, which in turn preserves the continuity of the financial intermediation process and economic activity. The flexible nature of each mechanism also allows for the necessary scale-up in terms of scope, size and focus, depending on the extent of the issue or the prevailing operating environment.

	<b>Credit Counselling and Debt Management Agency (AKPK)</b>	<b>Small Debt Resolution Scheme (SDRS)</b>	<b>Corporate Debt Restructuring Committee (CDRC)</b>
Establishment date	2006	2003	1998-2002, re-established in 2009
Objectives	Provide free counselling to individuals on debt and financial management and support debt restructuring	Facilitate debt resolution and restructuring for businesses that have difficulties in meeting their financing obligations from multiple lenders	
Target group	Individuals	SMEs	Viable corporate borrowers with debt of RM30 million or more with multiple lenders
Scope of services provided	<ul style="list-style-type: none"> <li>Debt management programme (DMP)</li> <li>Financial education programmes</li> <li>Counselling and advice on financial management</li> </ul>	<ul style="list-style-type: none"> <li>Debt restructuring/ rescheduling</li> <li>Provide new financing, where appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Debt restructuring/ rescheduling</li> <li>Facilitate provision of new financing by lenders, where appropriate</li> </ul>

than two times the estimated losses (Chart 1.21). Potential losses are further mitigated by sound underwriting and risk management standards by banks, alongside conservative loan loss provisioning practices, in managing exposures to the business sector. The more comprehensive and granular limits to manage exposures to single counterparties have reduced credit concentrations arising from financial and economic interdependencies, in line with strengthened prudential requirements implemented by the Bank in 2013. Banks also have dedicated remedial and recovery resources to assist viable borrowers that are facing temporary operational challenges (Table 1.6).

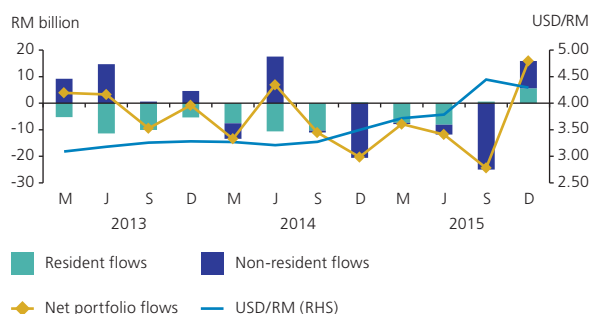
Factors affecting the credit risk outlook for businesses in the coming year will continue to reflect uncertainties in global demand, exchange rate volatility and movements in commodity prices. The overall expected default frequency (EDF) for Malaysian corporations, based on the 9th and latest generation of the Moody's Analytics Public Firm EDF model, increased to 0.61% (2014: 0.43%) at end-2015 indicating a weaker credit risk outlook (Chart 1.22). At this level, the EDF still remains significantly lower than the peak of 3.44% observed during the GFC period, with the debt servicing capacity of Malaysian corporations expected to remain broadly intact in 2016. Industries with the largest credit exposures to the banking system generally recorded low EDF levels, while relatively strong financials continue to support the softer outlook for the O&G, construction and property segments (Chart 1.23). The credit outlook remains challenging for the building and construction materials industry, reflecting continuing competitive and productivity challenges, while overcapacity continues to weigh on the performance of companies in the shipping industry.

## MANAGING RISKS FROM FINANCIAL MARKET VOLATILITY

The domestic financial markets experienced several periods of heightened volatility in 2015. Global uncertainties emanating from the prolonged slide in crude oil prices, weak economic data from PR China and the timing of the US Federal Reserve interest rate normalisation heavily influenced investor sentiment and behaviour throughout the year, particularly in the third quarter. Domestic developments dominated by concerns over the impact of lower commodity

Chart 1.24

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



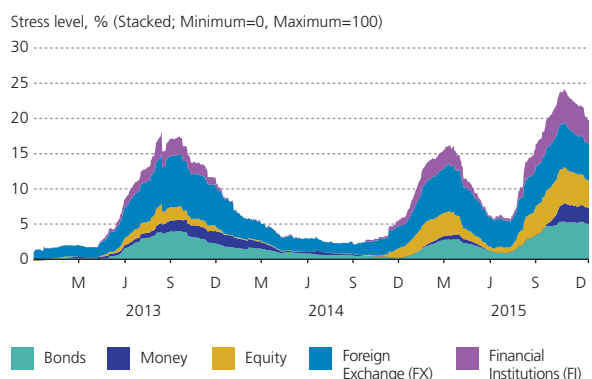
Source: Department of Statistics, Malaysia

prices on Malaysia's fiscal outlook further affected sentiment. Portfolio outflows recorded during the year were largely driven by a broader retreat of global funds from emerging markets and commodity-producing economies, and overseas investments by domestic institutional investors as part of portfolio diversification strategies mainly in the first half of the year. For the year as a whole, net portfolio outflows by non-residents increased to RM19 billion (2014: net outflows of RM10.4 billion). Including resident investors, net portfolio outflows were lower at RM28.2 billion (2014: net outflows of RM38.5 billion) for 2015, mainly due to net inflows in the final quarter (Chart 1.24).

Market volatility remained elevated throughout most of the year (Chart 1.25). As in past periods

Chart 1.25

### Financial Market: Financial Market Stress Index (FMSI)

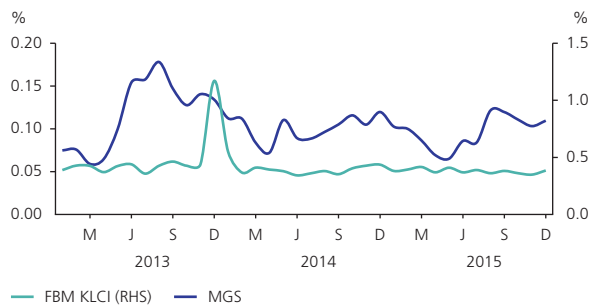


Note: 1. The FMSI is a risk monitoring tool for the financial market that is developed based on the European Central Bank's (ECB's) Composite Indicators of Stress Index (CISS). It is constructed from indicators of volatility in five components of the domestic financial markets - the foreign exchange (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

Chart 1.26

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

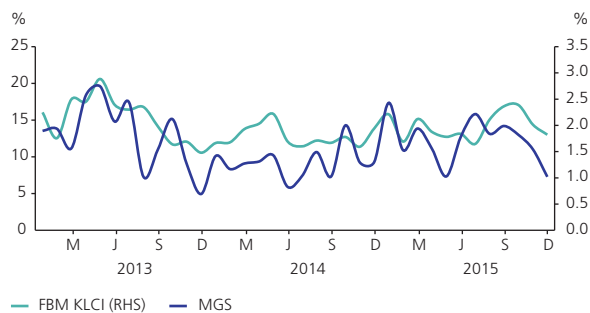


Source: Bloomberg, Reuters and internal computation

of portfolio outflows, Malaysian financial institutions and large domestic institutional investors provided the necessary support and liquidity to the domestic financial markets, containing volatility levels from overshooting. The domestic financial markets thus remained orderly and facilitative of financial intermediation during the year. Importantly, market liquidity, as measured by the average bid-ask spreads and turnover ratios for Malaysian Government Securities (MGS) and FBM KLCI, was preserved (Chart 1.26 and Chart 1.27). The significant fall in oil prices coupled with weak investor sentiment exerted substantial downward pressure on the ringgit which depreciated 18.6% during the year. This was compounded by the more bearish sentiment in the non-deliverable forward market which added to volatility in the USD/RM exchange rate. The FBM KLCI also ended the year weaker at 1,692.5 points (2014: 1,761.3 points), with the price-to-earnings ratio of the FBM KLCI increasing to 17.8 times (2014: 16.3 times) as corporate earnings moderated

Chart 1.27

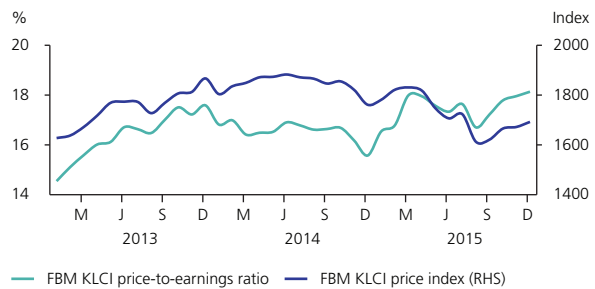
## Financial Market: FBM KLCI and MGS Monthly Turnover Ratio



Source: Bloomberg

Chart 1.28

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



Source: Bloomberg

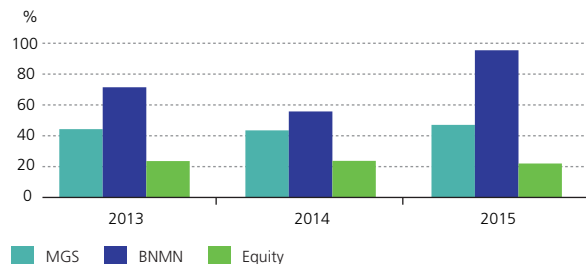
(Chart 1.28). At this level, equity valuations were comparable to that of regional peers (Thailand: 17.2 times; Philippines: 20.9 times; Indonesia: 25.7 times), although elevated relative to the long-term historical average (2000-2015) of 16.7 times.

## Domestic financial markets remain orderly and facilitative of financial intermediation amid persistent volatility

The share of MGS held by non-residents remained fairly stable at 47.7% (2014: 44.1%) (Chart 1.29), indicating sustained investor interest in Malaysia. This was despite higher market-perceived sovereign risk, as reflected in the credit default swap spread for Malaysia which increased along with that for other regional countries, particularly

Chart 1.29

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

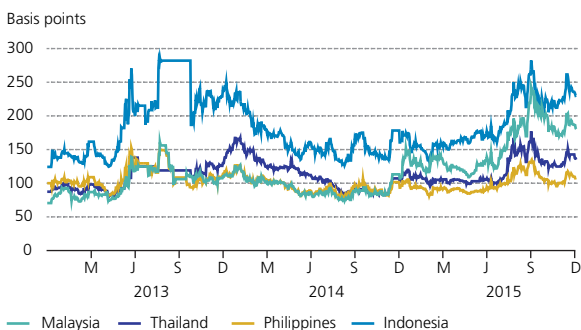


Holdings of MGS and BNMN are quoted as percentage of total outstanding while holdings of equity is quoted as percentage of total market capitalisation

Source: Bursa Malaysia, Bank Negara Malaysia and internal computation

Chart 1.30

Financial Market: 5-year Credit Default Swap Spread



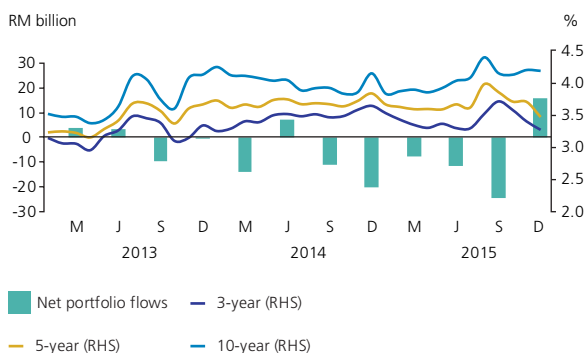
Source: Bloomberg

commodity-exporting economies (Chart 1.30). Yields on MGS trended higher during the year but eased towards year-end as demand for securities in the shorter tenures strengthened (Chart 1.31). Correspondingly, credit spreads for similar tenures of PDS widened towards year-end, but remained at levels that continued to be supportive of private sector fund raising activity with total new issuances (including sukuk) of RM128.8 billion in 2015 (all issuers including financial institutions) (Chart 1.32).

In response to the bouts of volatility in the financial markets, banks downsized the treasury portfolios by 9.4% to RM359 billion. This was largely driven by maturing Bank Negara Malaysia notes and lower holdings of MGS which declined by 53.4% to RM43.9 billion, mainly in the shorter tenures as some banks took the opportunity to realise gains amid continued firm demand from non-resident investors. These were replaced by bank holdings of

Chart 1.31

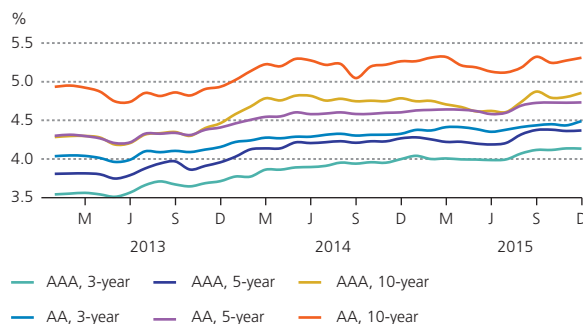
Financial Market: MGS Yields and Quarterly Net Portfolio Flows



Source: Bank Negara Malaysia and Department of Statistics, Malaysia

Chart 1.32

Financial Market: PDS Yields



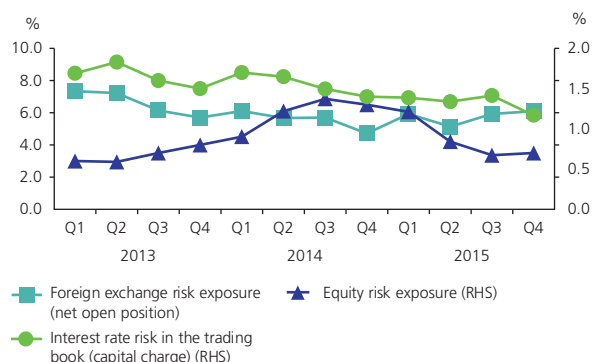
Source: Bank Negara Malaysia

Government Investment Issues which increased by 7.9% to RM88.2 billion to maintain overall holdings in high-quality liquid assets to meet the Basel III Liquidity Coverage Ratio (LCR) requirement which came into effect on 1 June 2015.

