



**BANK NEGARA MALAYSIA**  
CENTRAL BANK OF MALAYSIA

# Financial Stability Review Report

Second Half 2019





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CENTRAL BANK OF MALAYSIA

# Preface

This Financial Stability Review – Second Half 2019 provides Bank Negara Malaysia’s assessment on current and potential risks to financial stability and the resilience of the Malaysian financial system to sustain its financial intermediation role in the economy. It also reports on any actions that have been taken to manage risks to financial stability and contains box article(s) on topics of special interest.

This publication is intended to promote greater awareness on issues and developments affecting financial stability.

This document uses data available up to 31 December 2019, unless otherwise stated.

The Financial Stability Review - Second Half 2019 is available in Portable Document Format (PDF) at [www.bnm.gov.my](http://www.bnm.gov.my)



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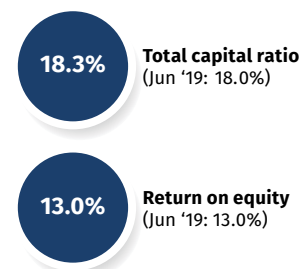
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# Key Highlights on Financial Stability Review – Second Half 2019

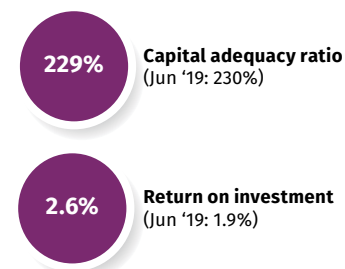
## Financial institutions remained resilient despite the more challenging environment

Banks and insurers maintained strong capital buffers amid sustained profitability

### Banking Sector

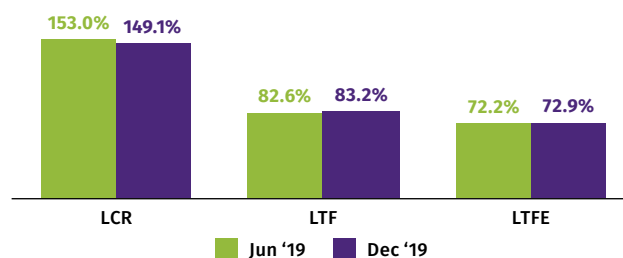


### Insurance and Takaful Sector



Sufficient liquidity, supported by stable funding sources

### Banking System – Liquidity Coverage Ratio (LCR), Loan-to-Fund (LTF) and Loan-to-Fund and Equity (LTFE) Ratios

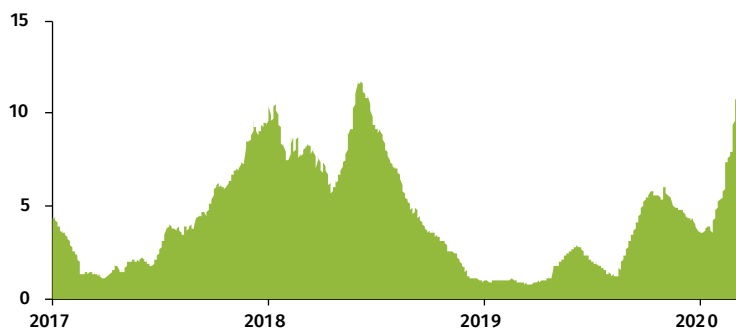


## Domestic financial markets affected by domestic and external headwinds, but adjustments remained orderly

Market stress rose markedly in March 2020

### Financial Market Stress Index

Stress level, %



Heightened market volatility amid weaker growth prospects due to COVID-19 pandemic

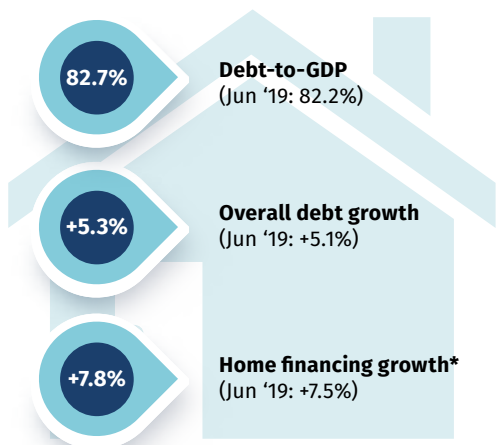


Financial institutions well-positioned to manage risks, with relatively low net open positions supported by active risk management and hedging strategies

## Sustained debt-servicing capacity among households despite elevated levels of household debt

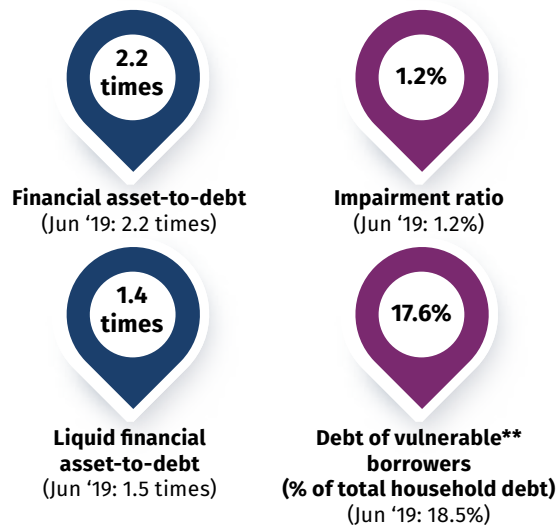
Household debt growth largely driven by home financing

### Household Debt Indicators



Risks to the financial system mitigated by financial buffers and lower exposure to vulnerable\*\* households

### Household Key Indicators



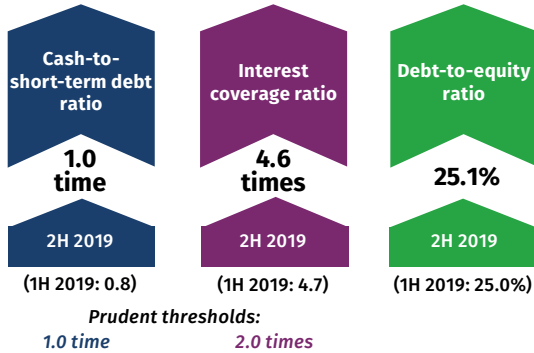
\* Banking system only

\*\* Borrowers with monthly earnings less than RM3,000

## Despite challenging business outlook, debt-servicing capacity remains intact

Most firms have the capacity to continue servicing their debt

### Business Sector Indicators



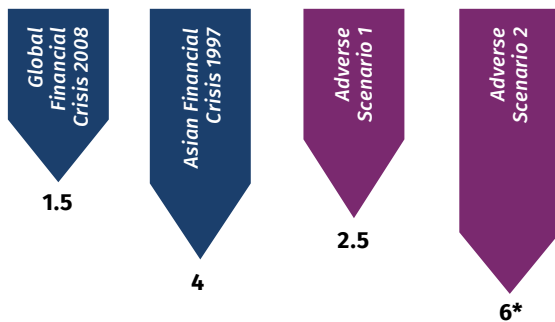
Measures announced will assist firms in managing the impact of COVID-19

- 6-month automatic deferment of loan repayments for SMEs
- Facilitation of corporates' requests to defer, restructure or reschedule loan repayments
- BNM Fund for SMEs of RM13.1 billion including guarantee schemes
- Lower cost of financing from OPR reductions in January and March 2020

## Stress tests affirm ability of banking and insurance sectors to withstand severe stress

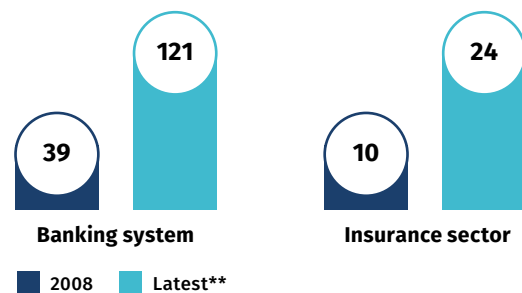
Simulated GDP shocks more severe than past stress events

### Standard deviations from baseline



Banks and insurers' capital buffers sufficient to absorb potential losses and support lending activity

### Excess capital (RM bil)

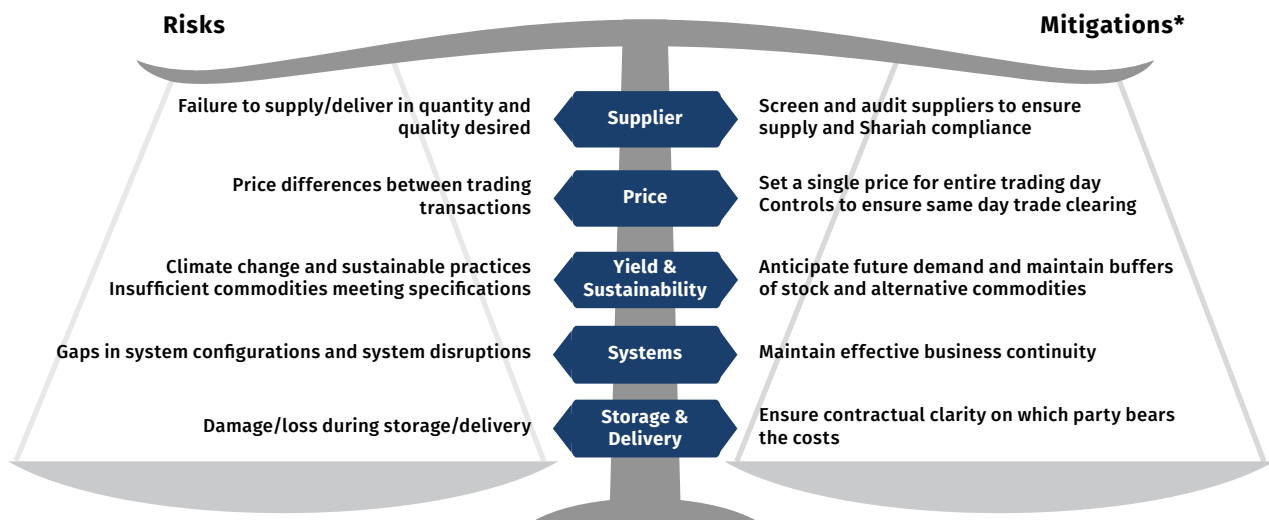


\* Cumulative shock across stress test horizon

\*\* As at February 2020 for banks and as at end-2019 for insurers

## Box Article: Managing risks of commodity trading in Islamic financial transactions

Effective risk management practices limit commodity trading risks in Islamic financial institutions



\* By Islamic financial institutions and commodity brokers/exchanges

Source: Bank Negara Malaysia and S&P Capital IQ



# Overview





# Overview

Global financial vulnerabilities remained elevated in the second half of 2019 amid heightened uncertainties from trade and geopolitical tensions. During this period, prospects of weaker growth prompted several economies including those in Asia to reduce policy rates. Towards the end of 2019 and heading into 2020, improvements in the outlook for global growth which followed the Phase 1 trade deal between the United States and the People's Republic of China have since given way to widespread concerns over public health and the economic impact of the COVID-19 pandemic. The global economy is now projected to register negative growth in 2020. A reassessment of risk factors by investors and global policy responses to contain the pandemic and the consequent economic impact have renewed volatility in the financial markets. Since early March 2020, prospects of lower oil prices have also risen sharply after the collapse of an expected agreement on oil production cuts, further adding to market volatility. These headwinds are expected to weigh on the domestic economy and financial markets in 2020.

Amid these developments, domestic financial stability in Malaysia continues to be preserved. Financial market conditions have remained orderly despite portfolio outflows from both the bond and equity markets, supported by the presence of strong domestic institutional investors. The Financial Stability Committee of the Bank remains vigilant over elevated levels of private sector debt and imbalances in the property market which have continued to persist. While recent developments surrounding COVID-19 have increased risks to financial stability, the financial system is also more resilient to these risks. Crucially, financial institutions in Malaysia are well-positioned to support households and businesses through these exceptional circumstances. This will enhance prospects for a stronger recovery when the virus is contained and reduce longer-term risks to financial stability.

## Businesses are facing more challenging conditions

The performance of businesses will remain highly challenging in the immediate period ahead. Businesses affected by the COVID-19 pandemic are facing tighter cash flows and slower demand. The sustainability of financial improvements earlier observed among firms in the oil and gas sector has become more uncertain. These developments have also clouded signs of improving conditions in the construction sector. While the developments could increase future credit risks for banks, measures announced by the Bank and the Government to support credit conditions for businesses and provide temporary financial relief will mitigate these risks.

As at end-2019, the overall debt-servicing capacity of businesses continued to be supported by broadly stable profitability and prudent leverage levels, although this has weakened in some sectors from earlier years. While banks' exposures to firms and sectors facing higher risks are expected to increase, potential losses to banks are expected to remain manageable. Sound provisioning practices by banks have also significantly strengthened the financial buffers that banks hold against potential losses. This will continue to support bank intermediation activities.

## Household debt remains elevated

Overall household debt remains elevated and has recently edged higher, driven by loans for the purchase of residential properties. While housing loan impairments have increased in recent quarters, it has been from a low level with limited risks to banks due to improved assessments of loan affordability. Most households are able to comfortably service their debt, with growth in household financial assets continuing to outpace

that of debt. The vast majority of household borrowers are also expected to be resilient to a significant decline in house prices and income shocks as shown in this Review. Risks from household debt exposures remain concentrated among borrowers with monthly earnings of less than RM3,000 and housing loan borrowers with variable income who are more vulnerable to financial stress. The share of borrowers from the vulnerable income group has continued to decline to 17.6% of total household debt, while the exposure-at-risk for housing loan borrowers with variable income remained low at 2% of total banking system loans. The six-month moratorium on loan repayments and cash transfers by the Government to support households affected by COVID-19 should help households in managing their debt in the current environment. Some signs of easing in underwriting standards continued to be observed in 2019 but this has been mostly confined to lower risk-borrowers. Banks are well-positioned to continue supporting household lending activities which in turn will mitigate current macroeconomic risks. However, appropriate vigilance over lending standards will continue to be important to avert excessive debt burdens on households which could hurt future consumption.

### **Oversupply in some segments of the property market continues to persist**

Initiatives to support home ownership have led to improvements in housing market activity and lowered the stock of unsold properties. Still, the number of unsold housing units remains elevated with house prices remaining seriously unaffordable and demand for affordable housing units continuing to outstrip supply by a wide margin. While placing a floor on corrections in house prices (and hence potential losses to banks), the underwhelming addition of affordable housing stock to the market will continue to exert upward pressure on the already high level of household debt. In the non-residential property market, oversupply conditions in the office space and shopping complex (OSSC) segment have not improved. This has led to elevated vacancy rates and depressed effective rental rates for

office and retail spaces. While conditions are likely to have deteriorated further in the wake of recent developments, the amount of debt-at-risk from bank exposures to the property sector is expected to be manageable with potential losses comfortably within banks' excess capital buffers.