Active management of market risk exposures by banks contained the impact of heightened volatility in the financial markets (Chart 1.33). Total capital allocated against interest rate risk in the trading book was stable at 1.2% (2014: 1.4%) of banks' total capital, while exposures to equity risk remained minimal at less than 1% of total capital. The aggregate FCY exposures of banks fluctuated in tandem with more volatile movements in exchange rates and higher volume of hedging transactions with businesses. Overall foreign exchange (FX) risk exposures increased to 6.1% (2014: 4.7%) of total capital, remaining at levels consistent with prudent internal value-at-risk and loss limits set by individual banks for each

Chart 1.33

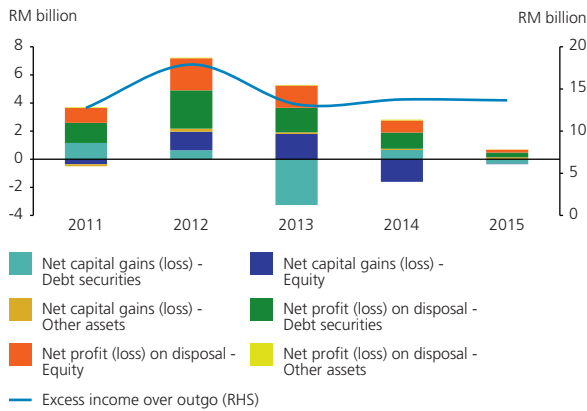
Banking System: Equity, Foreign Exchange and Interest Rate Risks (% of Total Capital)



Source: Bank Negara Malaysia

Chart 1.34

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



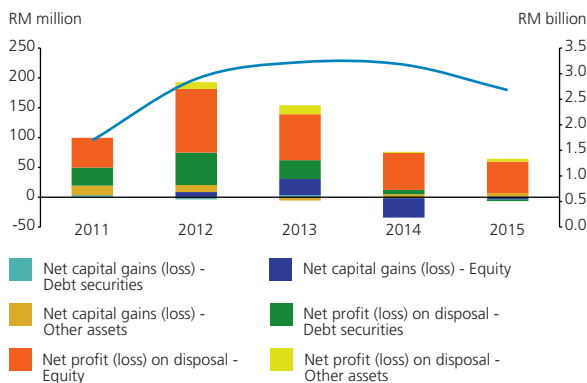
Source: Bank Negara Malaysia

significant currency and all currencies combined. Banks also continue to draw from results of regular internal stress tests which are used to set risk limits and determine portfolio management strategies and capital planning activities. Overall, banks recorded higher net gains totalling RM5.1 billion (2014: RM4 billion) from the trading and investment portfolio, which accounted for 17.6% (2014: 12.6%) of total profit before tax. Net gains from derivatives contributed to 64.6% (2014: 39.3%) of total trading and investment gains.

Insurers (including takaful operators), particularly life insurers, were more affected by movements

Chart 1.35

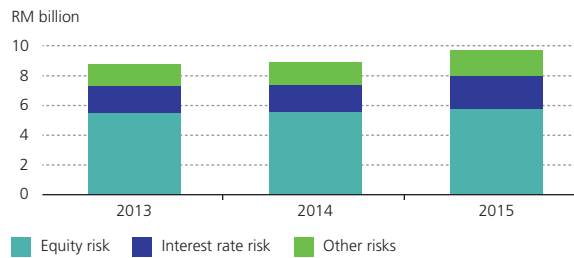
### General Insurance and General Takaful Sector: Relationship between Profitability and Investment-related Activities



Source: Bank Negara Malaysia

Chart 1.36

### Insurance Sector: Market Risk Composition



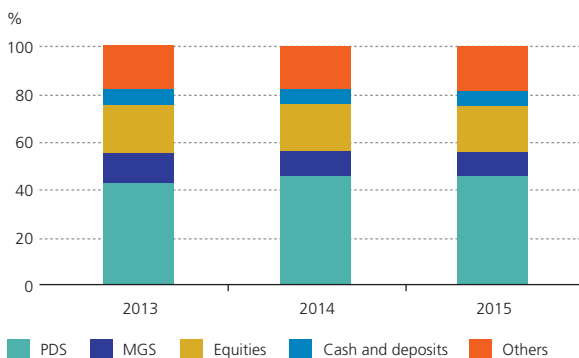
Source: Bank Negara Malaysia

in the domestic equity market (Chart 1.34 and Chart 1.35). Compared to the previous year, the life insurance and family takaful industry recorded a small net profit on disposal and revaluation of investments amounting to RM0.1 billion (2014: net profit of RM0.3 billion). Some life insurers took the opportunity to pick up selected stocks at lower equity prices which resulted in an expansion in aggregate equity holdings by 5.7% (2014: +0.2%). Correspondingly, capital allocated for equity investments increased slightly to account for 7.7% (2014: 7.6%) of total capital available (Chart 1.36). Under conditions of heightened market volatility, the Bank intensified its supervisory focus on the internal oversight arrangements and controls over investment management and strategy that are in place within life insurers. On the whole, insurers have remained fairly cautious. Insurers' equity investments continue to be well-diversified across economic sectors. This mitigated the impact of weaker performance in some sectors, including the O&G sector which represents less than 5% of total exposures of insurers to equities. Consistent with their liability structures, life insurers' investments remained largely in the form of long-term fixed income assets (Chart 1.37 and Chart 1.38). This mainly comprised PDS rated AA and above which accounted for close to 70% of the overall PDS portfolio.

Aggregate surplus liquidity in the domestic financial system placed with the Bank remained high at RM205.1 billion (2014: RM269.9 billion) at end-2015. Notwithstanding the more moderate expansion in deposits, overall financial intermediation activities continued to be firmly supported by the large and stable deposit base of banks which accounted for 70% of banks' total funding base. Growth in household deposits has remained stable, while corporate deposits expanded at a slower pace. This was attributed

Chart 1.37

**Life Insurance and Family Takaful Sector: Assets Composition**

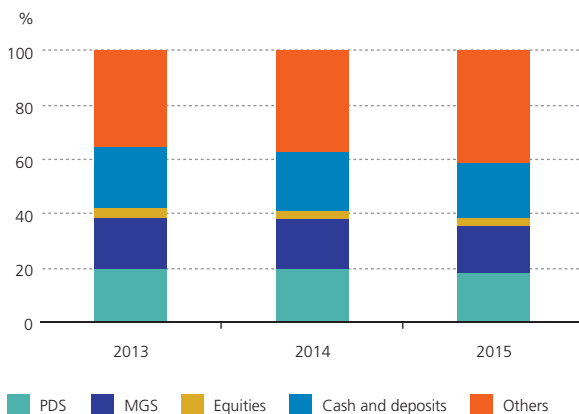


Source: Bank Negara Malaysia

to a combination of factors, including higher investments abroad for regional operations of domestic business conglomerates, higher payments for imports as a result of the weaker ringgit and the reclassification of accounts from deposits to investment accounts in accordance with the Islamic Financial Services Act (IFSA) 2013. The profile of bank deposits remains largely unchanged (Chart 1.39), although recent heightened competition in the deposit markets has led to greater divergence in the distribution of household and corporate deposits across banks. Malaysian banks are not dependent on non-resident deposits which only accounted for 4.1% (2014: 3.8%) of total deposits.

Chart 1.38

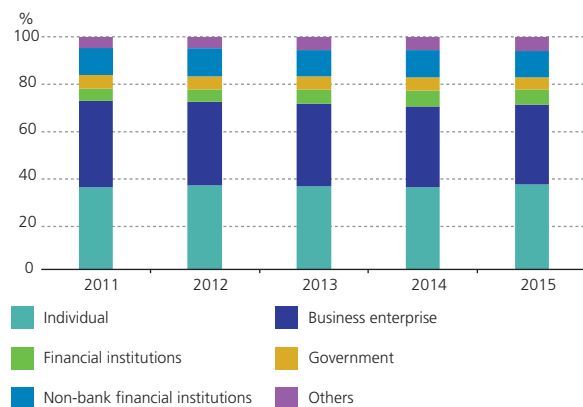
**General Insurance and General Takaful Sector: Assets Composition**



Source: Bank Negara Malaysia

Chart 1.39

**Banking System: Composition of Deposits by Holder**



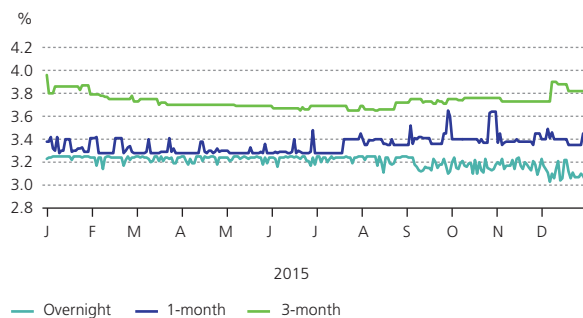
Source: Bank Negara Malaysia

**Loan-to-deposit ratio (LDR) has become less relevant over the last few years following the growth of the Malaysian financial market**

Over the past few years, the more active management of deposit placements by a number of large corporations has intensified competition for deposits. This in turn drove rates in the interbank market higher, particularly towards the year-end due to pressures faced by banks to boost their loan-to-deposit ratios (LDR) (Chart 1.40). The LDR remains a closely tracked indicator by financial analysts and rating agencies, despite its diminishing relevance over the years with greater depth of Malaysia's financial system, and as banks

Chart 1.40

**Financial Market: Ringgit Interbank Rates**



Source: Bank Negara Malaysia

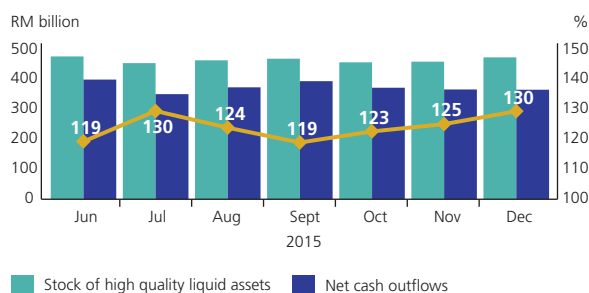
continue to diversify their funding structure. While deposits remain the primary funding source for Malaysian banks, banks have increasingly tapped the capital market to raise medium- and long-term funds. Such funds expanded by 23.2% (2014: +18.2%) to RM107.2 billion to account for a larger share of 4.6% (2014: 3.9%) of total funding. This has contributed to the lengthening of the funding profile of banks, thus narrowing maturity mismatches. Taking the broader funding base of banks into consideration, the loan-to-fund (LTF) ratio (including funding from debt instruments) was relatively stable at 83% (3Q 2015: 82.8%; 2014: 82.1%). The adjusted LDR (which excludes financing funded specifically by Islamic investment accounts, consistent with the exclusion of investment accounts from deposits) was similarly stable at 88.7% (3Q 2015: 88.3%; 2014: 86.7%).

### The loan-to-fund (LTF) ratio better captures the more diversified funding structure and broader funding base of banks

The aggregate funding cost for banks rose by 15 basis points during the year, in line with the higher average cost of deposits which increased to 2.53% (2014: 2.38%). The provision of liquidity through the Bank's monetary operations (including the reverse repo facility) which amounted to about RM40 billion during the year, and more recently, the lowering of the Statutory Reserve Requirement from 4.00% to 3.50% effective 1 February 2016, have preserved adequate liquidity in the banking

Chart 1.41

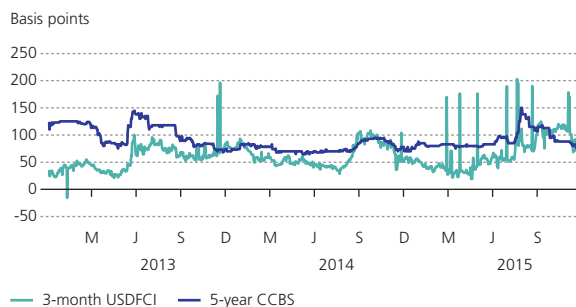
#### Banking System: Basel III Liquidity Coverage Ratio



Source: Bank Negara Malaysia

Chart 1.42

#### Financial Market: 3-month USD Funding Cost Indicator (USD FCI) and 5-year USD/RM Cross-currency Basis Swap Spread (CCBS)



Source: Bank Negara Malaysia

system. As at end-2015, the banking system LCR stood at 130% (Chart 1.41), with most banks reporting levels well above both the 60% and 70% minimum requirements that are applicable from 1 June 2015 and 1 January 2016 respectively.

On-shore USD liquidity conditions were tighter during the year, particularly in the third quarter of the year when the largest portfolio outflows were recorded. The Bank's 3-month USD Funding Cost Indicator (3M USD FCI) and 5-year cross currency basis swap spreads (CCBS) increased in August 2015 to levels last observed during the taper tantrum in mid-2013, but have since eased following the resumption of non-resident inflows in the final quarter (Chart 1.42). FCY funding of the banks remained small at 16.3% (2014: 14%) of total liabilities. Of this, FCY-denominated deposits only accounted for 8.4% of total deposits accepted. This remains supported by prudent liquidity management practices by banks, which include the lengthening of the maturity structure of banks' liabilities and diversifying funding sources to include stable medium-term capital market funding.

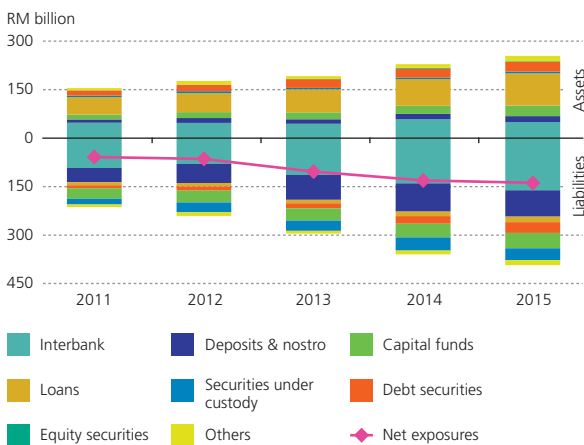
## MANAGING CONTAGION RISK FROM EXTERNAL EXPOSURES AND OVERSEAS OPERATIONS

### Counterparty risk from financial institutions' external exposures

External exposures of Malaysian banks expanded in line with the growth in domestic banks' overseas operations, the continued strong and stable presence of locally incorporated foreign banks (LIFBs) in Malaysia, and the regionalisation

Chart 1.43

Banking System: External Assets and Liabilities



Note: - Banking system includes entities operating in LIBFC  
 - External liabilities: External debt (interbank + deposits and nostro + loans + debt securities) + capital funds + securities under custody + others

Source: Bank Negara Malaysia

of trade and investment activities of Malaysian non-financial corporations. Both external assets and liabilities of Malaysian banks (including entities in the Labuan International Business and Financial Centre (LIBFC)) increased during the year (Chart 1.43). Claims by Malaysian banks on all external counterparties grew by 11.1% (2014: +19.3%) to RM254.1 billion, outpacing the increase in external claims on Malaysian banks which grew by 9.2% (2014: +21.8%) to

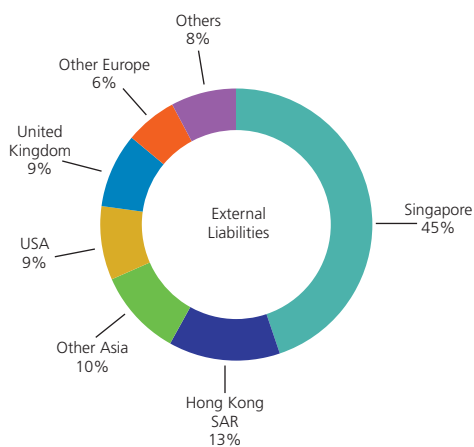
RM392.8 billion. The slower growth in external liabilities largely reflected the more moderate expansion of banks' external debt (+11.2%; 2014: +22.2%) which accounts for about three quarters of external liabilities. On a net basis, the banking system recorded a slightly higher net external liabilities position of RM138.7 billion (2014: RM131 billion). The external exposures of the banking system are mainly denominated in the US dollar and with counterparties largely based in Singapore and Hong Kong SAR (Chart 1.44 and Chart 1.45).

External assets and liabilities of banks expanded in line with growing overseas operations, centralised management of liquidity and the continued strong presence of LIFBs in Malaysia

The net external liabilities position of the banking system reflects the net exposures of LIFBs. Risks to the Malaysian banking system from these external claims on LIFBs are limited given that a significant share (28%) of such claims is represented by capital investments in the form of equity and retained earnings of LIFBs operating in Malaysia (Chart 1.46). These LIFBs, mainly based in Singapore and UK, have long-established and significant operations in Malaysia which

Chart 1.44

Banking System: Composition of External Liabilities by Location

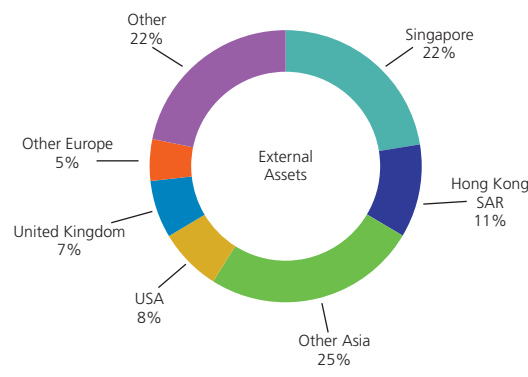


Note: Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Chart 1.45

Banking System: Composition of External Assets by Location

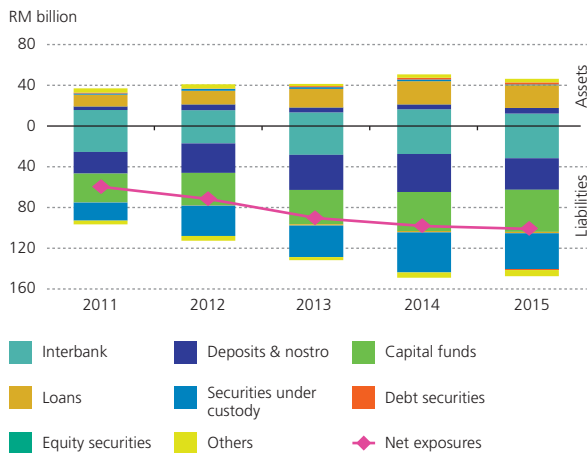


Note: Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Chart 1.46

Banking System: External Assets and Liabilities of LIFBs



Note: Banking system includes entities operating in LIBFC

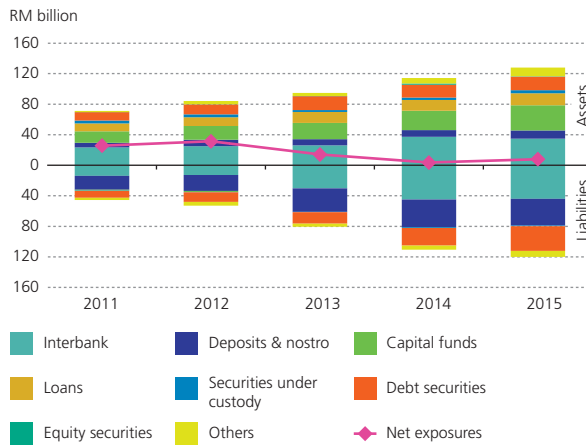
Source: Bank Negara Malaysia

continue to record healthy profits. The other major components of LIFBs' external liabilities consist of securities held under custody (24%) and interbank placements by parent and sister companies (18.6%), which present lower credit and liquidity risks to the domestic operations. Other deposit placements from non-residents remained stable at about 21% of LIFBs' external liabilities.

In contrast, domestic banking groups (DBGs) continued to report a net external assets position which increased further to RM7.9 billion (2014: RM3.5 billion). Part of this reflected higher valuations in ringgit terms from capital investments in overseas subsidiaries of DBGs (Chart 1.47). The bulk of DBGs' external liabilities directly support their overseas operations, including lending and

Chart 1.47

Banking System: External Assets and Liabilities of DBGs



Note: Banking system includes entities operating in LIBFC

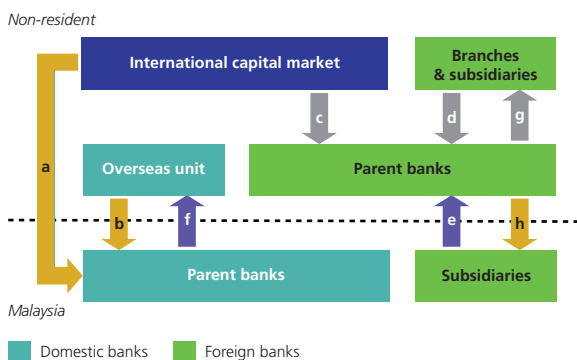
Source: Bank Negara Malaysia

investment activities which are largely funded by local currency deposits. Interbank placements of DBGs have also increased, notably in the last three years, as a result of centralised liquidity operations of DBGs. The higher volume and value of FCY derivatives contracts, mainly to facilitate FX hedging by Malaysian non-financial corporations, further contributed to the position. The impact on FX risk exposures of DBGs, however, remained limited as reflected in their stable FX net open positions of 6.1% of total capital.

A large part of the increase in external exposures (both assets and liabilities) of banks has been attributed to centralised liquidity management practices among DBGs that operate across jurisdictions (Diagram 1.1).

Diagram 1.1

Banking System: Illustration of Centralised Liquidity Management



- Liquidity gapping positions are managed centrally at the headquarters to optimise relative funding advantages across a group's operations.
- This allows for the effective pooling (a,b,c,d,e) and redistribution (f,g,h) of excess funds across local and overseas entities.
- DBGs have started to raise more longer term FCY funding, via issuances of subordinated debt and structured notes in major currencies, in international capital markets, mainly in Hong Kong and Singapore, to better manage maturity and currency mismatches in their cross-border operations.
- LIFBs have benefitted from cheaper and longer term FCY funding raised through their parent and sister banks in foreign capital markets to mitigate currency and maturity risks in the FCY loan portfolios.

Source: Bank Negara Malaysia

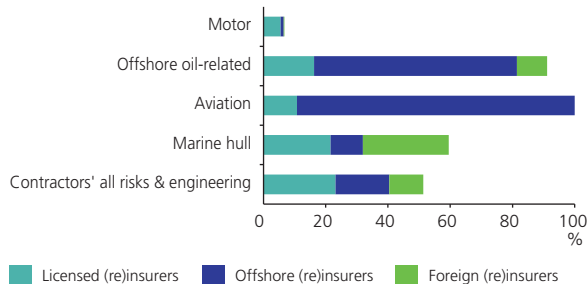
As at end-2015, overall external claims by Malaysian banks accounted for 10.8% (2014: 10.3%) of total banking system assets. Based on the Bank's network contagion analysis of cross-border exposures of Malaysian banks to major banking counterparties overseas, the impact on the domestic banking system from events of distress occurring in the banking systems of these counterparties continues to be limited. The simulated contagion impact arising from a hypothetical banking system distress scenario originating from Singapore, where Malaysian banks have the largest exposures, was only felt in the third contagion round (refer to box article on 'External Connectivity and Risk of Contagion to the Malaysian Banking System' in the 2013 Report).

### Increase in short-term external exposures of banks mainly arose from interbank placements by related entities as part of centralised liquidity management operations

External claims by Malaysian insurers (including takaful operators) are predominantly in the form of general reinsurance exposures. Total reinsurance ceded by general insurers amounted to RM4.9 billion at the end of 2015. This represented 30.9% (2014: 29.5%) of the total available capital of all general insurers and mainly related to large and specialised risks in the aviation, offshore oil-related, marine hull and engineering business classes (Chart 1.48). The bulk of overseas reinsurance exposures were to US and European (re)insurers headquartered in Germany and the

Chart 1.48

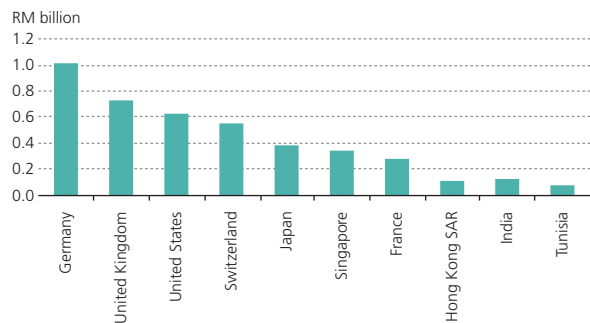
#### Insurance and Takaful Sector: Reinsurance Ceded Ratio



Source: Bank Negara Malaysia

Chart 1.49

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

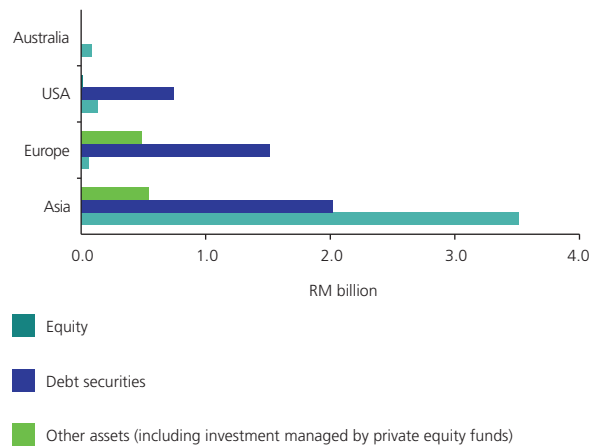


Source: Bank Negara Malaysia

UK (Chart 1.49). Counterparty risks remained low as the major global (re)insurers continue to maintain strong ratings and sound financial positions despite lower profits due mainly to the more volatile investment performance during the year. With continued excess capacity in the global reinsurance market, overall (re)insurance rates are expected to remain soft in 2016. Insurers have generally remained quite cautious in expanding their investments abroad, controlling such exposures within relatively low internal investment limits and focusing on the more liquid equity markets in Asia (Chart 1.50). While investments abroad have increased at a faster pace in the last two years, these remain a small share of less than 5% of insurance fund assets or 13.3% of the industry's capital base.

Chart 1.50

#### Insurance and Takaful Sector: External Investment Exposures by Region



Source: Bank Negara Malaysia

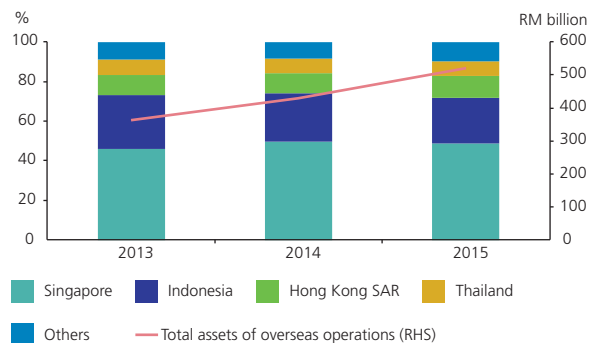
### Overseas operations of domestic banking groups

DBGs continued to expand their regional footprint during the year. On an annual basis, total assets of overseas subsidiaries and branches of DBGs (overseas assets) grew further by 32.8% to RM521.6 billion as at end of the third quarter of 2015 to account for a higher share of total assets of DBGs of 22.8% (2014: 20.7%). Discounting FX valuation effects from the weaker ringgit, overseas assets of DBGs expanded annually by 9.5% (2014: +18.8%). Loans, and investments in government securities and investment-grade PDS issuances, continue to represent the bulk of DBGs' overseas assets, accounting for 66.2% and 13.8% of total overseas assets respectively. Across DBGs, overseas assets represent between 0.1% and 35.4% of total assets of individual DBGs, the bulk of which is concentrated in Singapore (48.5%) and Indonesia (23.2%) (Chart 1.51).