### **Financial institutions remain profitable and well-capitalised**

Banks, insurers and takaful operators remained profitable in 2019 despite the more challenging operating environment. Prudent risk-taking has cushioned the impact of cuts in the overnight policy rate since May 2019 on bank margins, with higher non-interest income, sustained lending activity and lower debt-servicing burdens of borrowers continuing to lend support to profitability. In the insurance and takaful sectors, overall performance has been supported by sustained business growth as ongoing reforms continued to contribute to improvements in pricing and persistency. Sustaining the momentum of insurance reforms, including in the motor insurance sector, will remain critical to preserve affordable access to insurance and takaful protection.

The continuing profitability of financial institutions is crucial to the essential roles that they play in the economy. Sustained profits have continued to underpin the strong capitalisation of financial institutions and a sound financial system in Malaysia. Capital buffers held by banks, insurers and takaful operators remain high. Along with the implementation of enhanced capital adequacy, liquidity and risk management standards for financial institutions, this has strengthened the overall resilience of the financial system. While the impact of COVID-19 on the economy is expected to be significant in the short-term, banks are entering this period from a position of strength. Updated stress tests conducted by the Bank continue to affirm that financial institutions remain resilient under severe market, credit, and funding and liquidity shocks. Further supporting this resilience is an increased supervisory emphasis by the Bank on strengthening financial institutions' response and recovery capabilities in the event of financial difficulty or operational disruptions. This underscores the ability of the financial system to

support economic activity under varying economic and financial conditions.

Looking ahead, a prolonged and severe impact from the COVID-19 pandemic remains a key downside risk to the economy and financial stability. A significant weakening of economic conditions could increase household, business

and financial market stress, and test the resilience of the financial system. As noted earlier, the financial system is on a strong footing to withstand such stress. Nevertheless, the Financial Stability Committee will continue to closely monitor developments to ensure continued support for the credit intermediation and risk protection needs of households and businesses.



# Risk Developments and Assessment of Financial Stability

9	Credit Risk
24	Market, Liquidity and Funding Risk
29	Contagion Risk
32	Operational Risk



# Risk Developments and Assessment of Financial Stability

## CREDIT RISK

### Household Debt Continued to Expand, but Credit Risks Remain Largely Contained

Household debt<sup>1</sup> expanded at a faster<sup>2</sup> pace in the second half of 2019, primarily driven by loans for the purchase of residential properties (Chart 1.1). Demand for residential property loans during the period was bolstered by the Home Ownership Campaign launched by the Government. Personal financing and credit card loans also recorded higher growth. This was largely attributed to lending by development financial institutions to civil servants.

The ratio of overall household debt-to-gross domestic product (GDP) correspondingly edged higher to 82.7% as at end-2019 amid slower GDP growth, and remained elevated relative to regional peers (Chart 1.2). Overall debt-servicing capacity of households, however, continues to be supported by income growth and adequate financial buffers. At the aggregate level, both outstanding household financial assets and liquid financial assets remained broadly stable at 2.2 times and 1.4 times of debt, respectively. Household financial assets also continued to outpace the growth in debt for the third consecutive year (Chart 1.3).

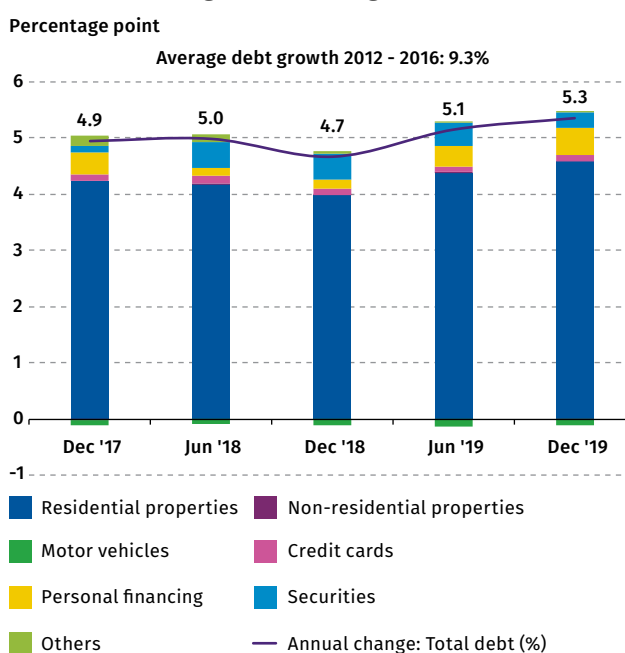
In more recent years, investments by households in unit trust funds (UTFs), including variable price funds have picked up strongly, in contrast to the slower growth in household deposits. This

<sup>1</sup> Extended by banks, development financial institutions and major non-bank financial institutions.

<sup>2</sup> The increase was partly due to higher housing loans reported by Lembaga Pembiayaan Perumahan Sektor Awam (LPPSA). Beginning January 2019, LPPSA moved from cash accounting to accrual accounting in line with the change in the Government's accounting practice for fiscal accounts. This led to a one-off upward revision in the value of LPPSA housing loans reported in 2019.

Chart 1.1: Household Sector – Annual Growth of Debt

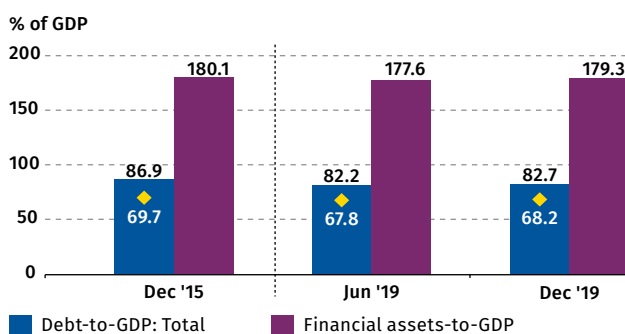
#### Household debt growth was higher



Source: Bank Negara Malaysia

Chart 1.2: Household Sector – Key Ratios

#### Higher debt- and financial assets-to-GDP ratios

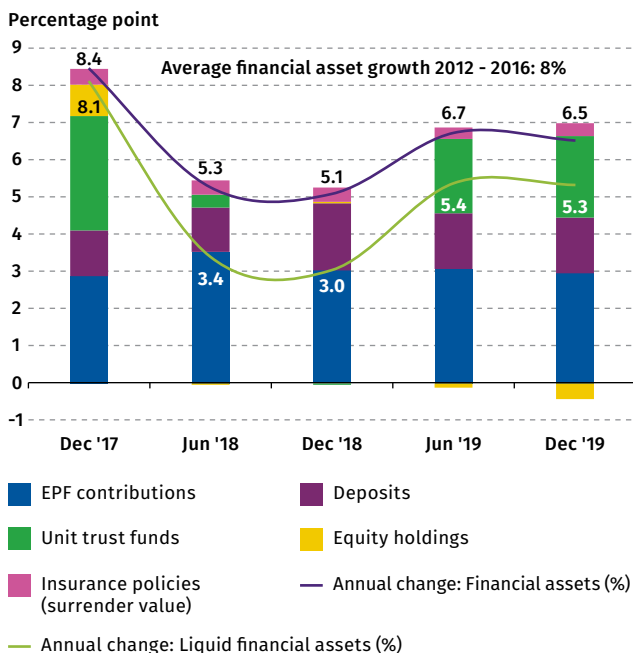


Household debt-to-GDP ratio (latest position): Thailand: 78.7%; Singapore: 65%

Source: Bank Negara Malaysia, Department of Statistics, Malaysia and National Authorities

**Chart 1.3: Household Sector – Annual Growth of Financial Assets**

**Growth of financial assets continued to outpace that of debt**

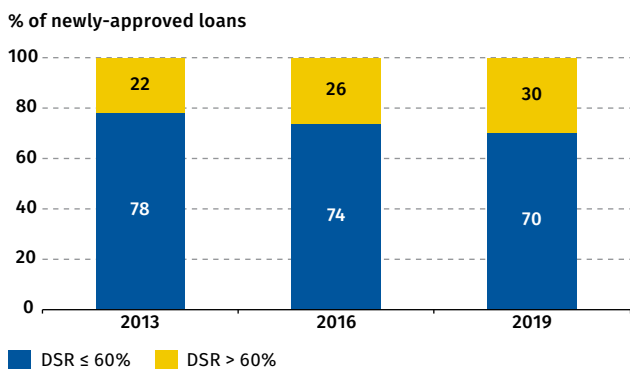


Source: Bank Negara Malaysia, Bursa Malaysia, Employees Provident Fund and Securities Commission Malaysia

reflects a search for higher yields. Weaker-than-expected returns on such investments could affect debt-servicing ability, particularly for leveraged investments. This risk is presently contained as over three-quarters of investments in UTFs and equities are owned by households earning more than RM5,000 per month who are likely to have larger financial buffers and are thus less vulnerable

**Chart 1.4: Household Sector – Share of Newly-Approved Loans by DSR**

**Rising share of newly-approved loans to borrowers with DSR exceeding 60%**



Source: Bank Negara Malaysia

to financial stress (for a more detailed analysis, refer to the Information Box on 'Impact of Equity Market Performance on Households' Resilience').

**Risks from easing underwriting standards and rising impairments remain limited but warrant close vigilance**

The median debt service ratio<sup>3</sup> (DSR) for outstanding and newly-approved loans remained within prudent levels at 37% and 43%, respectively. As noted in the last Financial Stability Review, some signs of easing in underwriting standards have emerged, as evidenced by the higher share of newly-approved loans to borrowers with DSR exceeding 60% (Chart 1.4) in the past few years. Close to two-thirds of these loans were extended to borrowers earning more than RM5,000 per month and about half were credit card and personal financing facilities. As such borrowers have larger residual income and greater flexibility to adjust discretionary expenditures under adverse circumstances, the risk of defaulting on their loan repayments is likely to remain low. This is borne out by the consistent increase in recent years in the share of borrowers who settle their credit card balances in full every month. The Bank remains vigilant over signs of a broader easing of lending standards by financial institutions, particularly for facilities extended to more vulnerable households. Such signs remain limited at present and have been more prevalent among selected development financial institutions with specific mandates. Their share of household lending remains small.

Overall household impairments continued to be driven by residential property loans, which have increased markedly in recent quarters albeit from a low base (Chart 1.5). Borrowers with variable income account for the bulk of the recent increase in housing loan impairments,<sup>4</sup> reflecting the lower certainty of income experienced by these borrowers. Risks to financial stability, however, remain contained as exposures-at-risk<sup>5</sup> associated with these borrowers account for only 2% of total banking system loans.

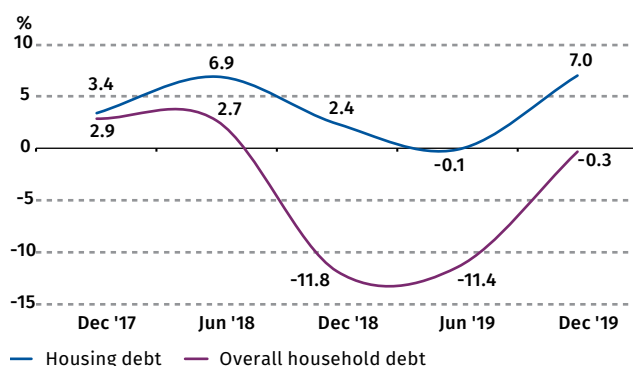
<sup>3</sup> The ratio of total monthly bank and non-bank debt obligations to monthly disposable income (net of statutory deductions).

<sup>4</sup> Bulk of these loans are for the purchase of properties priced above RM500,000 in Klang Valley and Johor.

<sup>5</sup> Taking into account the potential loss given default (LGD) for these borrowers.

**Chart 1.5: Household Sector – Annual Growth of Impaired Loans**

**Higher impaired loan growth for residential properties**



Source: Bank Negara Malaysia

Aggregate impairment and delinquency ratios also remained low and stable at 1.2% and 1.1% of total outstanding household debt, respectively (June 2019: both ratios stood at 1.2%). Household asset quality is further supported by the lower average loan-to-value ratio (LTV) of outstanding housing loans from the banking system, which declined to 57% in 2019 (2018: 59%). The share of higher (>80%) LTV loans from the banking system has however increased since 2017 to 32% of total housing loans, suggesting that newer loans are being extended at higher LTVs. While the share remains well below the peak levels (above 50%) observed in earlier periods, continued vigilance over lending standards will be important to avert a build-up of risks.

With at least two-thirds of household financial assets and liquid financial assets held by individuals earning more than RM5,000 per month, concerns remain that lower-income households may face difficulty servicing their loans. The adoption of responsible lending standards by banks and non-banks has reduced risks of these households falling into financial hardship, as evident from the share of borrowings by the vulnerable segment (borrowers with monthly earnings of less than RM3,000) which continued to decline in 2019 (Chart 1.6). Risks among these borrowers nevertheless remain elevated. Their leverage<sup>6</sup> levels remain high at about 9 times in the second half of 2019, mainly due to borrowings for the purchase of homes. Their low financial buffers also mean that they would have greater difficulty maintaining debt repayments in times of stress (Chart 1.7). Borrowers in this group continued

<sup>6</sup> Measured as a ratio of outstanding debt to annual income.

to account for almost half of the enrolments into the Credit Counselling and Debt Management Agency's (*Agensi Kaunseling dan Pengurusan Kredit*, AKPK) Debt Management Programme. Low income, coupled with poor financial planning, continued to be the main causes of financial difficulty faced by these borrowers, as they tend to overestimate their ability to cope with higher costs of living and debt obligations. The Bank expects risk levels in this borrower segment to recede with greater support made available for individuals to obtain financial advice and education, including through AKPK's *Rumahku Portal*<sup>7</sup> and *Khidmat Nasihat Pembiayaan* (MyKNP).<sup>8</sup>

**Debt-at-risk from the household sector remains low at 5.2% and well within banks' excess capital buffers**

Debt-at-risk<sup>9</sup> (DAR) from the household sector remains low at around 5.2% of total household debt. Based on a sensitivity analysis that simulates the impact of severe stress scenarios<sup>10</sup> on borrowers' debt repayment capacity, potential losses to the banking system are estimated to be between 42.6% to 67.5% of banks' excess capital buffers<sup>11</sup> (also refer to the Information Box 'Can Malaysian Households Survive a House Price Shock?').

The elevated level of household indebtedness, however remains a source of potential risk to macroeconomic and subsequently, financial stability. The income and balance sheets of households are also likely to be affected by the COVID-19 pandemic. Measures introduced by the Government and the Bank in response to the pandemic are expected to support households and provide them with temporary financial relief. Going forward, ensuring that further debt accumulation is undertaken prudently, particularly by those in the vulnerable segment, will remain important to secure the financial resilience of households over the longer term.

<sup>7</sup> The *Rumahku Portal* is an online education tool designed to help potential home-buyers make prudent and informed financial decisions.

<sup>8</sup> MyKNP is a collaborative effort by the Bank, Credit Guarantee Corporation and AKPK to provide advice to financing applicants on their eligibility for financing and how they can improve their eligibility.