Notwithstanding the increasing significance of overseas operations to the performance of DBGs, risks to the Malaysian banking system remain contained. The overseas operations of DBGs are mainly focused on traditional lending activities and largely funded by local currency deposits (Chart 1.52). Based on the Bank's on-site reviews and discussions with host authorities at supervisory colleges organised by the Bank, DBGs have also continued to observe sound risk management and provisioning practices at their overseas branches and subsidiaries. This has been reinforced by strengthened group-wide risk policies and oversight arrangements, including more

Chart 1.51

#### Banking System: Asset Composition of Overseas Operations of DBGs

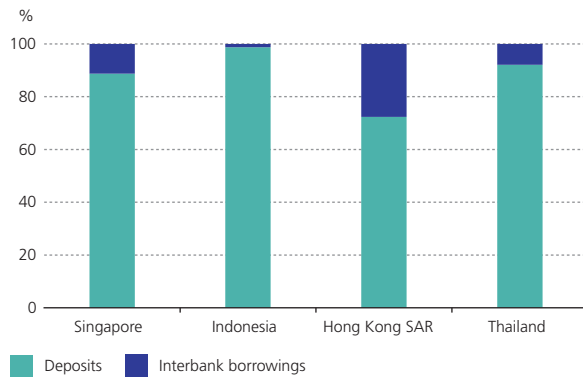


Note: Data as at end 3Q 2015  
Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Chart 1.52

#### Banking System: Funding Structure of Selected Overseas Operations



Note: Data as at end 3Q 2015  
Banking system includes entities operating in LIBFC

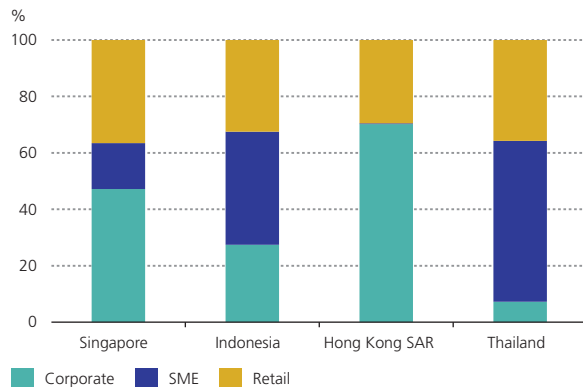
Source: Bank Negara Malaysia

comprehensive global stress tests, commensurate with the growing size of overseas operations. As a result, the overseas operations of DBGs continued to perform well, contributing between 10% and 21% to overall group profits (2014: between 7.4% and 28.8%) of individual DBGs.

In Singapore and Indonesia where DBGs have the largest operations, retail and SME loans represent more than half of DBGs' credit exposures (Chart 1.53). The retail loans are mainly concentrated in the mortgage, automobile and personal financing segments (Chart 1.54). Overall loan quality

Chart 1.53

#### Banking System: Loan Composition of Selected Overseas Operations



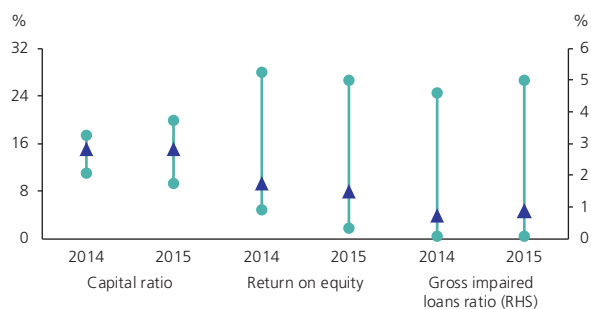
Note: Data as at end 3Q 2015  
Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

has remained broadly intact. The median gross impaired loans ratio was maintained at below 1% although the distribution across individual DBGs was wider with some DBGs recording higher impairment ratios compared to the previous year (Chart 1.55). This reflected higher credit risks on SME and business loans to sectors that are more affected by the slower demand from PR China. DBGs have already set aside provisions for such potential credit losses. The capital ratios of the large overseas subsidiaries of DBGs remained strong, ranging between 9.2% and 19.8% (2014: between 11% and 17.4%). These ratios already reflect strengthened capital adequacy requirements in some economies which have implemented Basel III standards.

Risks and developments in the overseas operations of DBGs are captured in the Bank's consolidated supervision framework and stress tests. Regular information reported by the DBGs on the performance and risk profile of overseas operations, and the Bank's periodic on-site examinations on these entities, enable the Bank to identify the impact on the financial positions of Malaysian banks arising from any need to provide capital or liquidity support for overseas operations. Overall, healthy level of capital and adequate liquidity buffers were maintained in each jurisdiction, as banks continue to actively manage interdependencies within the group. In 2015, the Bank continued to hold regular engagements with host regulators through established supervisory colleges and bilateral meetings. These platforms facilitated in-depth discussions on supervisory issues specific to the banks in the respective jurisdictions, and the coordination of supervisory

**Chart 1.55**  
**Banking System: Range of Key Financial Soundness Indicators of Selected Overseas Operations**



Note: 2015 figures refer to 3Q data  
 Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

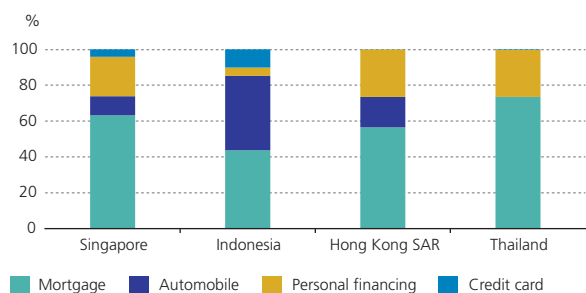
responses to address these issues. A regional cross-border crisis management and resolution framework has also been put in place by the Executives' Meeting of East Asia-Pacific Central Banks. The framework supports effective co-operation between member central banks and supervisory authorities in the event of a crisis triggered by a distressed financial institution with significant operations in the region.

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

The risk profile of NBFIs (financial institutions not regulated by the Bank) (Chart 1.56) and the nature of their interlinkages with the financial system were broadly unchanged. The key channel for the transmission of risks from the larger NBFIs continues to be via holdings of common assets and equity investments in financial institutions. NBFIs also hold a significant amount of household assets in the form of savings with pension and investment funds that are invested in the capital markets (Chart 1.57). These interlinkages and risk transmission channels require the Bank to take a broader view of potential sources of risks to financial stability, and are the focus of the Bank's surveillance of and engagements with the larger NBFIs (refer to the box article on 'Financial Deepening and Implications on Financial Stability').

NBFIs accounted for around 39% (2014: 38.6%; 2013: 38.8%) of total financial system assets, broadly unchanged over the last two years. Provident and pension funds and the

**Chart 1.54**  
**Banking System: Retail Loan Composition of Selected Overseas Operations**

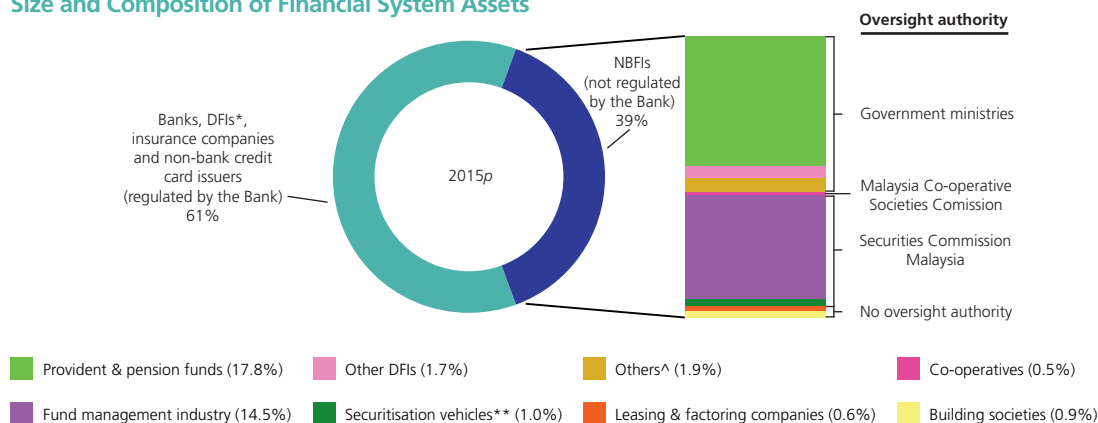


Note: Data as at end 3Q 2015  
 Banking system includes entities operating in LIBFC

Source: Bank Negara Malaysia

Chart 1.56

## Size and Composition of Financial System Assets



p Preliminary

Numbers in brackets refer to percentage of assets to financial system assets

^ Refers to pawn brokers, money lenders, non-bank provider of education financing, non-bank providers of hire purchase financing, government-owned trustee company, and social security organisation

\* 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 (a co-operative), Bank Simpanan Nasional and Bank Pertanian Malaysia Berhad (Agrobank)

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

Source: Bank Negara Malaysia, Securities Commission Malaysia, Malaysia Co-operative Societies Commission, published financial statements and internal estimates

fund management industry make up the majority (83%) of total NBFIs' assets, while the seven largest NBFIs make up 68% of NBFIs' assets. Domestic financial intermediation activities of NBFIs (Chart 1.58) continue to be largely driven by financing and investments in plain vanilla debt securities and equities. In 2015, domestic financial intermediation by NBFIs accounted for a marginally lower share of GDP, reflecting lower financing activities and the weaker performance of the equity market. For the larger NBFIs, equity investments typically account for between 23% and 69% of total assets. A notable development in recent years, particularly among the larger pension funds and fund managers, has been the increasing size and share of investments in non-financial assets (including property holdings and ventures) and in overseas and FCY-denominated assets. The share of overseas assets ranged between 7.4% and 26.2% (2014: between 7.2% and 23.6%) of total assets of individual NBFIs.

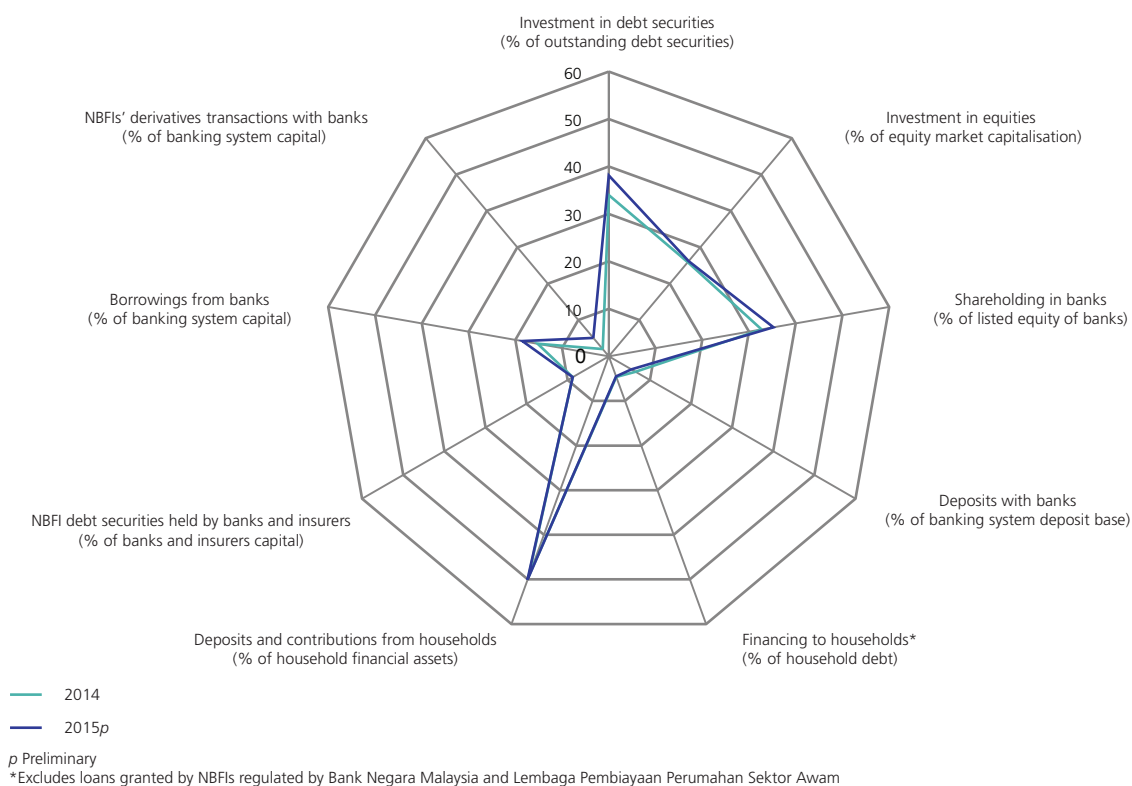
Risks to financial stability from the activities of NBFIs can arise if NBFIs experience financial stress which results in large disposals of investments that are also held by other financial institutions, affecting asset prices. NBFIs that are in financial stress can also heighten reputational or financial risks of financial institutions in which NBFIs hold substantial equity interests. One potential source of financial stress lies

in the size and extent of maturity transformation undertaken by NBFIs. This risk remains low. NBFIs that are more reliant on market funding have PDS (including sukuk) with an average remaining maturity of 9.8 years while the average tenure of financing granted typically does not exceed 10 years. The reliance of NBFIs on short-term funding remains low, with commercial papers comprising only 4.4% of total domestic PDS issued by NBFIs. Among the NBFIs, the Cagamas group of companies accounts for about half (56%) of domestic PDS issued by NBFIs. As at end-2015, outstanding domestic PDS issued by Cagamas amounted to RM28.7 billion. This represents 2.5% of total outstanding PDS. In addition, the maturity profile of Cagamas is generally well-matched. A few NBFIs are exposed to larger maturity mismatches due to their larger deposit base which is used to fund longer term assets, including loans. Nevertheless, the NBFIs have lately taken prudent measures to improve their maturity profiles and strengthen their liquidity buffers.

The leverage position (defined as assets over capital) of the larger NBFIs also remain low, at about one time. The depreciation of the ringgit during the year did not have a material impact on NBFIs given that the debt exposures were mostly denominated in ringgit. Some of the larger NBFIs posted FX gains from the higher

Chart 1.57

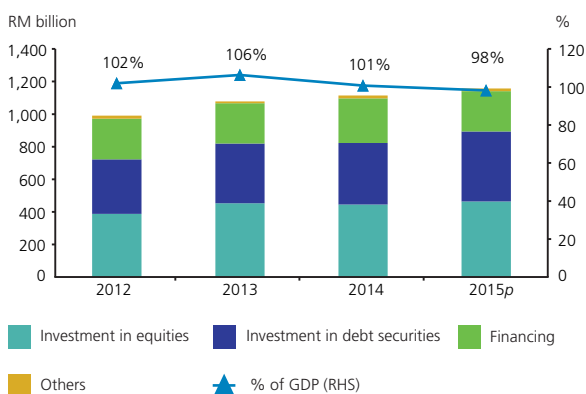
Interlinkages of NBFIs with the Financial System



Source: Bank Negara Malaysia, Securities Commission Malaysia, Malaysia Co-operative Societies Commission, published financial statements and internal estimates.