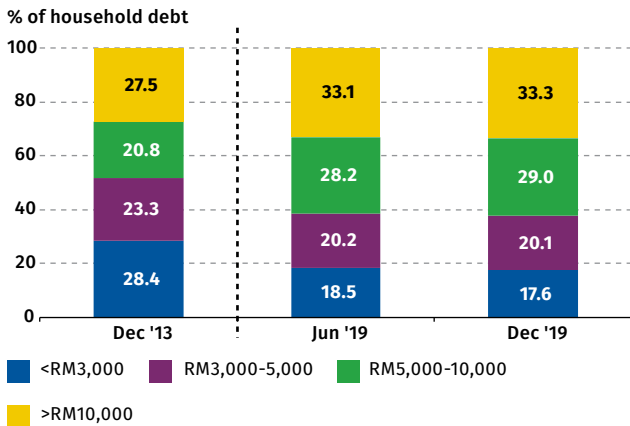
<sup>9</sup> The proportion of debt of borrowers with negative financial margin to total household debt, after taking into account the potential losses given default.

<sup>10</sup> Income, cost of living and borrowing cost shocks.

<sup>11</sup> Above the regulatory minimum of 8%.

**Chart 1.6: Household Sector – Debt by Monthly Income Group**

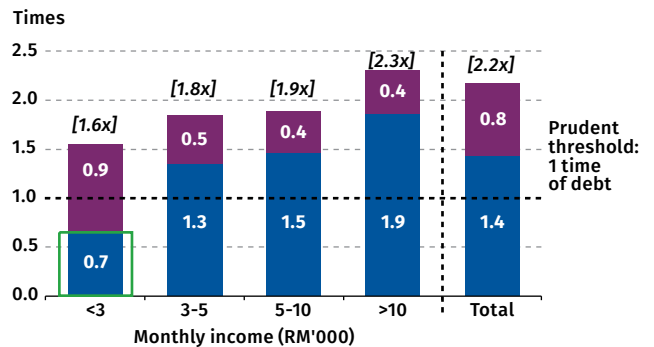
**Exposures to vulnerable borrowers continued to decline**



Source: Bank Negara Malaysia

**Chart 1.7: Household Sector – Financial Assets-to-Debt Ratio by Type and Income Group**

**Vulnerable borrowers have insufficient LFA cover**



Legend: Liquid financial assets (LFA) (blue), Savings in EPF (purple)

[...] refers to financial assets-to-debt ratio

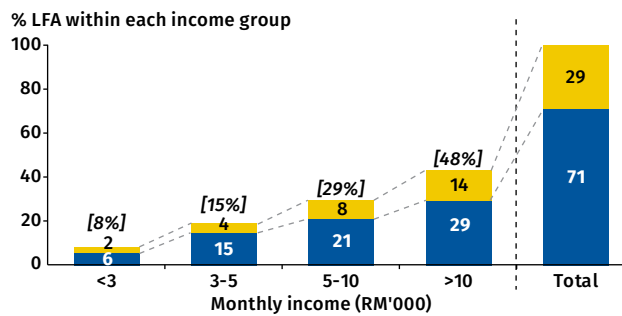
Source: Bank Negara Malaysia, Bursa Malaysia, Employees Provident Fund and Securities Commission Malaysia

**Impact of Equity Market Performance on Households' Resilience**

Since reaching an all-time high in 2018, the domestic equity market has continued to face downward pressure amid challenging global and domestic conditions. With investments in equities and variable price unit trust funds (UTFs) accounting for about 29% of households' liquid financial assets (LFA) (Chart 1.8), this Information Box provides some insights on the impact of a sharp downturn in the equity market on the financial buffers of households. By income group, households earning more than RM10,000 per month hold close to half of household investments in equities and variable price UTFs. These assets also contribute to a higher proportion of their LFA as compared to other income groups, potentially making them more susceptible to vagaries in the performance of the equity market.

**Chart 1.8: Composition of Liquid Financial Assets by Components and Income Group**

**Larger holdings of equities and variable price unit trust funds among higher-income group**



Legend: Investment in equities and variable price UTFs (yellow), Other liquid financial assets (deposits, fixed-price UTFs and insurance policies) (blue)

[...] refers to the composition of total investment in equities and variable price UTFs

Note: Numbers may not necessarily add up due to rounding

Source: Bank Negara Malaysia, Bursa Malaysia and Securities Commission Malaysia

**Scenario Simulation**

Two stress scenarios were simulated to assess households’ resilience<sup>12</sup> to an equity market shock (Table 1.1).

**Table 1.1**

**Equity Market Shock – Stress Scenarios and Rationale**

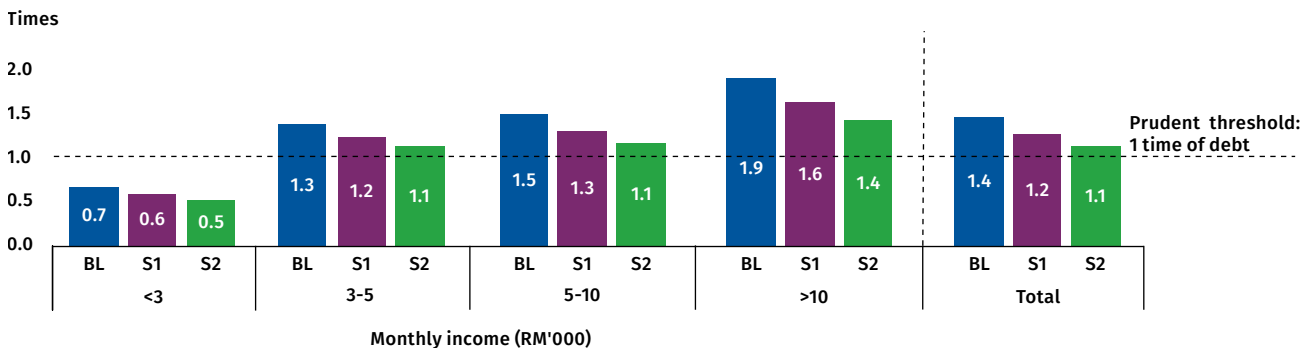
Shock Scenario	Parameters	Rationale
S1	45% decline in value of equity and variable price UTF holdings	Based on the 45% drop in FTSE Bursa Malaysia KLCI (FBM KLCI) in 2008
S2	77% decline in value of equity and variable price UTF holdings	Based on the 77% drop in FBM KLCI in 1997

Source: Bank Negara Malaysia and Bursa Malaysia

Consistent with their higher exposures, households earning more than RM5,000 per month are more sensitive to an equity market correction as reflected in the larger decline in their LFA cover<sup>13</sup> relative to other income groups (Chart 1.9). Nonetheless, these borrowers who account for 62.3% of household debt are expected to be able to continue servicing their debt with sufficient LFA over debt above the prudent threshold (more than 1 time) under both scenarios. Under S2, the LFA cover of borrowers earning between RM3,000 to RM5,000 per month fell to just above the prudent threshold. For the vulnerable group (i.e. those earning less than RM3,000 per month), the LFA cover declined marginally from a level already below the prudent threshold.

**Chart 1.9: Pre- and Post-shock Scenarios – LFA Cover by Income Group**

**While higher-income groups are more sensitive to equity market volatility, their asset cover remained above the prudent threshold**



BL: Baseline

Source: Bank Negara Malaysia, Bursa Malaysia and Securities Commission Malaysia

Although weakness in the equity market will reduce the LFA cover of households, the overall impact on household resilience is manageable. Results of this simulation show that most households would still maintain an LFA cover above the prudent threshold even after a severe correction in the equity market. This reflects the composition of households’ LFA, more than 60% of which are held in bank deposits and investments in *Amanah Saham Nasional Berhad*’s fixed-priced UTFs, which are not affected by movements in the equity market.

<sup>12</sup> This simulation, however, does not consider second round effects, in particular the impact of volatility in the equity market to financial institutions where households save at or invest in.

<sup>13</sup> Ratio of liquid financial assets to total debt (times).

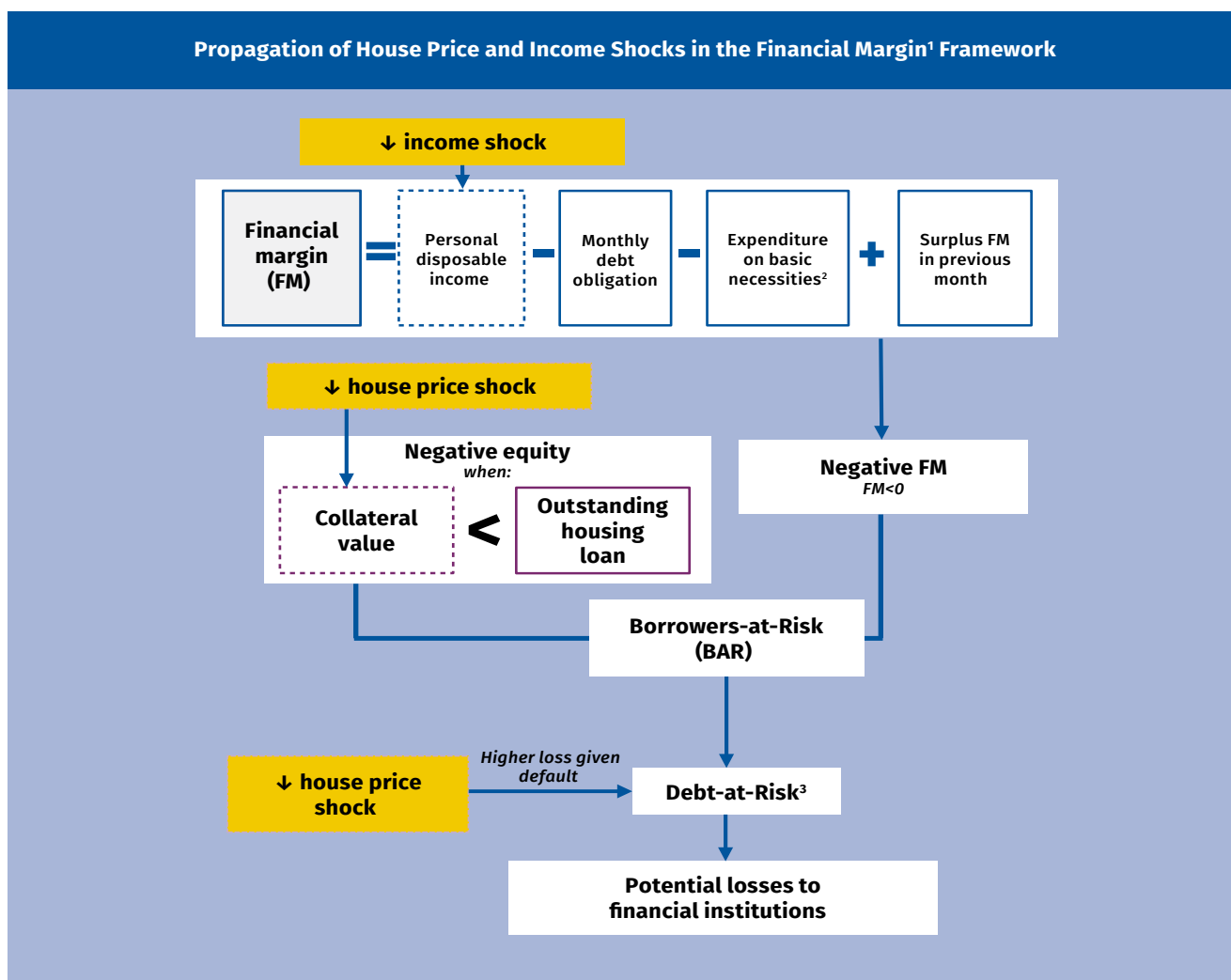
## Can Malaysian Households Survive a House Price Shock?

A steep house price decline can potentially weaken household resilience, in turn leading to stress in the banking system.<sup>14</sup> Building upon the financial margin framework<sup>15</sup> featured in previous sensitivity analyses, the Bank has extended the analyses to test the resilience of households and banks in the face of a hypothetical housing market correction (Diagram 1.1). This study simulates an extreme decline in house prices, coupled with a simultaneous decline in household income that tends to accompany a severe correction in the housing market.

### Who Defaults?

In establishing which borrowers default, this study focuses on two key factors that influence debt repayment behaviour following a house price decline: (i) ability to repay; and (ii) willingness to repay.

Diagram 1.1: Sensitivity Analysis Framework



<sup>1</sup> Residual monthly disposable income and surplus FM in previous month, after deducting debt repayments and expenditure on basic necessities

<sup>2</sup> For this study, basic necessities are defined as: (i) food and non-alcoholic beverages; (ii) housing rental and maintenance; (iii) water, electricity, gas and other fuels; (iv) transportation; (v) education; (vi) healthcare; and (vii) communication services

<sup>3</sup> The proportion of debt of borrowers-at-risk to total household debt after taking into account the potential loss given default

Source: Bank Negara Malaysia

<sup>14</sup> The experience in the United States during the 2008 Global Financial Crisis offers one example.

<sup>15</sup> Refer to the Financial Stability Review 1H 2019 Information Box 'An Enhanced Financial Margin Framework for the Household Sector', page 14-15.

**(i) Ability to repay**

Households’ debt repayment capacity is assessed using the financial margin framework - whether a household has additional financial buffers after paying off monthly debt obligations and spending on basic needs. Income shocks are propagated via this channel by directly reducing the household’s financial margin and hence pushing more households into a position of negative financial margin.

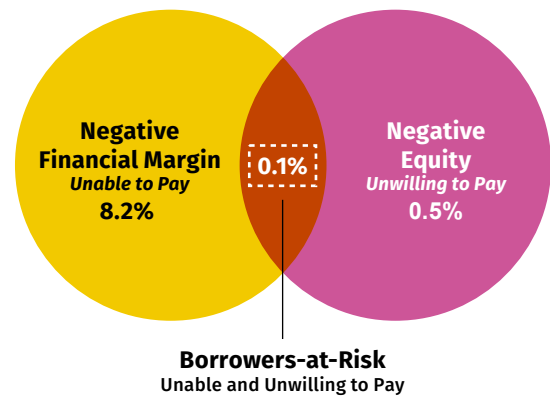
**(ii) Willingness to repay**

The potential for a household to default on a housing loan is also likely to be higher if the household is in a negative equity<sup>16</sup> position where it is no longer worthwhile to service the monthly instalments of a loan for a property that is worth less than the total outstanding loan amount. House price shocks propagate via this channel by pushing households into negative equity, making them less willing to repay their loans.

On its own, each factor may not be able to sufficiently predict whether a household will default. The ‘Double Trigger Hypothesis’<sup>17</sup> (Diagram 1.2) states that households are more likely to default when both conditions – inability to repay and negative equity – are met. Otherwise, loan defaults may not occur as (a) households with negative financial margin may compensate by drawing down other assets (e.g. EPF Account 2 holdings) or seeking support from family and friends to continue making loan repayments; while (b) households with a negative equity position would still have a strong incentive to continue payments, as defaulting may tarnish their credit history making it difficult to access future credit. Defaulting is also unfavourable for owner-occupiers, who account for the majority (82%) of Malaysian housing loan borrowers, as this would result in the borrowers losing their homes. However, households with negative financial margin and negative equity are in a particularly perilous position as they lack both the incentive and means to repay their loan.

**Diagram 1.2: Double Trigger Hypothesis**

**Baseline Scenario**



Note: Figures are as a share of total number of household borrowers  
Source: Bank Negara Malaysia

**Scenarios and Stress Parameters**

This simulation covered all housing loan borrowers with three stress scenarios applied (Table 1.2). A baseline estimation is first performed based on the steps laid out in Diagram 1.1:

1. Identify which borrowers are in both negative equity and negative financial margin (i.e. borrowers-at-risk).
2. Borrowers-at-risk are assumed to cross-default on all loans held.
3. Translate the defaults from borrowers-at-risk into potential losses to banks.

Then, shocks are applied to all housing loan borrowers based on the three scenarios and the above steps are repeated. Besides pushing borrowers into a position of negative equity, house price shocks have the additional effect of reducing the collateral that banks can salvage from the housing loans (i.e. increasing loss given default), thereby increasing banks’ potential losses.

<sup>16</sup> Outstanding housing loan held by a borrower is greater than the market value of the corresponding house.  
<sup>17</sup> Bhutta et al (2010). ‘The Depth of Negative Equity and Mortgage Default Decisions’.

Table 1.2

### House Price Shock – Stress Scenarios and Rationale

Shocks		Scenario	Parameters	Historical Comparison
House price shock		S1	↓20%	Double the greatest historical decline in house prices of 9.4% during the Asian Financial Crisis (AFC) in 1998
		S2	↓50%	Reversal of more than 9-years cumulative house price growth
Combination	House price shock	S3	↓20%	Similar to above
	Income shock		↓10%	Larger than the decline in aggregate household disposable income of 8.7% during the AFC

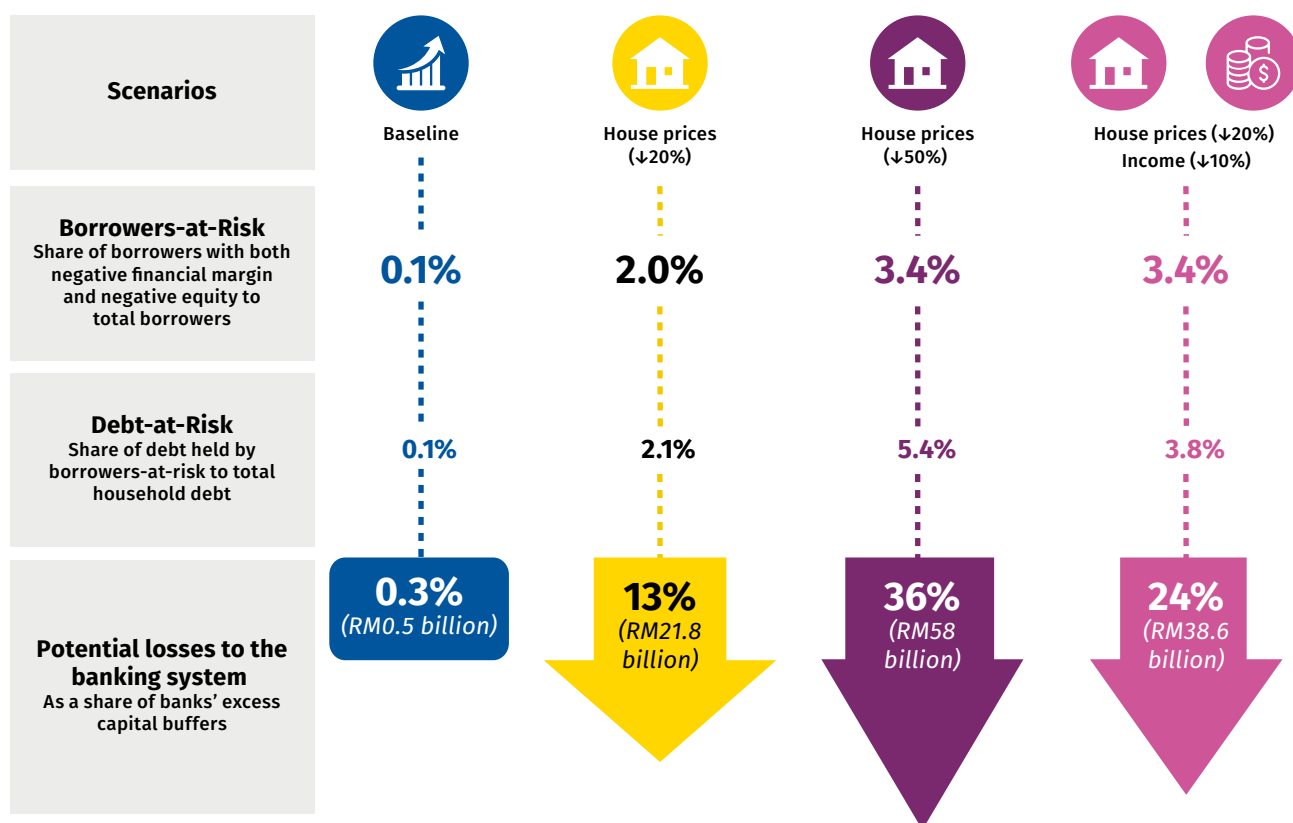
Source: Bank Negara Malaysia

## Results

Overall, the impact of house price shocks is contained (Diagram 1.3). Borrowers-at-risk would increase to 2.0% and 3.4% of the total number of borrowers under S1 and S2, respectively (baseline: 0.1%). Correspondingly, losses to the banking system including potential cross-defaults on other loans would amount to 13% and 36% of banks' excess capital buffers, respectively (baseline: 0.3%).

In S3,<sup>18</sup> the simultaneous 10% decline in income coupled with a 20% house price decline would result in the share of borrowers-at-risk increasing to 3.4% of total borrowers, with losses equivalent to 24% of banks' excess capital

Diagram 1.3: Results of Sensitivity Analysis on Potential Losses to the Banking System



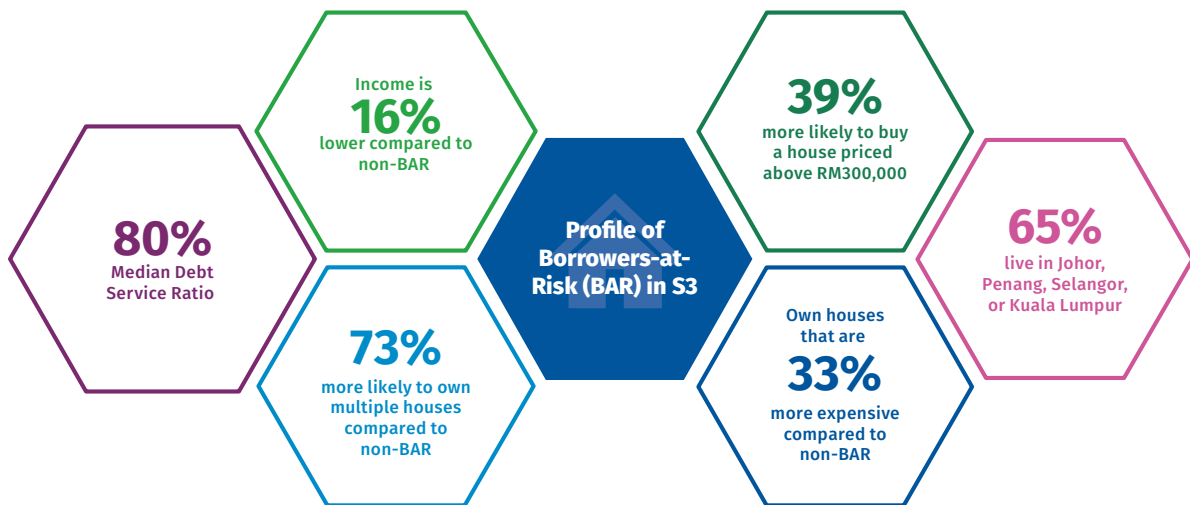
Source: Bank Negara Malaysia and Department of Statistics, Malaysia

<sup>18</sup> S3 mimics the Asian Financial Crisis, albeit with greater severity.

buffers. These borrowers tend to be highly indebted with a debt service ratio of close to 80% and are mainly from the middle-income group living in Kuala Lumpur, Selangor, Johor or Penang. In addition, they tend to borrow for the purchase of houses that on average, are priced at about 33% higher than houses purchased by borrowers who are not at risk. Borrowers with more than one housing loan are also seen to be at higher risk (Diagram 1.4).

The results affirm the ability of banks and most households to withstand even severe house price and income shocks. These results can be attributed to generally prudent loan affordability standards applied by banks when extending loans to households, and the strong levels of capitalisation maintained by Malaysian banks. Borrowers also have ample buffers before falling into negative equity given that the average outstanding LTV ratio is 57%. Together with the series of macroprudential measures implemented over the recent decade to rein in excessive credit risk, these conditions remain important to avert a potential build-up of financial risks.

Diagram 1.4: Profile of Borrowers-at-Risk for Scenario 3



Source: Bank Negara Malaysia

### Housing Market Activity Improved while Vulnerabilities Remain in Certain Segments of the Commercial Property Market

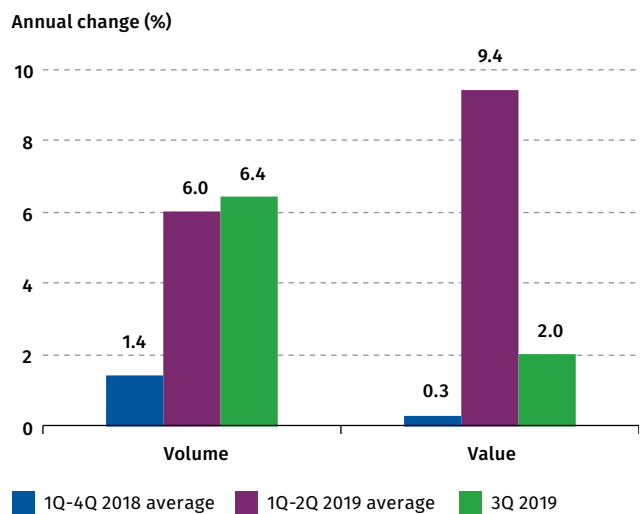
Malaysian house prices<sup>19</sup> continued to grow moderately in 3Q 2019, on the back of steady demand for affordable<sup>20</sup> high-rise properties. Housing market activity remained strong after a better outturn in the first half of 2019 (Chart 1.10) as a result of various initiatives introduced during the year by both the Government and private sector to support home ownership, including stamp duty exemptions as well as developers' discounts and rebates. For the year as a whole, housing market transactions are expected to register a stronger positive growth in volume terms.

<sup>19</sup> As measured by the Malaysian House Price Index (MHPI).

<sup>20</sup> Houses priced below RM300,000.

Chart 1.10: Property Market – Housing Transactions

Sustained property market activity, with continued demand for affordable properties



Source: National Property Information Centre (NAPIC)

The pick-up in primary market transactions (quarterly average: +10.8%) in 2019 has helped to improve the clearance of unsold<sup>21</sup> properties from an all-time high recorded in the first quarter of 2019 (3Q 2019: 162,252 units; 1Q 2019: 177,200 (peak)). At the same time, average transacted house prices has trended lower, consistent with higher activity in the affordable housing segment. This in turn should continue to improve housing affordability.

Relative to income, however, Malaysian house prices remain seriously unaffordable,<sup>22</sup> due to a pronounced and prolonged mismatch between demand and supply of residential property. Nevertheless, risks of a sharp correction in house prices will continue to be mitigated by firm demand for housing, particularly for properties priced below RM500,000. For the first nine months of 2019, these properties accounted for 83% of total transactions. Additionally, income growth, the formation of new households, as well as the various initiatives to reduce the cost of home ownership, have lent support to housing demand in 2019. Financing conditions for the purchase of residential properties remained supportive, with financing growth sustained above 7% throughout 2019. Of this, the growth in bank lending to households for housing (+7.8%) was double the overall loan growth rate for the year.

Demand for affordable housing units continued to outstrip supply by a wide margin, indicating room for further adjustments in prices, particularly for new housing stock. Supply rebalancing, on the other hand, has been underwhelming. The average volume of newly-launched residential properties priced below RM300,000 has declined in recent quarters (quarterly average for 1Q-3Q 2019: 6,518 units; 1Q-3Q 2018: 9,777 units), despite strong demand from households. Latest data also indicates a declining share of new launches in this property segment (1Q-3Q 2019: 35%; 1Q-3Q 2018: 37%), reversing earlier trends. If this trend persists, future risks of price adjustments could increase again due to affordability constraints.

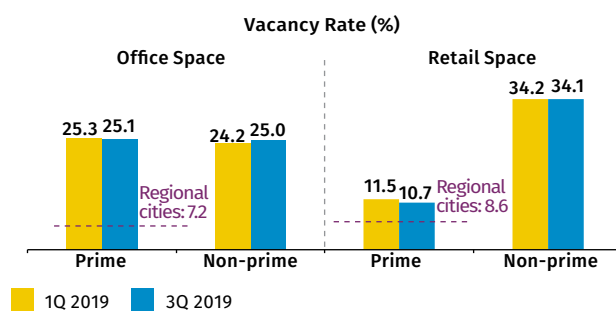
In the office space and shopping complex (OSSC) segment, oversupply conditions have not improved.

As at 3Q 2019, the incoming supply of office space in Klang Valley remained sizeable at 36.2 million square feet, equivalent to about 30% of existing supply. It is estimated that 5.5 million square feet of office space will be completed each year until 2021, far exceeding the average annual demand of 2.3 million square feet per annum over the past three years. The number of completed and planned shopping complexes in key states<sup>23</sup> also increased further to 373 units as at 3Q 2019 (from 372 units as at 1Q 2019). This is having a more noticeable effect on vacancy and rental rates for office and retail spaces in the Klang Valley with conditions weakening further for non-prime properties<sup>24</sup> (Charts 1.11 and 1.12). Competition for tenants has led to the offering of generous incentives such as longer rent holidays and additional parking bays, which has lowered effective rental rates. The growth of e-commerce and changing customer preferences have also seen more retailers reducing their physical footprint.

Developments in the property market are important from a financial stability perspective given that banks' total exposures to the property sector account for 33% and 51% of total banking system assets and loans, respectively, above the

**Chart 1.11: Property Market – Vacancy Rates for Office and Retail Space in the Klang Valley**

### Vacancy rates of OSSC in the Klang Valley remain elevated



**Notes:**

- Retail space refers to shopping complexes
- Regional cities for prime office space refer to Bangkok, Beijing, Hong Kong SAR, Manila, Seoul, Shanghai and Singapore
- Regional cities for prime retail space refer to Bangkok, Hanoi, Ho Chi Minh City, Jakarta, New Delhi, Shanghai and Singapore

Source: Colliers, Cushman and Wakefield, Jones Lang LaSalle, Jones Lang Wootton, Knight Frank, Savills and Bank Negara Malaysia estimates

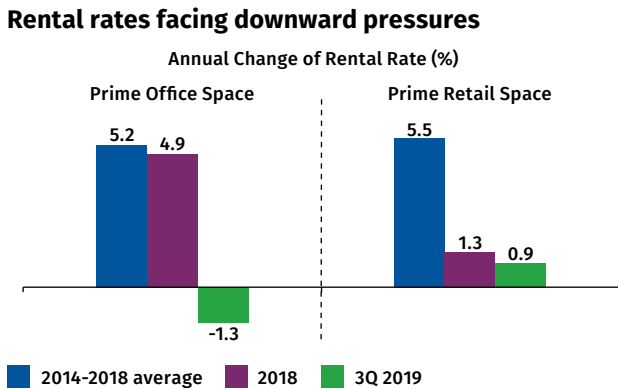
<sup>21</sup> Refers to unsold properties that have been completed (overhang) and unsold properties currently under construction. These properties encompass all residential properties as well as serviced apartments and small office home office (SOHO).