Chart 1.58

Domestic 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).

p Preliminary

Source: Bank Negara Malaysia, Securities Commission Malaysia, Malaysia Co-operative Societies Commission, published financial statements and internal estimates

valuation of overseas assets. Overall profitability was broadly sustained, albeit at a slightly lower level from previous years. The return on assets, averaged between 3.3% and 6.3% (2014: 4.6% and 7%; 2013: 5.6% and 7.3%) across the larger NBFIs. Moving forward, NBFIs will need to remain vigilant amid more volatile market conditions to sustain profitability levels.

The direct asset-liability interlinkages with the banking system and insurance industry remained low and limited. An exception is the sizable shareholding in DBGs by NBFIs. As valuations of financial stocks became attractive during the year, NBFIs took the opportunity to increase their holdings of financial stocks. Aggregate holdings of shares in DBGs by the larger NBFIs correspondingly rose to 35.2% (2014: 32.7%) of the total market capitalisation of DBGs. Banking system exposures to NBFIs in the form of interest rate and FX swaps are minimal at present, accounting for 5.1% of total bank capital.

## FINANCIAL INSTITUTION SOUNDNESS AND RESILIENCE

Malaysian financial institutions continued to demonstrate strong financial positions, supported by sound governance and risk management practices. Coupled with high quality capital and liquidity buffers accumulated over the years, financial institutions remained resilient against the heightened volatility and more challenging business conditions during the year. The majority of financial institutions maintained relatively stable risk profiles. This was also reflected in stable composite risk ratings (CRR) for most banks. The CRR captures the Bank's ongoing assessment of the inherent risk and the quality of risk management of a financial institution across significant activities and subsidiaries, taking into account its capital and liquidity management practices and sustainability of earnings.

### Capitalisation remained sound and of high quality

The banking, insurance and takaful industries remained well-capitalised throughout the year. As at end-2015, the banking system common equity tier 1 (CET1), tier 1 and total capital (TCR) ratios remained well above the minimum regulatory levels at 12.8%, 13.8% and 16.1% (2014: 13.3%, 14%, 15.9%) respectively. Banks' capital in excess of the minimum regulatory requirement remained strong, growing by 9.5% to RM117.3 billion (Chart 1.59). Even under Basel III minimum

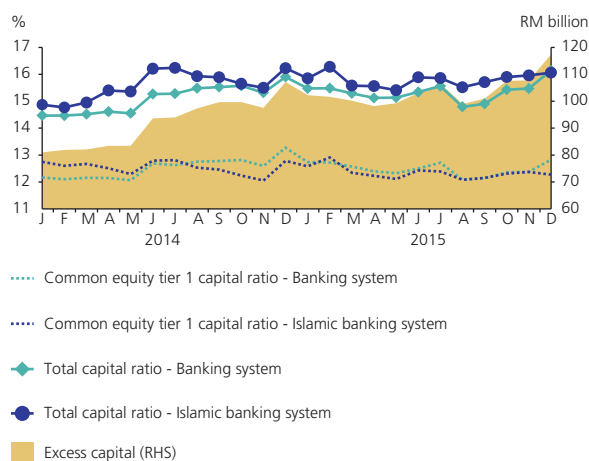
capital levels which only apply in full from 2019, banks would still have a buffer of RM79.6 billion above the minimum total capital requirement. These strong buffer levels are supported by high quality capital. More than 90% of banks' total capital consists of high quality, loss absorbing CET1 instruments in the form of equity, retained earnings and reserves. Banks continued to show a high degree of earnings resilience and conservative earnings retention policies, with retained earnings remaining relatively stable at RM68.7 billion (2014: RM70.1 billion) at the system level. Equity and tier 2 subordinated debt issuances were, however, lower at RM22.3 billion (2014: RM26.5 billion), in part due to the effect of Basel II capital instruments that are being gradually phased out under Basel III (2015: RM6.6 billion; 2014: RM8.5 billion). Despite a faster increase of 12.3% in risk weighted assets (RWA) in the third quarter (average 1H 2015: +8.5%) due partly to the higher valuation of FCY assets in ringgit terms, the ratio of total RWA to total assets remained relatively unchanged at 64.4% (2014: 64.3%). The leverage ratio (tier 1 capital as a ratio of total exposures) reported by banks under the current observation period was also unchanged at two times the prescribed minimum level of 3% under Basel III.

### Sustained capitalisation and sound profitability of financial institutions amid sound asset quality, governance and risk management practices

The capitalisation of insurance and takaful industry similarly remained strong with the aggregate capital adequacy ratio (CAR) at 245.4% (2014: 243.5%). Total capital available was partly affected by lower available-for-sale reserves and retained earnings as a result of more volatile investment valuations. This had little impact on aggregate excess capital buffers which remained strong at RM46 billion (Chart 1.60). Overall capital held against insurance and takaful risk (the most significant risk component which represents about 50% of total capital required) remained largely unchanged, reflecting a stable business mix and healthy level of reserves to meet insurance and takaful liabilities. Capital allocated against

Chart 1.59

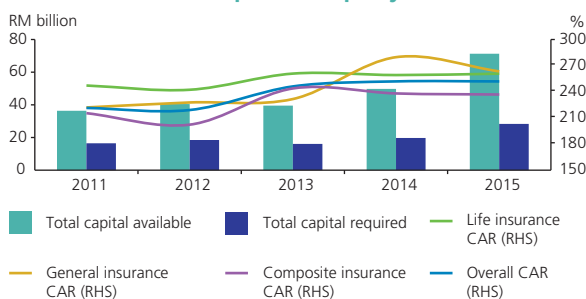
#### Banking System: Capital Adequacy Ratios and Excess Capital



Source: Bank Negara Malaysia

Chart 1.60

## Insurance Sector: Capital Adequacy Ratio



Source: Bank Negara Malaysia

market risks increased to 13% (2014: 12.2%) of total capital available. This reflected larger equity exposures from opportunistic equity purchases by insurers during the year. Credit risk exposures also increased slightly to account for 4.1% (2014: 3.9%) of total capital available as insurers held a wider distribution of PDS across investment grades to enhance yields.

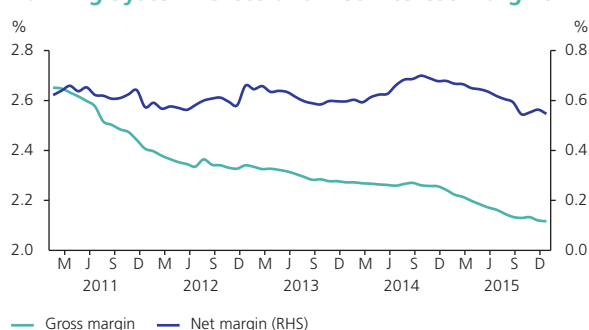
**Sound profitability amid narrow margins**

The pre-tax profit of the banking system, including Islamic banks, was slightly lower at RM29 billion (2014: RM31.9 billion) in 2015. Returns on assets and equity correspondingly declined to 1.3% and 12.4% (2014: 1.5% and 15.2%) respectively. As in the previous year, the main driver of earnings performance was net interest/profit from financing and funding activities (+1.5%), although this was partly affected by the higher growth of 14.5% (2014: +8.5%) in interest expense incurred during the year. Higher revenue from fees and commission from financing-related activities also boosted banks' earnings (+5.1%), along with active treasury activities by banks which contributed to higher net trading and investment gains (+27.3%). However, the revenue contribution from brokerage activities was lower as investors were more cautious amid the more volatile performance of the financial markets.

At the system level, the interest/financing margin net of operating costs and loss provisions narrowed to 0.55 percentage points (2014: 0.68 percentage points), mainly reflecting competition in the deposit market which resulted in higher interest expenses on interbank and deposit funding (Chart 1.61). Despite slightly higher impairment levels observed in some sectors that were affected by the prevailing economic conditions, the share of impaired loans

Chart 1.61

## Banking System: Gross and Net Interest Margins



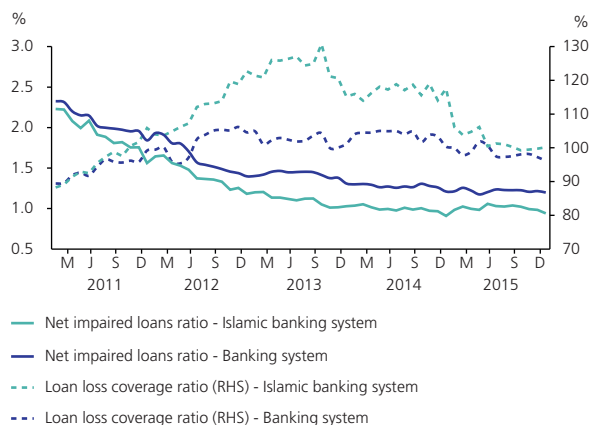
Source: Bank Negara Malaysia

was largely unchanged at 1.2% (Chart 1.62). By end-2015, all banks were required to meet a minimum level of collective impairment provisions of at least 1.2% of total outstanding loans (net of specific provisions). This had minimal impact on most banks which already recorded high loan loss coverage ratios of 96.2% (2014: 100.4%).

Bank profitability benefitted from continuing initiatives to improve productivity and operational efficiency, including holistic review of branch operations and a higher penetration of digital consumer banking. Banks have also continued to control overhead costs, although investments are still being made to continuously enhance risk management capabilities and support expanding regional operations. Such improvements have strengthened the identification and measurement of emerging

Chart 1.62

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



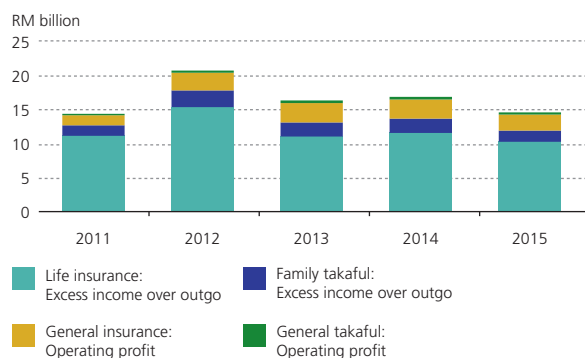
Source: Bank Negara Malaysia

risks, particularly under more uncertain business conditions. The Bank continues to keep a close watch on 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 domestically but regionally. Despite a marginally lower headcount (-0.2%), staff cost increased by 11.6% during the year due to higher salaries paid to retain skilled talent. This increased the overall costs per employee slightly by 1.1% during the year. In managing staff costs, banks have been reminded to ensure that incentives are aligned with prudent risk-taking, and key control functions continue to be well-supported by competent staff, including in areas such as compliance.

The insurance and takaful sectors recorded lower profit in 2015 amid heightened financial market volatility (Chart 1.63). Excess income over outgo of life insurers and family takaful operators was lower at RM12 billion (2014: RM13.8 billion) mainly driven by lower profits from the disposal of assets, particularly equities, which amounted to RM0.4 billion (2014: RM1.4 billion) (Chart 1.64). Income continued to be supported by the sustained, albeit more moderate, growth in net premiums of 4.6% (2014: +7.5%) (Chart 1.65). The slower growth was mainly driven by investment-linked insurance premiums which increased at a markedly slower rate of 9.4% (2014: +20.7%), largely reflecting financial market conditions. A growing share of life business tied to investment-linked products (37.4% of net premiums) has contributed to

Chart 1.63

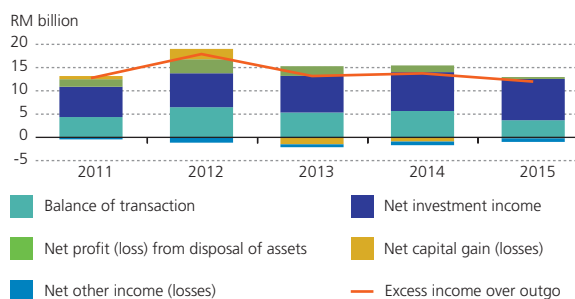
## Insurance and Takaful Sector: Profitability



Source: Bank Negara Malaysia

Chart 1.64

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



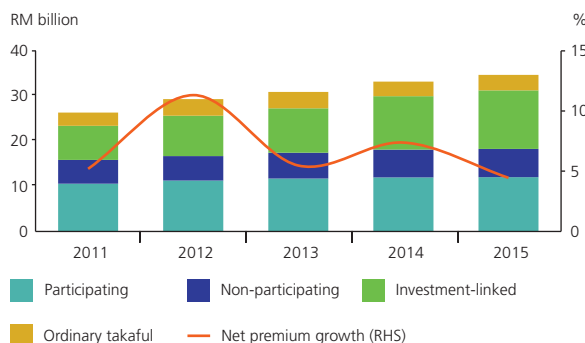
Source: Bank Negara Malaysia

higher volatility in premium income for life insurers in recent years due to more variable demand influenced by financial market conditions and greater flexibility provided for policyholders to vary premium contributions. This in turn has increased the need for insurers to effectively control costs and ensure proper suitability assessments of products sold to policyholders in order to maintain profitability over time. Net policy benefits increased due to higher medical claims and surrenders of investment-linked products, the latter partly reflecting adjustments by households to higher costs of living.