<sup>22</sup> Based on the Median Multiple approach. Refer to BNM Annual Report 2016, Box Article on 'Demystifying the Affordable Housing Issue in Malaysia'.

<sup>23</sup> Kuala Lumpur, Selangor, Johor and Penang.

<sup>24</sup> Office and retail centres are classified as 'prime' or 'non-prime' based on multiple criteria, including location, accessibility, design and features of the building (Source: Jones Lang Wootton).

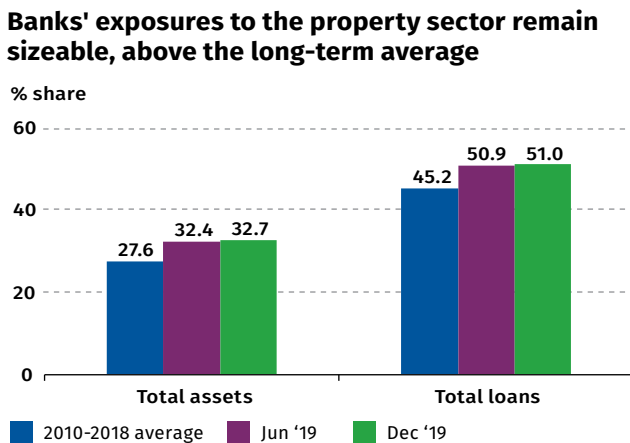
**Chart 1.12: Property Market – Rental Rates for Prime Office and Retail Space in the Klang Valley**



Note: Rental rates for retail space are estimated based on major shopping complexes in Kuala Lumpur

Source: Knight Frank and Savills Malaysia

**Chart 1.13: Property Market – Share of Property Exposures to Total Loans and Assets of the Banking System**

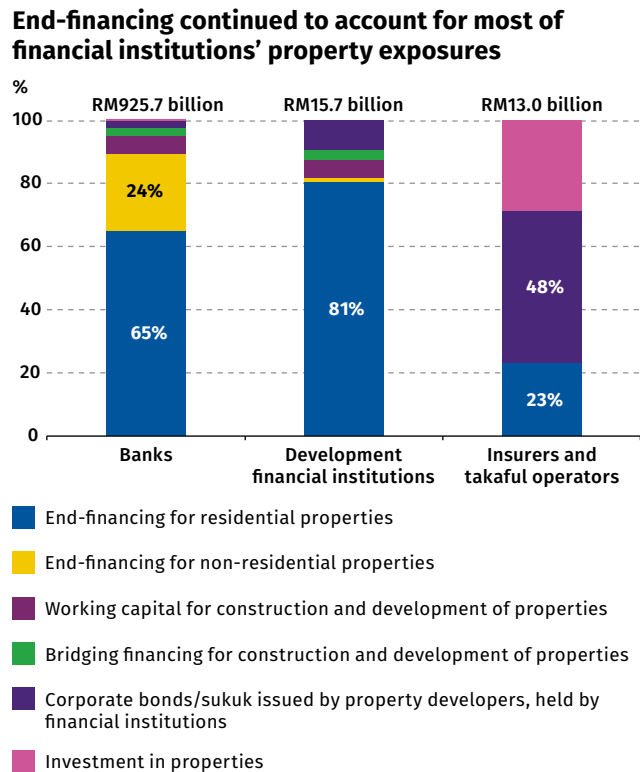


Source: Bank Negara Malaysia

long-term average of 28% and 45%, respectively (Chart 1.13). Loans for the purchase of residential properties, account for about two-thirds of banks' total exposures (Chart 1.14), and remained the prime driver of growth in property exposures. As discussed in the assessment on households, while risks from bank exposures to housing loans have increased slightly, they remain low.

In the non-residential property segment, banks' exposures to OSSC account for less than 4% of banking system loans. New loans in the non-residential property segment have also continued to shift away from the higher risk OSSC segment to loans for the purchase of shoplots, industrial buildings and factories.

**Chart 1.14: Property Market – Financial Institutions' Exposures to the Property Market**



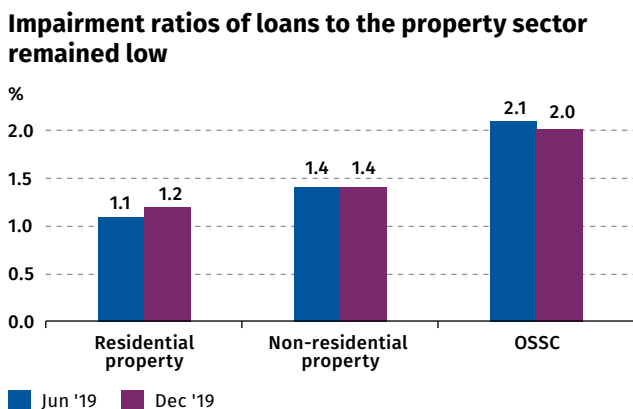
Source: Bank Negara Malaysia

### Financial stability risks from the property sector remain largely mitigated

This in turn has sustained the quality of bank lending to the property sector, with low and stable impairment ratios recorded across all segments (Chart 1.15). Debt-at-risk<sup>25</sup> for the property sector remained at a manageable level of 5.5%, with banks' excess capital buffers sufficient to cover three times the estimated potential losses. More than half (56%) of these potential losses stem from loans extended to small and medium enterprises (SMEs) and small corporates for the construction and purchase of non-residential properties. Given their lower financial buffers, these borrowers are more likely to be affected by the soft property market conditions and slower retail and trade activity in recent periods.

<sup>25</sup> The proportion of debt held by risky borrowers to total property exposures, after taking into account the collateral value.

**Chart 1.15: Property Market – Loan Impairment Ratios for End-Financing by Segment**



Source: Bank Negara Malaysia

## Several Business Sectors Exhibit Higher Credit Risk amid Challenging Conditions, but Risks to the Financial System are Contained

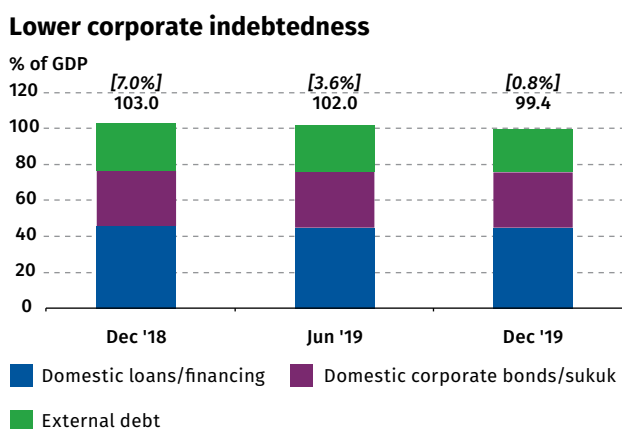
The operating environment for businesses turned more challenging. For the first time since 2015, non-financial corporate (NFC) debt receded below 100% of GDP, as the level of outstanding NFC debt remained almost flat (+0.8%; 1H 2019: +3.6%) compared to the corresponding period in 2018 (Chart 1.16).

The external debt of NFCs declined by 4.4% (1H 2019: +2.9%) after five quarters of positive growth. This was primarily driven by the redemption of maturing bonds and the settlement of intercompany loans by several oil and gas firms. Despite external headwinds, foreign exchange and repayment risks from NFC external debt are expected to be largely contained. Almost half of the debt is in the form of intercompany loans with flexible or concessionary terms, and trade credit facilities which are backed by export receivables. Additionally, 81.5% of the remaining external exposures<sup>26</sup> are medium- to long-term borrowings and hedged against currency exposures, further mitigating repayment, rollover and currency risks.

NFCs' domestic borrowings were also lower in the second half of 2019 in line with cautious business sentiments. Business loans grew at a more moderate

<sup>26</sup> These instruments include offshore loans, offshore bonds and notes, and non-resident holdings of domestic debt securities.

**Chart 1.16: Business Sector – Non-financial Corporate Debt-to-GDP Ratio and Aggregate Debt Annual Growth Rate**



[...] refers to aggregate non-financial corporate debt annual growth rate

Note: Reflects a higher nominal GDP, following the rebasing of GDP from 2010=100 to 2015=100. NFC debt-to-GDP ratio for December 2018 was 103.7% as reported in the FSPSR 2018

Source: Bank Negara Malaysia

pace of 2.4% (1H 2019: +2.7%). While the overall business loan approval rate has remained broadly stable, trending close to its 5-year average, loan repayments continued to exceed loan disbursements, reflecting uncertainties in the business outlook. Net corporate bond issuances in the second half of 2019 was also much smaller (RM1.2 billion; 1H 2019: RM11.1 billion; 2018: RM36.4 billion) despite lower borrowing costs.

A sharp deceleration in business loan growth due to excessive risk aversion by banks could amplify economic risks and affect financial stability. Based on engagements with banks and observations of banks' lending standards and practices, there has been little sign of this up until early-2020 outside of specific sectors and firms that are facing more challenging conditions. Of note, SMEs continued to have access to financing. Due to an ongoing reclassification exercise by financial institutions,<sup>27</sup> underlying trends in financing to SMEs have been a little more difficult to ascertain given the lack of comparable past year data. Notwithstanding this, more favourable terms offered by banks on collateral requirements and financing rates were observed as banks continued to enhance their assessments of income and cash flow to support credit decisions.<sup>28</sup> In the second half

<sup>27</sup> The reclassification exercise is intended to reflect a revised definition of SMEs as released by the National Entrepreneur and SME Development Council (NESDC).

<sup>28</sup> Refer to the 3Q 2019 BNM Quarterly Bulletin Box Article 'Banking on Banks: Are They Lending Enough?' for details of lending trends, banks' risk appetite, and the profile of loan rejections.

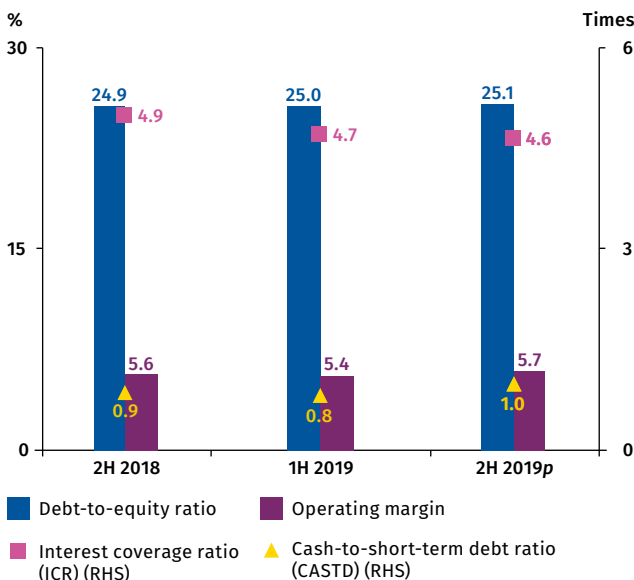
of 2019, banks received 131,152 applications from SMEs (1H 2019: 124,541; 5-year average: 118,085), and about three out of every four loan applications processed have been approved. This was in line with past trends.

Despite domestic and external headwinds, including larger-than-expected commodity supply disruptions in the fourth quarter of 2019, the overall financial standing of firms was sustained in the second half of 2019. Aggregate measures of profitability<sup>29</sup> remained broadly stable, while firms' leverage<sup>30</sup> and debt-servicing capacity<sup>31</sup> continued to be within prudent levels (Charts 1.17 and 1.18).

The operating environment for businesses will however, remain highly challenging in the immediate period ahead. Recent developments surrounding the COVID-19 pandemic have adversely affected businesses, especially in the tourism and manufacturing sectors as a direct result of travel and production disruptions. These segments<sup>32</sup> represent about 44% of banks' business loan exposures and

**Chart 1.17: Business Sector – Leverage, Profitability, Debt-servicing Capacity and Liquidity Indicators**

**Financial performance indicators sustained**

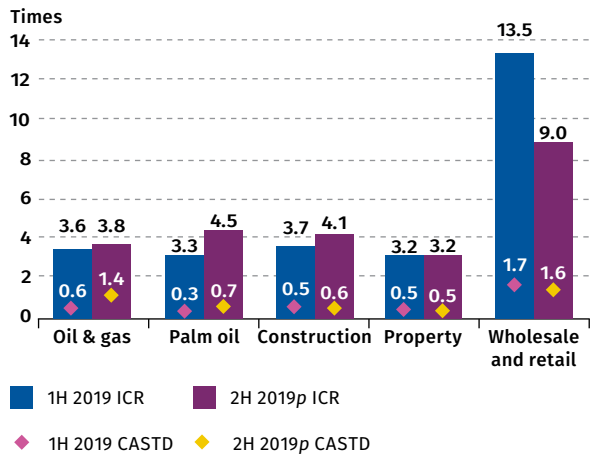


p Preliminary  
 Note: Prudent thresholds for ICR and CASTD are two times and one time, respectively  
 Source: S&P Capital IQ and Bank Negara Malaysia estimates

<sup>29</sup> As measured by the median operating margin.  
<sup>30</sup> As measured by the median debt-to-equity ratio.  
<sup>31</sup> As measured by the median interest coverage ratio (ICR).  
<sup>32</sup> Specifically, transport and storage, wholesale and retail trade, hotels and restaurants, and manufacturing sectors.

**Chart 1.18: Business Sector – Liquidity and Debt-servicing Capacity Indicators for Selected Sectors**

**Debt-servicing capacity improved for most sectors**



p Preliminary  
 Note: Prudent thresholds for ICR and CASTD are two times and one time, respectively  
 Source: S&P Capital IQ and Bank Negara Malaysia estimates

about 16% of total loans from the banking system. Affected firms are likely to face tighter cash flows which in turn could increase future credit risk for banks. Banks have responded with pre-emptive measures by providing temporary deferments to and facilitating the restructuring of loan repayments in order to avert further financial difficulties for viable firms. Countercyclical measures, including the temporary suspension of regulatory loan classifications for rescheduled and restructured (R&R) loans, further provide flexibilities for banks to assist borrowers that are facing temporary cash flow constraints. Banks are required to separately monitor the performance of these exposures and continue to comply with applicable financial reporting standards. Depending on the duration and severity of the pandemic, the pre-emptive measures taken should enable firms to recover more quickly once business conditions normalise. The ability of banks to draw down on capital and liquidity buffers built up over the years will also continue to support lending activity and contain broader risks to financial stability.