Total net investment income of life insurers and family takaful operators improved to RM8.9 billion (4Q 2014: RM8.4 billion). 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. As in the previous year, a number of life insurers reduced

Chart 1.65

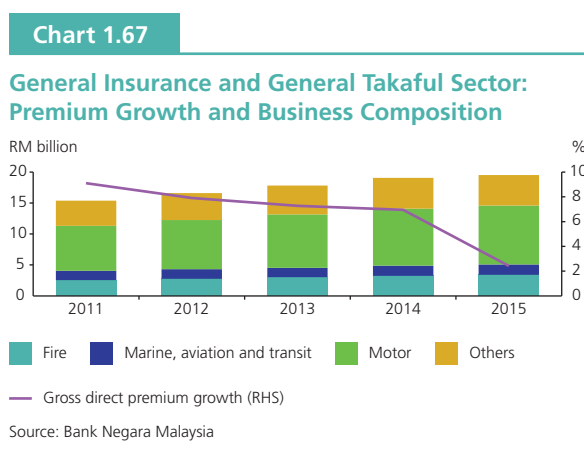
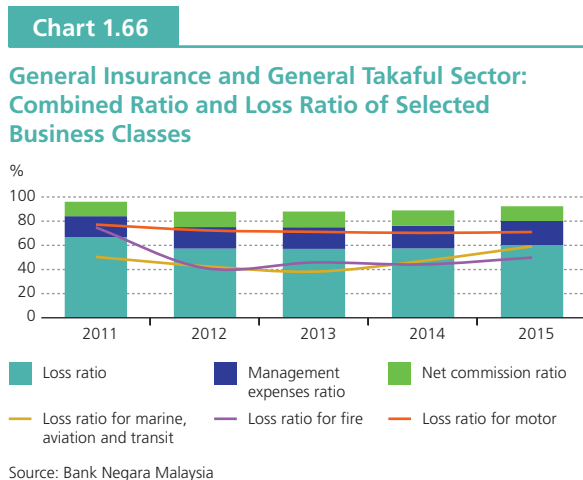
## Life Insurance and Family Takaful Sector: Net Premium Growth and Product Composition



Source: Bank Negara Malaysia

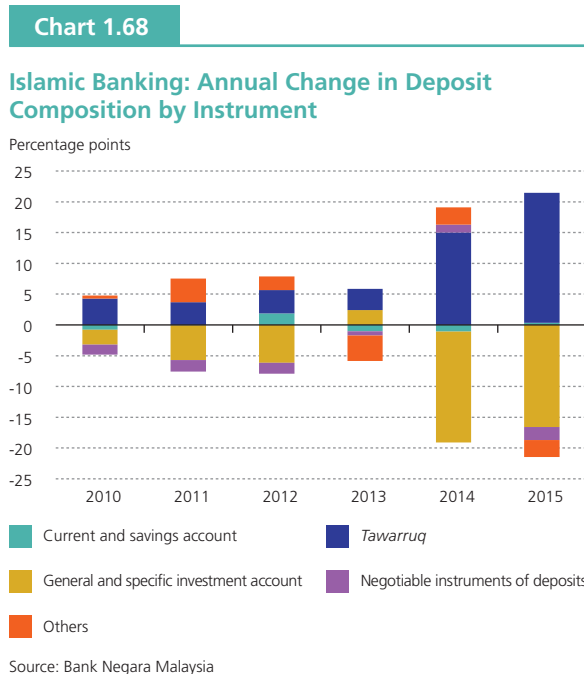
their discretionary bonuses in 2015, reflecting weaker investment performance than had been assumed in the pricing of products sold prior to GFC. Cash bonuses paid out during the year correspondingly grew at a slower rate of 4.9%, compared to the average of 20.8% between 2010 and 2014. Insurers that revise bonuses must comply with requirements under standards issued by the Bank on 'Management of Participating Life Business'. This includes requirements to ensure that adjustments to bonus payments are equitable across groups of policyholders and have taken into account the reasonable expectations of policyholders which may be formed from the actions or representations of insurers.

The operating profit of the general insurers and takaful operators declined slightly to RM2.7 billion (2014: RM3.2 billion) on account of higher net claims incurred mainly in the fire and marine, aviation and transit (MAT) sectors. Consequently, the overall loss ratio increased slightly to 60.2% (2014: 57.5%) with losses from the compulsory motor third-party liability insurance (motor 'Act') business continuing to weigh on claims costs. The loss ratios for the fire and MAT sectors increased to 49.8% and 59.1% (2014: 44.2% and 47.1%) respectively (Chart 1.66). Gross direct premiums of general insurance and takaful operators grew at a slower pace, mainly in the MAT and motor businesses (Chart 1.67). Premiums contributed by the O&G industry were not affected by the lower global oil prices as risks insured are mainly concentrated in downstream refining and processing activities. The transition to a more competitive market-based pricing environment is expected to be positive for the industry, through pricing that will be more reflective of risks. This is important to promote the sustainable provision



of motor insurance by private enterprises, while allowing policy owners who demonstrate better risk profiles to enjoy lower premiums.

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 24.6% (2014: +28%) to account for 58.4% (2014: 54.4%) of total financing. On the liability side, Islamic banks issued more fixed rate funding instruments such as *tawarruq* (fixed rate deposits) (Chart 1.68) with longer contractual maturities to narrow



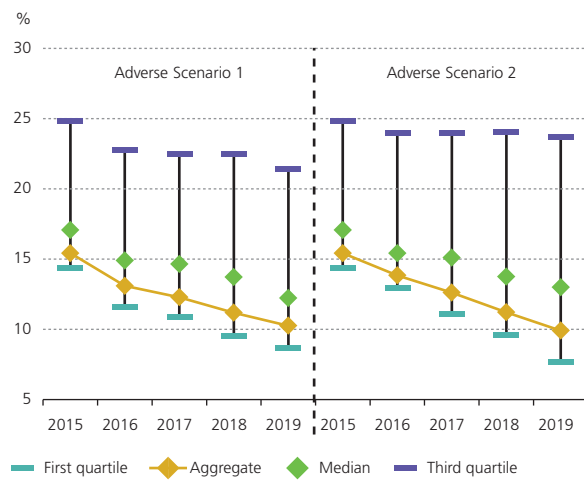
the re-pricing gap against Islamic banks' fixed rate assets. As at end-2015, fixed rate deposits of Islamic banks increased to account for a significantly higher share of 56.8% (2014: 35.7%) of total deposits, or 42.7% (2014: 30%) of the total funding base. The shift towards *tawarruq* was also partly in response to the regulatory requirement to clearly differentiate between deposit and investment account products in accordance with the IFSA 2013. This increased demand for deposit products that are principal-guaranteed. In contrast, *mudarabah*-based general and specific investment deposits declined by 84% to account for 3.1% (2014: 19.7%) of the funding base. Individual Islamic banks have adjusted to these developments quite smoothly, mainly by offering products that customers can switch to.

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

Stress tests conducted by the Bank continue to affirm the strong capacity of financial institutions, both at the system and institutional levels, to withstand severe macroeconomic and financial strains (Table 1.7 and Table 1.8). At the end of the four-year stress test horizon, the post-shock aggregate TCR and CET1 capital ratios of the banking system were above 10% and 7% under the first adverse scenario (AS1), and above 9% and 6% under the second adverse scenario (AS2) respectively (Chart 1.69 and Chart 1.70). At the institutional level, the capitalisation of the major banking groups remained above the minimum Basel III TCR, tier 1 and CET1 capital ratio requirements. Net revenue before loan loss provisions contracted by 10.1% and 16% relative to the baseline scenario in AS1 and AS2 respectively. Losses were driven primarily by credit risk shocks, which accounted for more than 96% of overall losses in both scenarios. Of this, the defaults of selected large corporate borrowers comprised 9.5% and 13.5% of total credit losses in AS1 and AS2 respectively. Cumulative net losses across the four-year stress test horizon amounted to RM27 billion and RM51 billion (or 23% and 48% of excess capital buffers) under AS1 and AS2 respectively. Gross impaired loans ratios increased to between 5% and 8% over the stress test horizon in both simulated recession scenarios. These results indicate that even under severe macroeconomic and financial strains, banks remain well-positioned

Chart 1.69

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



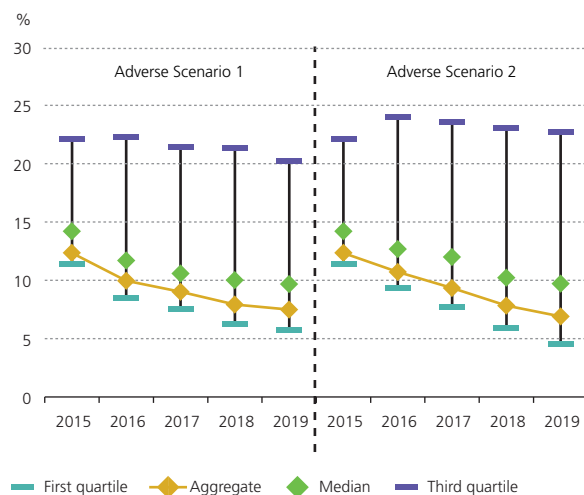
Source: Bank Negara Malaysia

to absorb the impact of losses from available capital buffers, without taking into account any additions to capital throughout the period.

The aggregate CAR of life and general insurers similarly remained above the regulatory minimum across the stress test horizon under both AS1 and AS2. With most assets of life insurers held-for-trading, life insurers were more affected by the assumed market risk shocks in 2016 where simulated sharp declines in asset

Chart 1.70

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



Source: Bank Negara Malaysia

prices were more pronounced, particularly under AS1 where the CAR fell from 252% to 182%. The simulated quick economic recovery in the following years however led to the CAR improving to 270% by end-2019. Market risk shocks account

for 60% and 55% of total shocks in 2016 under AS1 and AS2 respectively. The aggregate capitalisation of general insurers remained above 150% under both adverse scenarios, with the main impact arising from shocks related to higher motor claims.

### 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 2016 to 2019. The resulting effects incorporating simultaneous shocks on revenue, funding, credit and market risks, were applied to 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.

Table 1.7

#### Solvency Stress Test: Key Assumptions and Shock Parameters Applied Under Assumed Adverse Scenarios

Key Assumptions	First adverse scenario (AS1)	Second adverse scenario (AS2)
<b>Balance sheet and income projections</b> <ul style="list-style-type: none"> <li>Decline in banks' income growth, differentiated across segments (interest income, fee-based and other income)</li> <li>Moderation in credit growth</li> <li>Decline in insurers' premium income</li> </ul>	<ul style="list-style-type: none"> <li>up to 43%</li> <li>up to 5.5 ppts from baseline</li> <li>up to 72%</li> </ul>	<ul style="list-style-type: none"> <li>up to 22%</li> <li>up to 3.8 ppts from baseline</li> <li>up to 54%</li> </ul>
<b>Credit risk shocks</b> <ul style="list-style-type: none"> <li>Probability of default (PD) shocks <ul style="list-style-type: none"> <li>Business loans</li> <li>Household loans</li> </ul> </li> <li>Loss given default (LGD) shocks <ul style="list-style-type: none"> <li>Business loans</li> <li>Household loans</li> </ul> </li> <li>Default of selected corporations with large exposures to the banking system</li> </ul>	<ul style="list-style-type: none"> <li>Weighted average <ul style="list-style-type: none"> <li>8%-9% (up to 12% for certain segments)</li> <li>4%-5% (up to 7% for certain segments)</li> </ul> </li> <li>Weighted average <ul style="list-style-type: none"> <li>48%-49% (up to 56% for certain segments)</li> <li>36%-38% (up to 88% for certain segments)</li> </ul> </li> <li>Corporations under watchlist and are more vulnerable to simulated microfinancial shocks, i.e. <ul style="list-style-type: none"> <li>Volatile exchange rate movements</li> <li>Increased costs of borrowings</li> <li>Decline in operating profits</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Weighted average <ul style="list-style-type: none"> <li>8%-10% (up to 13% for certain segments)</li> <li>4%-6% (up to 8% for certain segments)</li> </ul> </li> <li>Weighted average <ul style="list-style-type: none"> <li>47%-53% (up to 60% for certain segments)</li> <li>37%-39% (up to 88% for certain segments)</li> </ul> </li> </ul>
<b>Market risk shocks</b> <ul style="list-style-type: none"> <li>Increase in MGS yields</li> <li>Increase in PDS yields</li> <li>Basis risk</li> <li>Decline in FBM KLCI</li> <li>Depreciation against major currencies</li> </ul>	<ul style="list-style-type: none"> <li>up to 130 bps</li> <li>up to 241 bps</li> <li>10%</li> <li>51%</li> <li>12%-29%</li> </ul>	<ul style="list-style-type: none"> <li>up to 100 bps</li> <li>up to 156 bps</li> <li>10%</li> <li>30%</li> <li>11%-15%</li> </ul>
<b>External funding risk shocks</b> <ul style="list-style-type: none"> <li>Reversal of claims by non-residents</li> </ul>	<ul style="list-style-type: none"> <li>30% of interbank borrowing and deposits</li> </ul>	<ul style="list-style-type: none"> <li>15% of interbank borrowing and deposits</li> </ul>
<b>General insurance risk shocks</b> <ul style="list-style-type: none"> <li>Increase in claims</li> <li>Increase in premium liabilities (motor classes)</li> </ul>	<ul style="list-style-type: none"> <li>up to 28%</li> <li>up to 1.5 times additional provision for adverse deviation</li> </ul>	<ul style="list-style-type: none"> <li>up to 15%</li> <li>up to 1 times additional provision for adverse deviation</li> </ul>

The first adverse scenario (AS1) is a V-shaped recession in 2016, followed by a rebound in growth before normalising to near potential growth. Recession is equivalent to a deviation from the baseline of 2.5 standard deviations of the long term growth rate, which was deeper than the recession (-1.5%) recorded in 2008. This scenario assumes: (i) a sharp slowdown in the US driven by disorderly monetary policy adjustments; (ii) a significant deterioration in banks' balance sheets in PR China resulting from a sharp equity market correction and deeper slowdown in the property market; (iii) heightened financial market volatility which increases risk aversion and affects investor sentiment, leading to a correction in the financial markets and reduced household wealth; (iv) a significant fall in commodity prices and depreciation of the ringgit; and (v) a global economic rebound from 2017 onwards on the back of monetary and fiscal stimuli by the US and PR China.

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 about 6 standard deviations of the long-term growth rate. This scenario assumes: (i) a minor equity correction and unresolved fiscal issues in the US resulting in prolonged uncertainty; (ii) prolonged weakness in PR China, associated with a less severe stock market correction, elevated private sector indebtedness, and a weaker fiscal position; (iii) prolonged volatility in financial markets which increases risk aversion, affects investor sentiment and reduces household wealth; and (iv) a prolonged fall in commodity prices, impacting Malaysia's fiscal revenue. The reduced fiscal space to stimulate the economy leads to rising unemployment and a further deterioration in sentiment.