In other sectors which continue to face challenging business conditions, business performance has been mixed. In the construction sector, overall improvements in profitability and debt-servicing capacity were attributed to a pick-up in civil engineering works and the turnaround in the

residential property segment. While impairments continued to rise, they have stabilised somewhat (+9.4% compared to the 5-year average growth of 11.1% between 2014 and 2018). Roughly the same number of firms in the sector reported improved and weaker debt-servicing capacity.

Going forward, the resumption of major infrastructure projects that were earlier suspended should continue to provide some support to earnings. However, earnings are expected to remain under pressure due to lower contract values and uncertainty in the timing of future contract awards which could affect cash flows, especially among SMEs. High inventories of unsold properties that are still held by some developers coupled with the oversupply in the OSSC segment will also continue to pose a drag on earnings for some firms. The economic impact of COVID-19 will further weigh on earnings.

Banks' overall loan exposure to the construction sector has remained fairly stable at about 14% of total business loans. As elaborated in the assessment on the property market, debt-at-risk from property-related exposures remains well within banks' excess capital buffers (31.3%).

The financial positions of firms in the oil and gas sector continued to recover on the back of gradual improvements in upstream activities and offshore support vessel charter rates. Despite the recurrence of supply disruptions related to major maintenance works, debt restructuring efforts by some firms have strengthened their debt-servicing ability. Leverage reduced further to 37.5% (1H 2019: 42.8%) while debt-servicing capacity has also improved to 3.8 times (1H 2019: 3.6 times; 5-year average: 3.8 times). The sector's impairment ratio correspondingly declined but remains elevated. Further improvements would be dependent on a recovery in global oil prices which have trended lower following the collapse of production cut agreements in early March 2020. Banks' exposures to firms in this sector, however, remain low at less than 2% of total business loans.

Signs of improving business conditions have also emerged in the palm oil sector. The debt-servicing capacity of firms in this sector improved to 4.5 times (1H 2019: 3.3 times) in line with the rising crude palm oil prices towards the end of 2019. Going forward, prices are expected to remain sustained as the impact of weaker external demand is offset by the

decline in crude palm oil production given the supply disruptions. Risks to financial stability remain limited with bank exposures to the palm oil sector remaining low and broadly stable at 4% of total business loans.

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### Large borrower groups are resilient against extreme shock scenarios

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Financial institutions' exposures to large borrower groups<sup>33</sup> decreased to 38.4% (1H 2019: 42.1%) of total business exposures as at end-2019. The debt-servicing capacity of large corporate borrowers remained reasonably healthy with an ICR of 3.8 times as at end-2019. Based on supervisory engagements, banks expect any deterioration in credit risk associated with large borrowers to be manageable amid the weaker economic outlook. This is also consistent with the Bank's sensitivity analysis which indicates that large borrowers are expected to continue to be able to service their debt under a range of adverse shocks (Table 1.3). Banks' excess capital buffers remain sufficient to cover between 2.5 times and 3.6 times of the potential credit losses arising from large borrower groups that are more likely to default under the assumed stressed conditions, with the earnings shock affecting corporates and banks the most.

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### Higher impairments attributed to firm-specific vulnerabilities

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Overall business loan impairments grew at its fastest pace (+7.9%) since 2010. However, impaired loans as a share of total business loans remained within a narrow range observed over the last five years (Chart 1.19). While the number of firms with ICR less than two times has increased in the past two years, firms in certain segments such as mining, construction and manufacturing have continued to pare down debt levels. This is expected to support overall debt-servicing capacity although lower oil prices are likely to renew earnings pressure for firms in the oil and gas sector. A total of seven corporate bonds<sup>34</sup> were downgraded in 2019, around the same number reported on average in the last five years.

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<sup>33</sup> Large NFC borrower groups represent corporations with aggregate credit exposures (include direct financing and holdings of corporate bonds and sukuk) exceeding RM1 billion with Malaysian financial institutions.

<sup>34</sup> Domestically-rated corporate bonds.

Table 1.3

**Business Sector – Shock Assumptions and Results of Sensitivity Analysis on Large Borrowers**

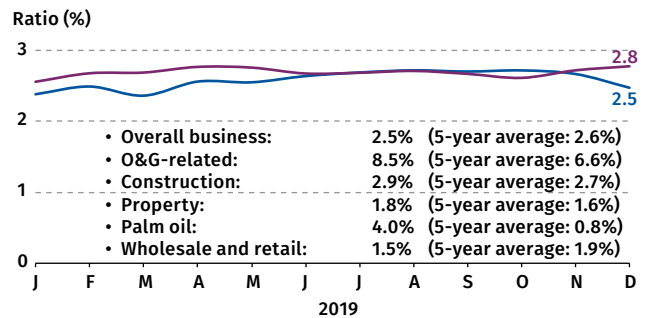
Scenarios (Magnitude)	Interest Coverage Ratio (Times)	Excess Capital Buffers to Potential Credit Losses Ratio (Times)
Baseline	3.8	3.6
Foreign currency shock (15% depreciation in ringgit)	3.7	3.6
Cost of borrowings shock (100 basis points increase in borrowing cost for new ringgit borrowings)	3.8	3.6
Earnings shock (50% decline in operating profit)	1.9	2.5

Source: Bank Negara Malaysia

These exposures accounted for only 1% of total outstanding domestic bonds, posing minimal risks to the financial system.

Looking ahead, the quality of business borrowings is expected to weaken due to the effects of the COVID-19 pandemic, with the impact on firms largely dependent on the severity and duration of the pandemic. Nonetheless, measures announced by the Government and the Bank to mitigate the impact of the pandemic on the economy should provide some respite on the debt servicing obligations of firms in this challenging environment. On aggregate, total exposures to the more vulnerable business sectors accounted for around 30% of total banking system loans. However, based on engagements with banks, risks to banks from its exposures to the larger borrowers are mitigated by repayment sources that are secured by long-term contracts, adequate collateral coverage, government guarantees and measures taken by borrowers to conserve cashflows. Banks' exposures to firms in these sectors which have been classified under Stage 2 and Stage 3<sup>35</sup> accounted for less than 4% of total banking system

loans. Banks also continue to hold strong financial buffers against potential losses with a loan loss coverage of 126.4%. This is supported by sound provisioning practices of banks based on forward-looking assessments.

**Chart 1.19: Business Sector – Gross Impaired Loans**
**Quality of borrowings remained intact despite the more challenging business environment**


— Overall business: Gross impaired loans

— SME: Gross impaired loans

Source: Bank Negara Malaysia

<sup>35</sup> Refer to underperforming loans (Stage 2) and impaired loans (Stage 3).

## MARKET, LIQUIDITY AND FUNDING RISK

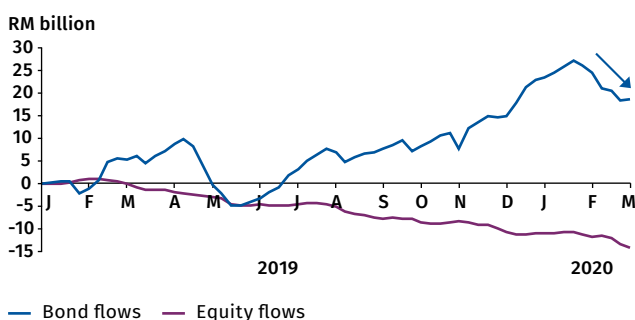
### Domestic Financial Markets were Affected by External and Domestic Headwinds, but Adjustments have been Orderly

In the second half of 2019, the escalation of trade tensions in the third quarter led to episodes of risk-off sentiment which affected the performance of the domestic bond and equity markets. Global investor sentiment, however, improved towards the end of the year in anticipation of the signing of the Phase 1 trade deal between the US and PR China. In the domestic government bond market, accommodative global financial conditions from monetary policy easing in a number of advanced economies and Malaysia's continued inclusion in the FTSE Russell World Government Bond Index (WGBI) sustained non-resident inflows in the second half of 2019 (Chart 1.20). In contrast, the Malaysian equity market continued to experience non-resident outflows, reflecting lacklustre corporate earnings and the flight towards safer assets such as government bonds.

Investor sentiment turned more cautious in late-January 2020 as the COVID-19 outbreak dampened prospects of stronger global growth. The global spread of COVID-19 and measures taken to contain the spread have further weighed on sentiment, leading to non-resident outflows from

**Chart 1.20: Financial Market – Cumulative Non-resident Portfolio Flows**

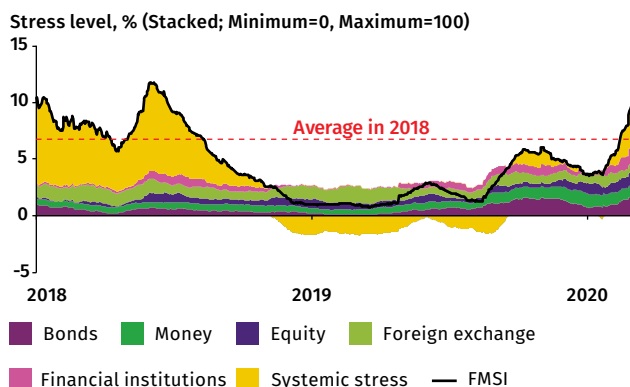
**Net non-resident portfolio outflows observed since the beginning of 2020**



Source: Bank Negara Malaysia and Bloomberg

**Chart 1.21: Financial Market – Financial Market Stress Index (FMSI)**

**Market stress rose to levels observed in 2018**



Source: Bloomberg, Reuters and Bank Negara Malaysia estimates

the bond and equity markets. These developments contributed to the higher broad-based stress levels in domestic financial markets (Chart 1.21). In recent weeks, market volatility has surpassed stress levels observed over the past decade and is expected to remain heightened at least in the near term. However, the continued presence of domestic institutional investors as well as the deep and liquid financial markets is expected to continue to support the intermediation of portfolio flows, thus preserving orderly market conditions.

### Banking System Funding and Liquidity Conditions Remain Supportive of Intermediation Activity

Despite continued volatility in domestic financial markets, liquidity and funding conditions in the banking system remain supportive of credit intermediation activities. Stable deposits and long-term funding, collectively, grew at a slower pace by 2.7% in the second half of 2019. While the growth in deposit placements by households and non-bank financial institutions was sustained, public sector deposits declined amid withdrawals by the Government for repayment of maturing bonds and payment of remaining expenses for the year (Chart 1.22). Notwithstanding this, overall funding conditions remained stable. Banks' loan-to-fund (LTF) and loan-to-fund-and-equity (LTFE) ratios were little changed (Chart 1.23), while

banks' median cost of funds declined to 2.8% (1H 2019: 3.0%) as deposits were gradually repriced following the Overnight Policy Rate (OPR) cut in May and the reduction in the Statutory Reserve Requirement (SRR) Ratio in November.

The Liquidity Coverage Ratio (LCR) of the banking system, which indicates banks' ability to meet liquidity needs over a 30-day stress period, stood at 149.1% as at end-2019 (Chart 1.24), with all banks recording LCR levels above the regulatory minimum of 100%. These liquid assets are available for banks to draw upon during periods of stress. As part of measures recently introduced by the Bank to preserve stability in funding markets and support bank lending activity, the implementation of the Net Stable Funding Ratio (NSFR) requirement will be phased-in with a minimum compliance ratio of 80% in July 2020 and 100% in September 2021. Banks remain well-positioned to meet the revised requirements.

### Risks posed by banks' external debt<sup>36</sup> exposures remained manageable

Banks' reliance on external debt continued to be limited, accounting for less than 10% of total banking system funding liabilities (Chart 1.25). In the second half of 2019, banks' external debt expanded by RM14.2 billion to RM362.6 billion, largely attributable to higher FCY deposits and FCY interbank borrowings as some domestic banking groups (DBGs) took pre-emptive measures to accumulate additional US dollar liquidity buffers in anticipation of a potential tightening in US dollar liquidity conditions towards the year end.<sup>37</sup> Correspondingly, banks' external assets also increased as a result of higher intragroup placements as part of DBGs' centralised

liquidity management. Some DBGs increased carry trade activities to take advantage of interest rate differentials. Risks from external debt exposures associated with such activities remain low as investments funded by offshore borrowings are typically in government bonds or central bank securities and are closely matched in terms of duration. Higher placements from the parent banks of locally-incorporated foreign banks (LIFBs) to fund domestic FCY loans and short-term investment activities were also observed.

Risks posed by currency and maturity mismatches arising from banks' external debt exposures remain low based on several factors. A high proportion (58%) of external debt exposures comprises intragroup placements and long-term debt securities which are generally more stable, thereby reducing withdrawal or rollover risks faced by banks. 17% of the external debt was ringgit-denominated, mainly in the form of non-resident deposits. These exposures are not subject to valuation changes from fluctuations in the exchange rate. As at end-2019, banks' liquid FCY assets were more than adequate to cover two times the FCY external debt-at-risk<sup>38</sup> (Chart 1.26). Risks associated with cross-currency mismatches are further mitigated by the low foreign exchange net open position (FX NOP) of banks in line with active hedging activities by banks (Chart 1.27), and DBGs' continued compliance with the local LCR requirements in the major jurisdictions in which they operate.

The discontinuation of London Interbank Offer Rate (LIBOR) by end-2021 and the transition to alternative risk-free rates (RFRs) however poses some challenges for banks globally including those in Malaysia (for further analyses on the challenges and transition strategy, refer to the Information Box on 'Benchmark Rate Reform: LIBOR Transition').

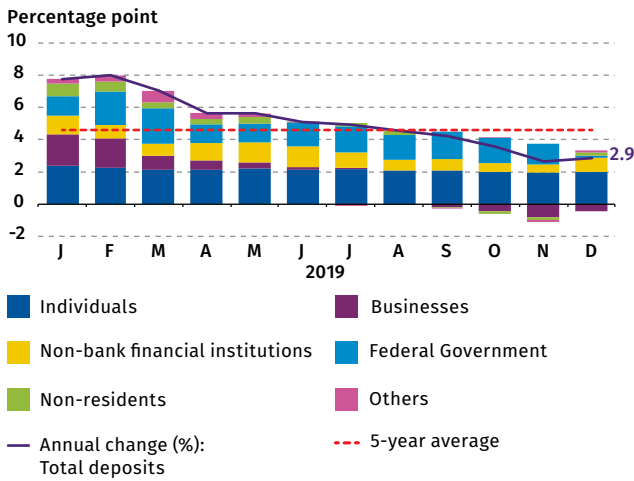
<sup>36</sup> Refers to all liabilities that require payment of principal and/or interest at some point in the future, and are owed to non-residents by residents of an economy. This is in accordance with the External Debt Statistics guide provided by the International Monetary Fund.

<sup>37</sup> This was largely driven by concerns over the removal of Malaysian Government Securities (MGS) from the FTSE Russell WGBI in September and stress in the US money market.

<sup>38</sup> Refers to the proportion of banks' external debt that is more susceptible to sudden withdrawal shocks. This comprises financial institutions' deposits, interbank borrowings and short-term loans from unrelated non-resident counterparties.