Table 1.8

## Summary of Results of Key Stress Tests Conducted by the Bank

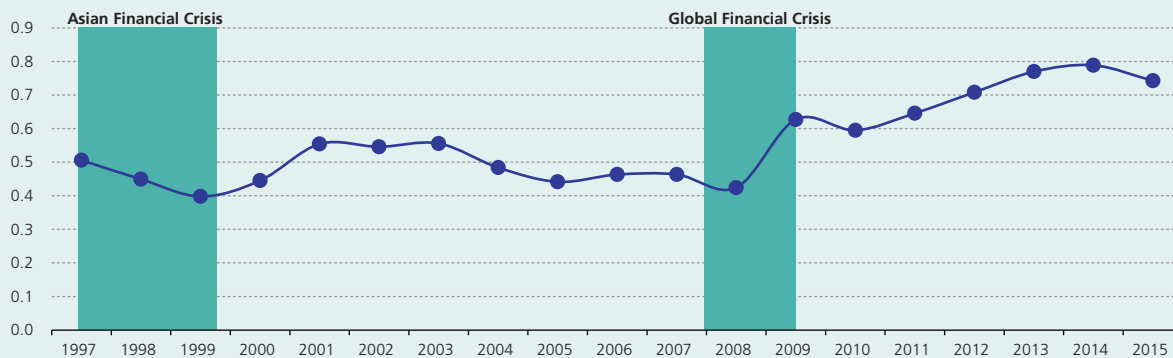
Simulated risk event	Shock assumptions	Broad results
Broad scenario analysis		
Spillovers from a series of downside risks and tail-risk events over a four-year period	Shocks on revenue, funding, credit, market and insurance risk exposures	<ul style="list-style-type: none"> <li>• Post-shock aggregate TCR and CET1 capital ratios of the banking system remain above 9% and 6% respectively under the more severe scenario</li> <li>• CAR of general and life insurers remain above 150% under the more severe scenario</li> </ul>
Sensitivity analysis		
Banking system losses arising from simultaneous default incidences in the household sector across all income groups (Table 1.2)	Tripling of baseline PD and stressed LGD	<ul style="list-style-type: none"> <li>• Estimated potential losses of about RM65.4 billion or 55.8% of excess capital <ul style="list-style-type: none"> <li>– Potential losses attributed to borrowers earning RM3,000 or less per month are estimated at about RM15 billion or 13% of excess capital</li> </ul> </li> </ul>
Banking system losses arising from 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"> <li>• Excess capital stood at more than six times the estimated potential losses</li> </ul>
Implications from volatile exchange rate movement, higher borrowing costs and lower operating margins on large borrowers (Chart 1.21)	<ol style="list-style-type: none"> <li>Up to 50% depreciation in ringgit since end-2014</li> <li>Up to 100 bps increase in borrowing costs</li> <li>Up to 50% decline in operating profit</li> </ol>	<ul style="list-style-type: none"> <li>• <i>Impact from higher FCY-denominated borrowings</i> <ul style="list-style-type: none"> <li>– Reduction of up to 0.4 ppts in the median ICR</li> </ul> </li> <li>• <i>Impact from higher floating rate ringgit borrowings</i> <ul style="list-style-type: none"> <li>– Reduction of up to 0.1 ppts in the median ICR</li> </ul> </li> <li>• <i>Impact from rollover of maturing PDS/sukuk under higher yields</i> <ul style="list-style-type: none"> <li>– Negligible impact on median ICR</li> </ul> </li> <li>• <i>Impact from decline in operating profit</i> <ul style="list-style-type: none"> <li>– Reduction of up to 1.4 ppts in the median ICR</li> </ul> </li> <li>• Cumulative potential credit losses* remain manageable, with excess capital buffers of banks sufficient to cover more than two times the estimated losses</li> </ul> <p>*Potential losses from assumed default of large borrowers with CASTD&lt;1 time and ICR&lt;2 times post-shock</p>

## Financial Deepening and Implications on Financial Stability

Malaysia has experienced significant financial deepening, most notably in the recent two decades. This is evident from the breadth and depth of the major components of the financial system, its accessibility and efficiency, and the diversity of players and instruments (Chart 1). The financial system has expanded five times since 1998 to about 400%<sup>1</sup> of GDP as at end-2015, reflecting strategies that were pursued to support the needs of the growing economy while strengthening its resilience to shocks. The more significant role of non-bank financial institutions<sup>2</sup> (NBFIs), in particular, has enhanced access to a wider range of funding and investment options for households, businesses and financial institutions. On one hand, this has contributed to a more efficient allocation of financial resources and dispersion of risks within the economy, but it also requires a broader understanding of the sources of risk to financial stability and the channels through which these risks are transmitted to and within the financial system (Chart 2). This article reviews the evolution of financial intermediation in Malaysia and its implications for the management of financial stability, including concerns that can arise from interlinkages between the banking system and other financial intermediaries, and activities that encourage excessive leverage or which involve maturity and liquidity transformation and imperfect credit risk transfers.

Chart 1

### Malaysian Financial Depth Index



Note: The index is constructed from the following indicators as a ratio to GDP: (i) stock market capitalisation; (ii) outstanding domestic public debt securities; (iii) outstanding domestic private debt securities; (iv) banking system assets; (v) fund management industry assets; (vi) provident and pension fund assets; (vii) insurance industry assets, and (viii) other non-bank financial institutions (NBFI) assets

Source: Bank Negara Malaysia and internal computation

### Evolution of Financial Intermediation in Malaysia

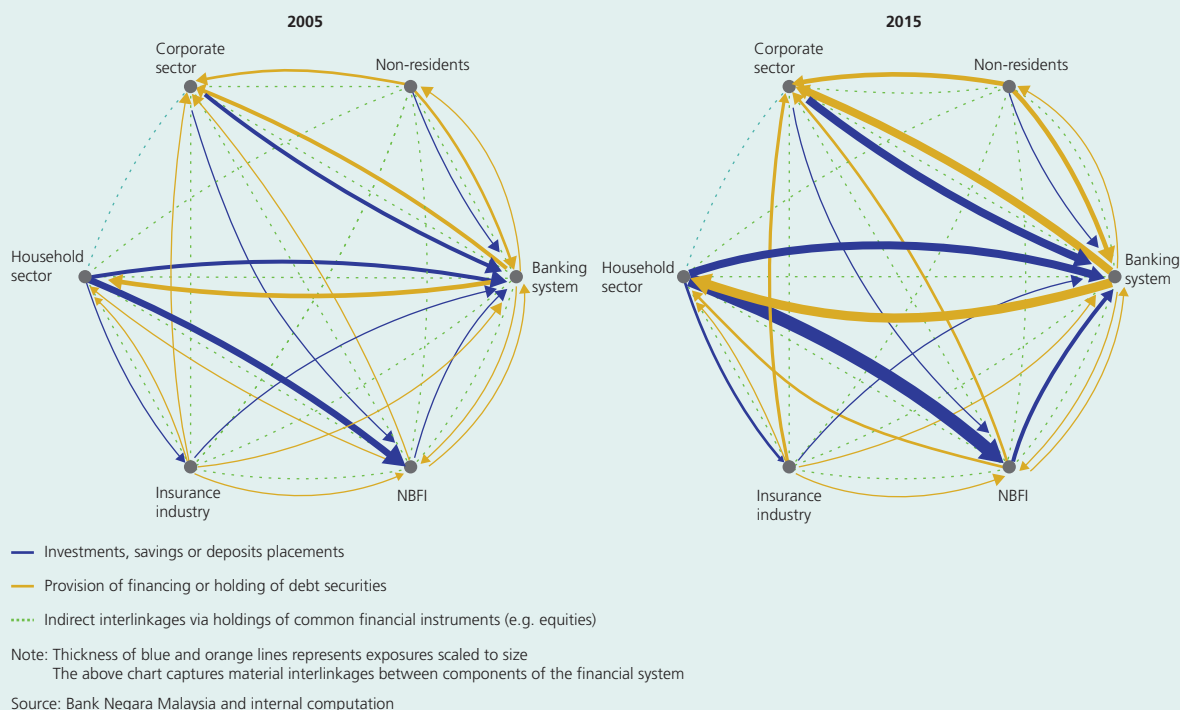
While banks retain a primary role in financial intermediation in Malaysia, a significant feature in the evolution of the financial system over the last decade has been the growing significance of the domestic capital market and NBFIs (Chart 3). Total outstanding debt securities grew at a compounded annual growth rate (CAGR) of 10.4% over the past decade to RM1,127.2 billion or 97.4% of GDP as at end-2015. The average maturity of debt securities has also lengthened, from 3.1 years in 2005 to 6.1 years in 2015, underpinned by issuances of longer-dated securities with maturities as long as 30 years. This has enabled businesses to source funding for projects with long gestation periods or for longer-term expansion plans more efficiently, while reducing refinancing risks. For insurance companies and provident and pension funds, the ability to invest in financial instruments with longer tenures has also reduced asset-liability mismatch risks.

<sup>1</sup> Computed based on outstanding loans granted by financial institutions, market capitalisation of the equity market and outstanding debt securities.

<sup>2</sup> For the purpose of this article, NBFIs comprise insurers and takaful operators, development financial institutions, provident and pension funds, fund management industry, social security organisation, securitisation vehicles and other non-bank lenders such as pawnbrokers, moneylenders, co-operatives, providers of hire purchase financing, leasing and factoring companies, building societies and non-bank provider of education financing.

Chart 2

## Interlinkages between Components of the Financial System



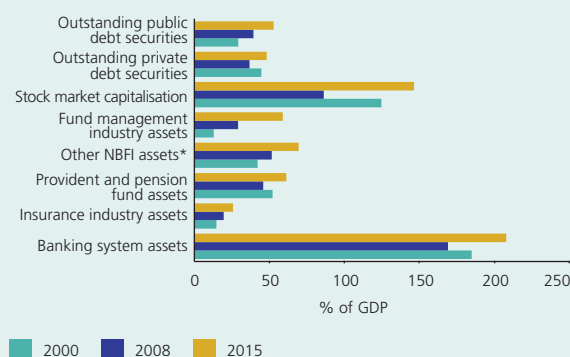
The development of the derivatives and securitisation market in Malaysia has been gradual and more measured. While the demand for derivatives for hedging purposes has been on an increasing trend, the market remains relatively small. Securitisation activities, predominantly linked to housing loans granted to civil servants, are mainly structured to reduce maturity mismatches rather than to transfer credit risk. Given their strong capital positions, ample liquidity and manageable credit risk exposures, banks in Malaysia generally do not rely on the asset-backed securitisation market to support their lending activities. As at end-2015, asset-backed securities stood at RM11.4 billion or about 1% (2005: 3.4%) of total outstanding debt securities.

In parallel with the more developed capital market, the role of NBFIs in the mobilisation of savings and investments has also increased in significance. To a large extent, this stemmed from the more vibrant and liquid capital market, but it also reflects a higher level of financial sophistication and awareness among households of the broader range of alternative savings and investment instruments available. Over the past decade, NBFIs assets have tripled, and currently account for almost half (49%) (2005: 41%) of total financial institutions' assets as at end-2015. About 70% of NBFIs asset growth was driven by the fund management industry and the provident and pension funds. The net asset value of wholesale funds that cater to institutional investors has expanded by more than four times over the past five years to account for about 13% of assets of the fund management industry. Whilst a large share of wholesale funds is invested in money market instruments including deposits, such funds are estimated to represent less than 3% of bank deposits. The demand for private retirement savings to complement mandatory retirement saving schemes and existing welfare safety nets has also increased, with the assets under management of private retirement schemes expanding about four times to RM1.2 billion (2013: RM0.3 billion) since they were launched in 2012. The bulk of the NBFIs (representing more than 95% of total NBFIs assets) is subject to the oversight by either the Bank, Securities Commission Malaysia, Malaysia Co-operative Societies Commission and Government ministries.

An expected consequence of the broader range of wealth management instruments and a deeper financial market has been a moderation in deposit growth (CAGR between 2010 to 2015: 7.9%; CAGR between 2005 to 2010: 10.5%). In the more recent period, this has been further compounded by a search for yield amid a prolonged low interest rate environment and the higher volume of capital flows. These developments are reflective of financial deepening and a more mature and open financial system. Banking institutions in Malaysia have, for a few years now, also begun to tap into alternative sources of stable funding through the domestic capital market. This reflects both adjustments made by banks to adapt to slower deposit growth as well as measures taken by banks to diversify and improve the stability of their funding base. As at end-2015, medium-term funding instruments, in ringgit and foreign currency, have increased to represent 5.1% (2010: 2.9%) of banks' total liabilities. This has resulted in the progressive lengthening of the maturity profile of bank funding sources to between three to five years (as opposed to less than one year for deposit-based funding). The maturity mismatch between bank funding and assets (which have an average duration of 11.9 years) has correspondingly improved.

Chart 3

## Components of the Financial System



\*Refers to development financial institutions (DFIs), co-operatives, building societies, leasing and factoring companies, social security organisation, national mortgage corporation, non-bank provider of education financing, pawnbrokers, moneylenders and outstanding asset-backed securities. Assets for the year 2015 are based on preliminary figures.

Source: Bank Negara Malaysia, Securities Commission Malaysia, Malaysia Co-operative Societies Commissions and internal computation

### Implications for the Management of Financial Stability

The combination of a bank-based and market-based financial system has reduced risks associated with a concentration in specific financial markets, institutions or instruments to meet financing needs (Table 1). Notably, in line with the higher share of business financing from the private debt securities market, the concentration of bank exposures to large businesses has been declining (2015: 18.9%; 2005: 22.6%). During the same period, banking sector exposures to households and SMEs have been increasing (2015: 74.8%; 2005: 72.4%) driven by ample liquidity conditions, alongside sustained efforts to promote financial inclusion.