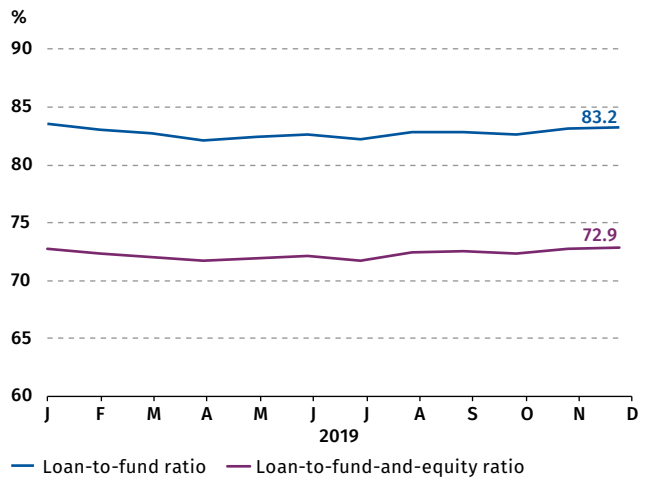
**Chart 1.22: Banking System – Contribution to Growth in Deposits Accepted**

**Growth in deposits largely driven by households and non-bank financial institutions**



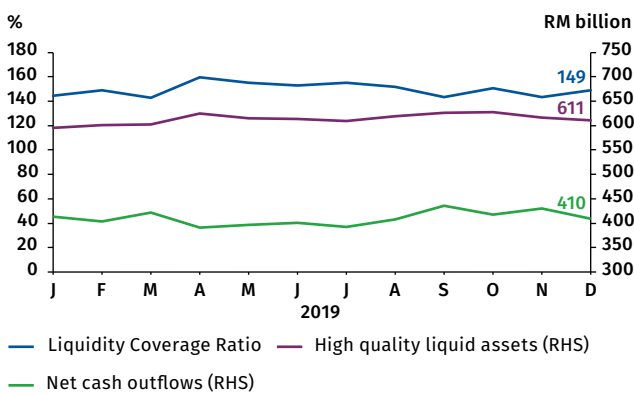
**Chart 1.23: Banking System – Loan-to-Fund Ratio and Loan-to-Fund-and-Equity Ratio**

**Banks' funding remained stable to support intermediation activities**



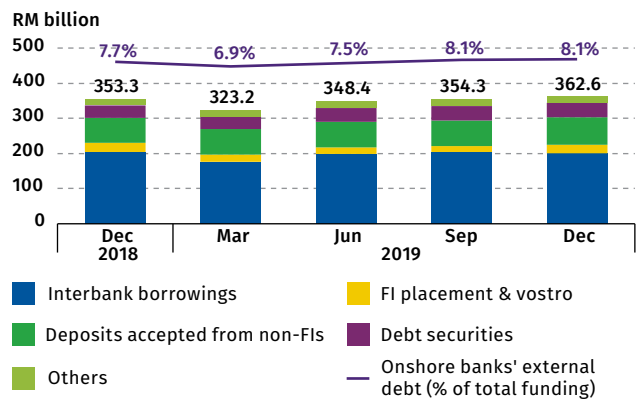
**Chart 1.24: Banking System – Liquidity Coverage Ratio, High Quality Liquid Assets and Net Cash Outflows**

**Decline in LCR reflective of banks' disposal of government bonds to capitalise on declining yields**



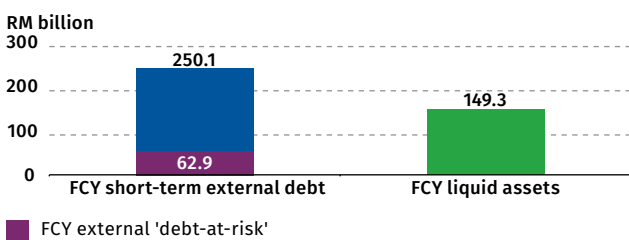
**Chart 1.25: Banks' External Debt – by Instrument**

**Higher external funding reflects higher deposits accepted from financial institutions and customers, and interbank borrowings**



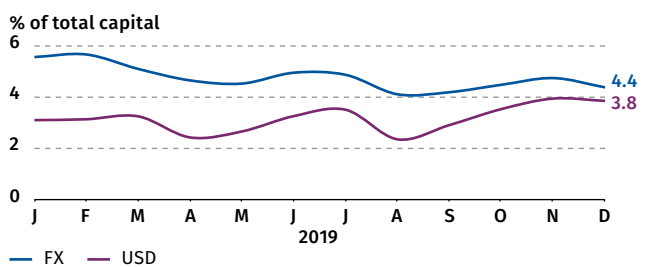
**Chart 1.26: Banking System – FCY External 'Debt-at-Risk' and Liquid Assets**

**Banks maintained FCY liquid assets of more than two times the FCY external 'debt-at-risk'**



**Chart 1.27: Banking System – FX and USD Net Open Positions as Percentage of Capital**

**FX and USD net open positions remained low**



Note: 1. Banks' external debt in this context refers to external debt of DBGs, LIFBs, and LIBFC banks  
 2. Banking system or onshore banks refer to only DBGs and LIFBs  
 3. Liquid assets comprise cash and cash equivalents, unencumbered debt securities held and interbank placements

Source: Bank Negara Malaysia

## Benchmark Rate Reform: LIBOR Transition

London Interbank Offer Rate (LIBOR) has been a dominant reference rate used in financial transactions globally, with more than USD300 trillion in outstanding financial contracts that reference LIBOR. As part of the global reform of benchmark interest rates, LIBOR will be discontinued by end-2021<sup>39</sup> and replaced by alternative risk-free rates (RFRs).<sup>40</sup> As existing LIBOR panel banks will also gradually cease to support this benchmark rate, it is likely that LIBOR will no longer represent accurately and reliably the market or economic reality that the benchmark is intended to measure. The transition away from LIBOR could have significant legal, valuation, accounting, risk management, and system implications for banks globally. Therefore, there is a need for the financial industry to strategise and accelerate the preparation for the transition away from LIBOR.

The Malaysian banking industry's LIBOR exposures<sup>41</sup> are considerable at RM857 billion as of 30 June 2019 (Diagram 1.5). Derivative contracts account for 79% of the LIBOR exposures but pose lower transition risk as these contracts are largely standardised with concerted global efforts<sup>42</sup> to develop fallback provisions well in progress. Existing LIBOR loans maturing beyond 2021 pose greater concern, as these loans require banks and borrowers to renegotiate existing contracts individually and incorporate fallback provisions. The spread between the existing LIBOR and the RFR can result in potential gains to one party of the transaction and losses to the other. For example, if the RFR is lower than the existing LIBOR, the borrower may gain from the lower rate at the expense of the bank. Any potential transfer of value between parties of the transaction arising from the transition to the RFR could complicate contract modifications and pose legal, tax, reputational and economic risks to banking institutions.

Diagram 1.5: LIBOR Exposures as of 30 June 2019



\*Mainly interbank lending/borrowing and customer deposits

Note: At consolidated banking group level

Source: Bank Negara Malaysia

The unavailability of a reliable term structure for RFRs presents a further challenge as under the new RFRs, the actual term rate will only be known at the end of the compounding period.<sup>43</sup> Given this constraint, borrowers are reluctant to adopt the new RFRs as they prefer more certainty in their expected monthly cash flows. In response, industry and regulatory efforts to offer new RFR term rates have recently intensified. The Federal Reserve Bank of New York, administrator of the US Dollar Secured Overnight Financing Rate (SOFR), for example, has begun to publish SOFR term rates<sup>44</sup> beginning 2 March 2020. This move will facilitate the renegotiation of LIBOR loan contracts.

For the Malaysian banking industry, the Bank has established key signposts to ensure that banks adequately prepare for and manage a smooth transition away from LIBOR (Diagram 1.6).

<sup>39</sup> Financial Conduct Authority (FCA) UK indicated that by end-2021, the FCA would no longer compel panel banks to submit quotes for LIBOR.

<sup>40</sup> Based on overnight trades in markets, whether unsecured or secured, where liquidity is deep enough to allow the rate to be strongly anchored in transactions, including in more adverse market conditions. The RFRs, by largely excluding bank credit risk, also closely track central bank policy rates, offering a more efficient and transparent way of measuring, managing, and hedging movements in those rates.

<sup>41</sup> On balance sheet outstanding amount and derivatives notional amount at consolidated banking group level.

<sup>42</sup> Developments in derivative contracts' fallback provisions are driven by International Swaps and Derivatives Association (ISDA).

<sup>43</sup> At present, only the overnight RFR is available. In the absence of published term rates for RFRs, the interest chargeable for RFR loans is calculated by compounding the overnight rate over the loan interest payment period (e.g. monthly). As a consequence, the actual rate of the loan will only be known at the end of the interest payment period.

<sup>44</sup> 30 days, 90 days and 180 days.

**Diagram 1.6: LIBOR Transition Signposts**



Note: Signposts may be reviewed if there is any change in the global transition timeline

Source: Bank Negara Malaysia

All banks have since established dedicated transition teams to oversee the process but actual progress remains uneven across institutions. There is an urgent need for banks to ensure a robust process for identifying and evaluating the range of possible transition risks and accelerate efforts to prepare for the transition. Aside from the potential challenges in renegotiating existing contracts with borrowers, other risks should also be given due consideration. These include banks’ operational readiness and system capability to support products referenced to alternative RFRs, potential tax implications and the impact of changes to banks’ risk management models that rely on LIBOR-based parameters. Banks should also undertake adequate measures to mitigate consumer conduct risks arising from the issuance of new LIBOR-based financial contracts maturing beyond 2021. If not managed well, banks could face significant reputational risks arising from the failure to properly disclose and educate borrowers on the transition to an RFR.

## CONTAGION RISK

### Contagion Risk Posed by Non-bank Financial Institutions Remained Low

Assets of non-bank financial institutions<sup>45</sup> (NBFIs) in Malaysia expanded by 2.9% in the second half of 2019 to account for 40.6% of financial system assets (Chart 1.28). Holdings of common assets and equity interests in financial institutions continue to be the key channel for the transmission of risks from NBFIs to the financial system (Chart 1.29).

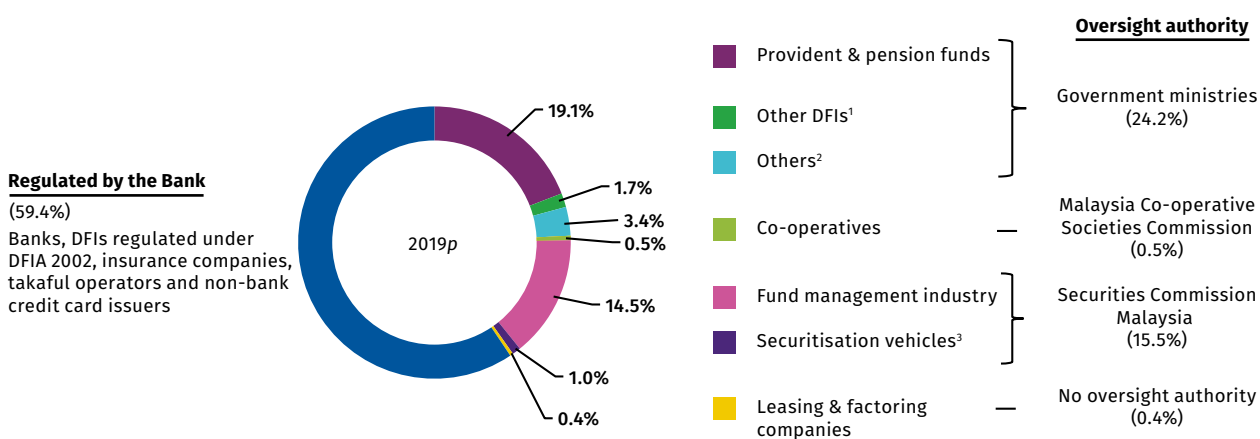
The retirement funds and fund management industry, comprising entities including *Kumpulan Wang Simpanan Pekerja* (KWSP), *Kumpulan Wang Persaraan* (KWAP) and *Amanah Saham Nasional Berhad* (ASNB), account for approximately 82.8% of NBFIs' total assets. Investments by these entities recorded a marginal decline (-1.1%) during the second half of 2019, against the backdrop of a weaker domestic equity market. Their combined

investment holdings remained significant, accounting for 30.0% and 42.3% of total equity market capitalisation and total outstanding debt issuances, respectively. Any large-scale disposal of these assets could impact market sentiment and cause sharp price adjustments, which may subsequently affect the balance sheets of other financial institutions holding similar assets. This can arise if these entities come under financial stress or display herd behaviours in response to adverse market developments. Such risks remain low given the strong financial buffers of the larger entities and their sizeable share of strategic investments that are less reactive to temporary valuation changes. The medium- to long-term investment horizon of retirement funds is also expected to continue to support orderly domestic market conditions during periods of non-resident outflows.

The share of savings by households with retirement funds and the fund management industry increased slightly in 2019 to 51.6% (1H 2019: 50.3%) of household financial assets. About a third of these savings are discretionary savings that are more sensitive to returns and could precipitate "runs" on the funds. Despite the weaker equity market

Chart 1.28: Financial System – Composition of Assets

#### NBFIs accounted for 40.6% of total financial system assets



p Preliminary

<sup>1</sup> Development Financial Institutions (DFIs) that are not regulated by the Bank under the Development Financial Institutions Act 2002 (DFIA 2002)

<sup>2</sup> Refers to pawn brokers, money lenders, non-bank providers of credit and hire purchase financing, non-bank provider of education financing, non-bank provider of housing credit, government-owned trustee company and social security organisation

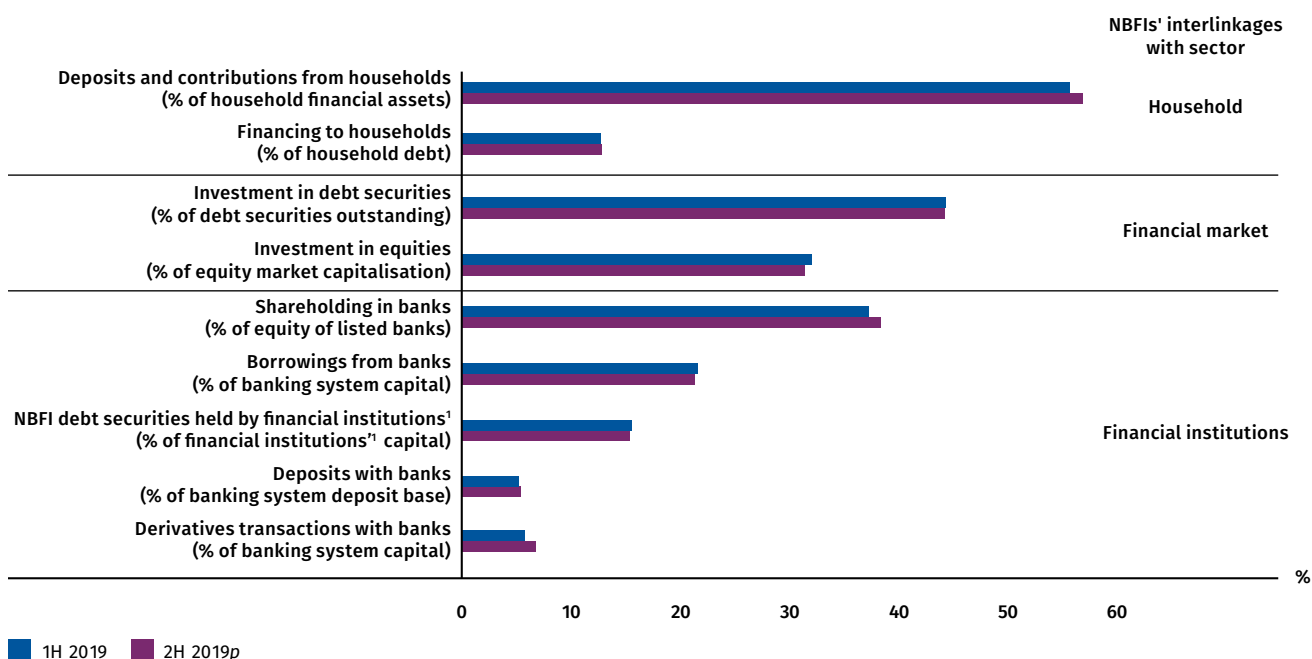
<sup>3</sup> Refers to outstanding asset-backed securities and asset size of national mortgage corporation

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

<sup>45</sup> Refers to entities undertaking activities including the provision or facilitation of credit creation and investments through management of public funds, collective investment schemes and retirement funds, that are not under the purview of the Bank.