The growing significance of loans to households and SMEs has resulted in greater dispersion of credit risks in the banking system, with attendant changes in credit risk management approaches by banking institutions. This includes the wider use of credit scoring models for risk assessments, supported by credit information from the Central Credit Reference Information System (CCRIS) which continues to serve as a major component of credit scoring models. CCRIS also provides a strong foundation for promoting the development and growth of private credit reporting agencies to further enhance the provision of high quality consumer credit information to help borrowers and lenders make informed financial decisions. Reflecting the increased exposure of financial institutions to households and SMEs, institutional arrangements have also been put in place to pre-emptively respond to potential stress in

Table 1

## Financing Profile of Non-financial Corporations

	1998	2015
	RM billion	
Domestic financial institutions*	307.5 (78%)	672.4 (52%)
Debt securities market	5.1 (1%)	337.3 (26%)
External borrowings	83.5 (21%)	287.4 (22%)

\*Refers to borrowings from Malaysian banks, DFIs and other NBFIs

Note: Figures in the parentheses are quoted as percentage of total debt of non-financial corporations

Source: Bank Negara Malaysia and internal computation

these segments. This includes the setting up of the Credit Counselling and Debt Management Agency (Agensi Kaunseling dan Pengurusan Kredit, AKPK) and the Small Debt Resolution Scheme by the Bank to facilitate debt resolutions and provide financial management advisory services.

Since 2010, the Bank has also implemented macroprudential measures to manage risks from the higher level of household indebtedness. A key focus of the measures was to ensure that banks comply with responsible financing practices through requirements for banks to carry out proper affordability assessments and observe prudent debt service ratios in their lending processes and decisions. These measures were also extended to NBFIs to reduce opportunities for regulatory arbitrage given the increasing role of such institutions in intermediating household funding needs. With sustained growth in housing loans and rising property prices, measures (including fiscal measures) were also implemented to reduce speculative purchases in the property market. Collectively, these measures have contained the build-up of risks in the household and property sectors.

Another dimension of risks in household lending relates to the changing composition of household assets and the potential effects this may have on household financial buffers (Chart 4). Although a significant share (73.8%) of household financial assets continues to be held in deposits, deposit-like instruments and provident and pension savings, the proportion of assets invested in higher-yielding asset classes such as equities and unit trusts has increased. In the recent periods, the heightened volatility in the equities market resulted in marginal decline in the value of household's equity investments (2015: -0.7%; 2014: -3.6%). The value of investment-linked and other non-guaranteed insurance policies which are largely invested in equities and debt securities was similarly affected. Although this may increase risks of deterioration in household loan performance, such risks are largely mitigated by the sound lending standards that banks have continued to observe.

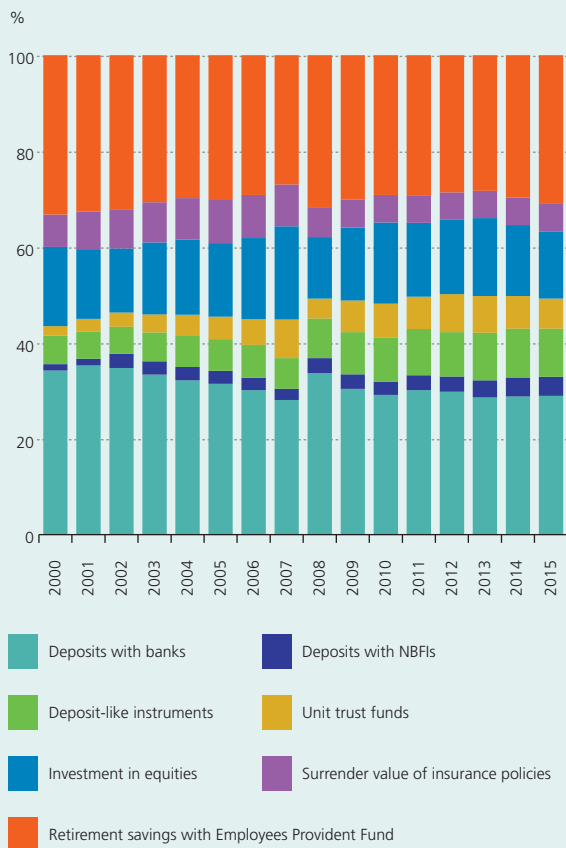
More developed domestic financial markets have also enabled Malaysia to better weather periods of global economic uncertainty and international financial market volatility. Since the 2008 Global Financial Crisis, recurring episodes of market volatility have been tempered by the presence of large and strong institutional investors, including insurance companies, and provident and pension funds. This provided support to asset prices and contributed towards preserving liquidity in the domestic debt securities and equities markets during periods of sustained sell-offs by non-residents. At the height of both the Global Financial Crisis and during the taper tantrum period in 2013, the bid-ask spread and turnover ratio remained relatively stable (Chart 5). Intermediation activities continued undisrupted, reflecting a more resilient financial system as the broad range of domestic funding sources reduced vulnerabilities to external developments.

At present, risks to financial stability from the growing significance of market-based instruments and NBFIs in financial intermediation mainly arise from the resulting increased interlinkages between various components of the financial system. Banking institutions are exposed to risks through holdings of common assets with significant NBFIs, such as provident and pension funds, insurance companies and non-resident investors. Any stress in such NBFIs resulting in the widespread disposal of assets held in common with banks could lead to volatile and significant price movements with direct consequences for bank balance sheets. Currently, this risk is relatively low as bank holdings predominantly consist of higher-rated and more liquid debt securities which are generally more resilient to repricing risks. As at end-2015, holdings of public debt securities and private debt securities rated 'AA' and above account for 58% of the treasury portfolio of banks while equity investments remain small at 1.1% of treasury portfolio (refer to Chapter 1 on 'Risk Developments and Assessment of Financial Stability in 2015').

As the pattern of financial intermediation in Malaysia continues to evolve to keep pace with the growing and changing needs of the economy, policy flexibility to identify and mitigate potential risks and vulnerabilities is paramount. In Malaysia, this has been supported by a strong legal and surveillance framework (Diagram 1) and significantly strengthened inter-agency co-operation arrangements at both domestic and regional levels which facilitate the effective exchange of information and policy coordination, thus promoting the effective management of risks to financial stability.

Chart 4

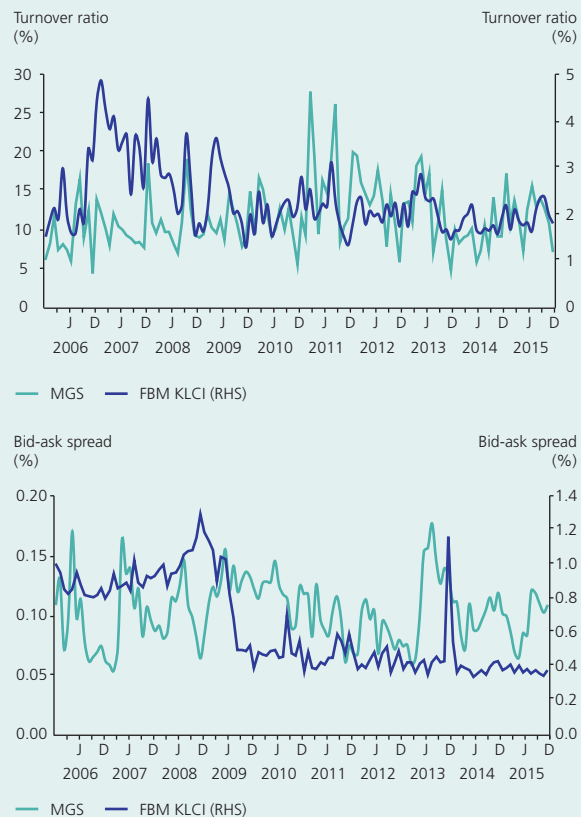
## Composition of Household Financial Assets



Source: Bank Negara Malaysia, Securities Commission Malaysia, Bloomberg and internal computation

Chart 5

## Monthly Turnover Ratio and Bid-Ask Spreads of MGS and FBM KLCI



Note: Average bid-ask spreads of MGS and FBM KLCI are as % of mid-price

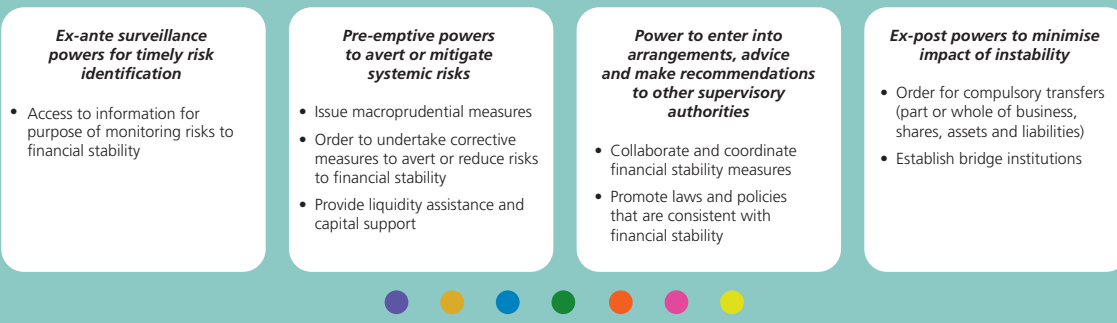
Source: Bank Negara Malaysia and Bloomberg

Diagram 1

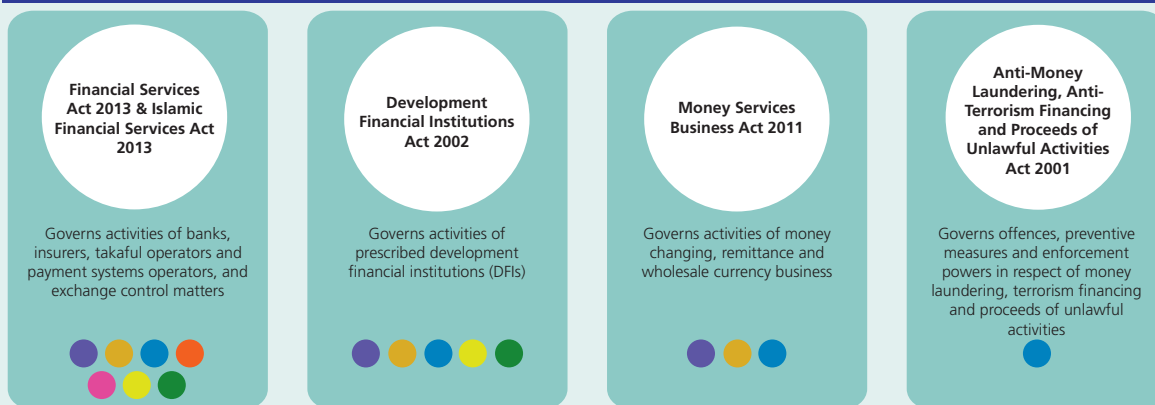
## Legal Framework and Collaborative Arrangements to Safeguard Financial Stability

### Central Bank of Malaysia Act 2009

- Provides clarity in the Bank's financial stability mandate and its statutory responsibilities to regulate and supervise financial institutions, provide oversight over the money and foreign exchange markets, exercise oversight over payment systems, and develop a sound, progressive and inclusive financial system.
- Provides the Bank a broad range of powers and tools to safeguard financial stability.



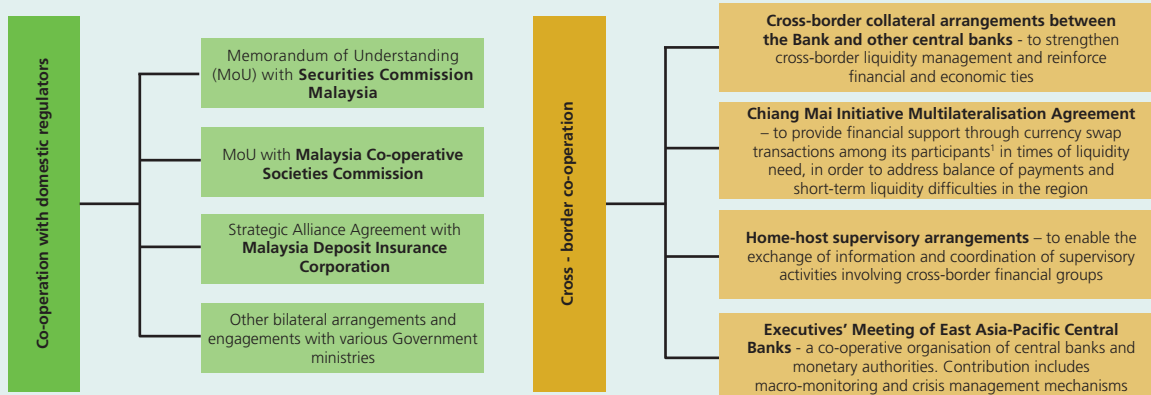
### Reinforced by regulatory laws administered by the Bank



#### Focus of legislation:

- Prudential regulation and supervision
- Fair, responsible and professional business conduct
- Deterrence of financial crime
- Financial safety nets
- Orderly financial market and payment systems
- Shariah compliance
- Tools for crisis management and prevention

### Enhanced domestic and regional collaborative arrangements



<sup>1</sup> Refers to ten members of the Association of Southeast Asian Nations (ASEAN), PR China (including Hong Kong SAR), Japan and South Korea

Source: Bank Negara Malaysia

**References**

Allen, M., Rosenberg, C., Keller, C., Setser, B. and Roubini, N. (2002): 'A Balance Sheet Approach to Financial Crisis', IMF Working Paper WP/02/210.

Bank for International Settlements (2015): 'What Do New Forms of Finance Mean for Emerging Market Central Banks?', BIS Papers No. 83.

Bank Negara Malaysia (2011), 'Financial Sector Blueprint 2011–2020'.

Committee on the Global Financial System (2007): 'Financial Stability and Local Currency Bond Markets', CGFS Papers No. 28.

International Monetary Fund (2014): 'Moving from Liquidity- to Growth-Driven Markets', Global Financial Stability Report, April.

Nier, E. W. (2009): 'Financial Stability Frameworks and the Role of Central Banks: Lessons from the Crisis', IMF Working Paper WP/09/70.

Sahay, R. et al (2015), 'Rethinking Financial Deepening: Stability and Growth in Emerging Markets', IMF Staff Discussion Note SDN/15/08.