**Chart 1.29: Non-bank Financial Institutions – Interlinkages with the Financial System**

**Key channel for the transmission of risks from NBFIs to the financial system remained through holdings of common assets and equity interests in financial institutions**



p Preliminary

<sup>1</sup> Refers to banks, insurance companies, takaful operators and DFIs under DFIA 2002

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

performance and lower dividends announced by some funds during the year, the funds are expected to remain resilient against withdrawal risks. This continues to be supported by adequate liquidity buffers in the form of deposits and government debt securities held by the funds to meet potential withdrawals. Prudential requirements on investments and leverage that apply to fund management companies that are regulated by the Securities Commission further mitigate the risks of “runs” on fund management companies that could have broader spillovers to the financial system.

## Financial stability risks arising from the activities of non-bank credit intermediaries are assessed to be low

About 12.3% of the NBFIs’ assets in Malaysia are represented by activities of specialised and small credit intermediaries such as credit co-operatives, moneylenders as well as non-bank providers of housing loans, hire purchase, and student loans. Financing extended by these NBFIs grew by 2.9%

in the second half of 2019. Financial stability risks arising from these NBFIs are assessed to be minimal as aggregate financing still remained small (12.2%) in comparison to the banking system. More than 40% of NBFIs’ financing to households feature automatic salary deduction facilities, which help to contain credit risks. Some NBFIs, including credit co-operatives, must also comply with responsible financing guidelines applicable to banks that require NBFIs to conduct affordability assessments before granting loans. Among the larger non-bank credit intermediaries, financing activities are largely funded by long-term loans and debt issuances, thus mitigating funding rollover risks. As at end-2019, the average remaining maturity for NBFI-issued debt securities increased further to 7.4 years from 6.7 years (2018) due to the longer average tenure of new debt issuances.

In recent years, incidents of default and failure among non-bank credit intermediaries in Asian economies have raised some concerns over broader risks to their respective domestic financial systems. In Malaysia, the small share of credit intermediation activities by NBFIs and strong

financial buffers of significant NBFIs substantially reduce such risks. Additionally, most NBFIs in Malaysia are subjected to formal regulatory oversight as statutory bodies or institutions licensed and prudentially supervised by the Securities Commission and Malaysia Co-operative Societies Commission. Over the longer term, the continued growth and concentration of statutory retirement funds could present heightened risks

to the domestic financial system in the unlikely event of stress in the institutions that manage these funds. Measures by the NBFIs to diversify their investment portfolio through holdings of foreign and alternative assets,<sup>46</sup> commensurate with their risk management capabilities, as well as measures to encourage the growth of private retirement schemes, will contribute towards mitigating these risks.

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<sup>46</sup> Among others, this includes property, infrastructure and private equity investments.

## OPERATIONAL RISK

### Operational Risk Losses among Financial Institutions Remained Small but Emerging Risks Warrant Close Vigilance

Occurrences of operational risk incidents in the financial system have risen amid increasing digitalisation and greater reliance on third party service providers. Nevertheless, the number of and total losses from these incidents have remained insignificant for banks, insurers and takaful operators relative to the volume of intermediation activities.

For banks and development financial institutions, total losses in 2019 from the materialisation of operational risk events accounted for 0.7% of total profit before tax, compared to 3.1% for credit risk

losses. Almost all of the operational risk losses were attributable to trade finance related fraud, involving the recycling of used bills of lading and invoice reference numbers for fictitious trades. Such fraud continues to account for a small portion of the total trade finance exposures.

In the insurance and takaful sector, operational risk losses were largely driven by fraudulent claims, typically in relation to exaggerated vehicle accident damage or injuries, and staged accidents or thefts. As these types of fraud often involve multiple parties, many cases are difficult to prove and often remain unreported as fraud. Consequently, total reported losses from the materialisation of operational risk events in this sector accounted for a much smaller proportion of total profit before tax (less than 0.5%).<sup>47</sup>

Financial institutions' internal safeguards to detect and address fraudulent activities thus far have kept losses low. However, financial institutions should

### Operational Risk

Operational risk is the risk of loss resulting from inadequate or failed internal processes, people and systems, or from external events (Table 1.4). It is inherent in all activities, products and services of a financial institution. Often, operational risks materialise in the form of fraud, physical damage, transaction failures and business disruption. This may result in direct as well as indirect financial losses, for example, loss of business and market share due to reputational damage.

Table 1.4

#### Characteristics of Operational Risk

<b>Idiosyncratic</b>	The operational risk profile of a financial institution is unique to its internal processes, people and systems. For example, an institution that is reliant on manual processes is more at risk of human error, while an institution that is reliant on IT systems is more at risk of IT system failures.
<b>Multifarious</b>	Operational risk can traverse multiple business lines and external parties associated with the institution. For example, disruptions to an institution's critical system can be caused by the failure of a third-party service provider to follow terms of a Service-Level Agreement. Conversely, operational failures in a financial institution can affect other institutions through connections to a shared infrastructure.
<b>Fat-tailed distribution</b>	Most of the time, operational risk events incur small-scale losses, such as fraudulent insurance claims. However, some operational risk events, such as a cyber-attack on a major payment system infrastructure, could lead to severe disruptions in the provision of financial services and erode public confidence.
<b>Difficult to model</b>	The fat-tailed nature of operational risk losses, the absence of a clear link with macroeconomic factors, the lack of historical data and difficulty in mapping past operational loss events <sup>48</sup> are among the factors that make operational risks particularly challenging to model. Risk modelling is also constrained by the evolving nature of a financial institution's operational risk profile with on-going changes in its business model, internal processes and the operating environment.

<sup>48</sup>This is because the realisation of losses from an operational risk event may only happen some time after the occurrence date, for instance, losses incurred from a fraud event may only materialise well after the fraud event has occurred

Source: Bank Negara Malaysia

<sup>47</sup> This is an estimation as the Bank continues to refine the operational risk data reporting by insurers and takaful operators to improve the industry's quality and consistency in reporting.

remain vigilant of the evolving modus operandi of such activities in response to the heightened controls by financial institutions.

While several financial institutions reported disruptions that affected the provision of financial services to some customers during the year, these were mostly isolated incidents involving temporary branch closures or disruptions to online transaction and customer services. For most incidents, services were resumed within one to two hours. In a few cases of more prolonged disruptions, customers were still able to access alternative channels to conduct financial transactions, including online and at neighbouring branches. During the Movement Control Order in March 2020 following the escalation of the COVID-19 pandemic, consumers continued to have access to essential financial services with financial markets also remaining open.

In an annual operational risk survey of financial institutions, a number of emerging risks were noted among the top risks that financial institutions face:

### **i. Cyber threats**

Cyber threats are expected to become more sophisticated and frequent as financial institutions embrace digitalisation. Operations that are heavily dependent on interconnected systems are particularly at risk. Additionally, unauthorised access or unintended disclosure of customer information to external parties, arising from hacking or cyber-attacks could expose financial institutions to legal action and reputational risk, as well as affect public confidence.

### **ii. Outsourcing including cloud computing**

Increasing reliance on cloud services and third-party vendors exposes financial institutions to higher risk of operational lapses as these vendors and services are not within the financial institution's direct control. Over-reliance on these service providers could also hamper the ability of financial institutions to maintain continuity of critical functions in recovery and resolution scenarios.

### **iii. IT system failure impacting more interconnected systems**

System downtime and IT failures typically arise from power outages, obsolete hardware or

applications, and poor legacy systems migration. In increasingly interconnected systems, a failure in one IT system is more likely to affect other customer-centric applications such as internet banking, online insurance services, and trade and settlement systems.

### **iv. Human error**

Financial institutions expect human error<sup>49</sup> to continue to persist despite the adoption of technology. This risk is heightened by obsolete legacy systems that are not replaced in time and are unable to support new products and increasing business volumes, thus requiring more manual exception handling.

### **v. Regulatory complexity**

The increasing complexity of global regulatory requirements have led to higher compliance risk for financial institutions. Compliance risk is higher for financial institutions with overseas operations, as they have to manage variations in the implementation of global reforms in other jurisdictions. Gaps in regulatory adherence may expose these institutions to enforcement actions including penalties.

The Bank has intensified its engagements with financial institutions on improving approaches to the measurement of operational risk as well as scenario analysis and stress testing. Financial institutions have also been required to regularly update and test their operational incident response plans in order to identify and address gaps in prevention, response and recovery capabilities.

In addition, the Financial Sector Cyber Threat Intelligence Platform (FinTIP) that is being established by the Bank in collaboration with the industry to collate, aggregate, analyse and share cyber threat information from multiple trusted sources is expected to be operational by the end of 3Q 2020. In the insurance industry, the Fraud Intelligence System (FIS) facilitates more efficient identification and investigation of potential fraudulent motor claims using data analytics and scoring. Efforts are ongoing to enhance the fraud alert accuracy and quantify cost savings from its utilisation. These developments complement

<sup>49</sup> Human error can arise from a combination of factors, including intentional and unintentional breaches of policies, careless execution of tasks, lack of knowledge and training, and unclear operating procedures.

the Bank's Operational Risk Integrated Online Network (ORION)<sup>50</sup> which facilitates system-wide monitoring and early detection of operational risk trends. An industry crisis simulation exercise planned for 2021 will provide an important opportunity to test current arrangements for responding to a crisis event both at the institution and system-wide levels. This in turn will provide further insights for ongoing improvements to the financial system's crisis preparedness and response capabilities.

### Payment and Settlement Systems Remained Stable without Major Disruptions

In 2019, a total of 5.1 million transactions amounting to RM56.8 trillion were settled via the Real-time Electronic Transfer of Funds and Securities System (RENTAS),<sup>51</sup> equivalent to 37.8 times of Malaysia's gross domestic product

(GDP). This represents an annual growth of 3.2% in total volume and 2.9% in total value. RENTAS continued to remain resilient and maintained high system availability above 99.9% throughout the year. While there were a few incidents of minor disruptions caused by network and infrastructure issues, these issues were promptly resolved with no recurring incidents.

Malaysia's retail payment systems also achieved high system availability above the target level of 99.9% throughout 2019. Credit transfers, such as Interbank GIRO (IBG) and Instant Transfer, which accounted for the bulk (62.4%) of retail electronic payments both achieved 100.0% system availability. Incidents involving other types of retail payment systems such as DuitNow, JomPAY and FPX which were caused by processing and system configuration issues resulted in some isolated settlement delays but did not affect the execution of payment transactions by customers. Similar to RENTAS, the issues have been resolved.

<sup>50</sup> Launched in 2014, the ORION is a risk surveillance system that consolidates information on operational risk incidents, including cyber-attacks.

<sup>51</sup> RENTAS is a real-time gross settlement system for interbank fund transfers, debt securities settlement and depository services for scripless debt securities. Besides Malaysian Ringgit, RENTAS also facilitates Renminbi and US Dollar transactions via appointed on-shore settlement institutions.

# Financial Institution Soundness and Resilience

37	<b>The Banking Sector</b>
41	<b>The Insurance and Takaful Sector</b>
46	<b>Multi-year Solvency Stress Test for Banks and Insurers</b>
49	<i>Box Article: Managing Commodity Trading Risks in Islamic Financial Transactions</i>



# Financial Institution Soundness and Resilience

## THE BANKING SECTOR

### The Capitalisation of the Banking Sector Remains Strong,<sup>1</sup> Bolstering Banks' Resilience against Potential Stress Arising from Adverse Financial and Macroeconomic Shocks

All banks continue to maintain capital ratios well in excess of the regulatory minimum (Chart 2.1), underpinned by continued profitability and sound asset quality. The overall risk profile of banks has also been broadly stable, with the ratio of risk-weighted assets to total assets<sup>2</sup> remaining largely unchanged in recent periods at around 58%.

Sustained profitability and sound asset quality strengthened the solvency position of the banking system

In the second half of 2019, banking system profitability was sustained above the estimated average cost of capital (Chart 2.2),<sup>3</sup> further strengthening banks' solvency positions. Pre-tax profits recorded an annual growth of 15.4%, supported by strong growth in non-interest income (Chart 2.3). Profit-taking by banks in the government

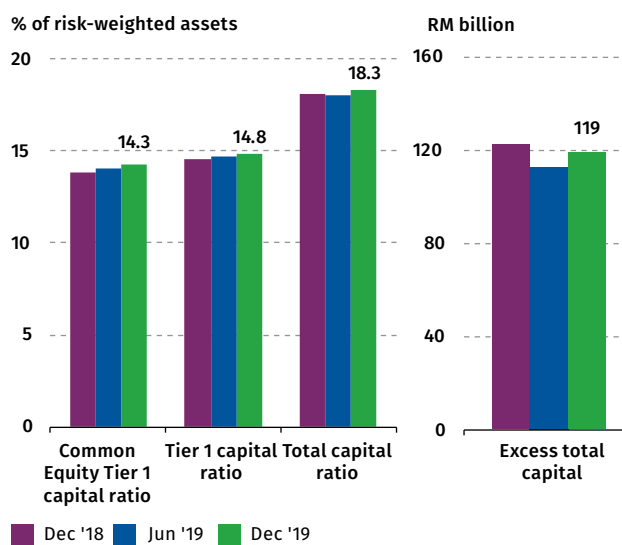
<sup>1</sup> Most of banks' capital (78%) are held in the form of Common Equity Tier 1 capital instruments such as ordinary shares and retained earnings, which are regarded as the most reliable and highest quality form of capital available to absorb losses.

<sup>2</sup> The ratio measures the relative riskiness of banks' assets. A higher ratio (or risk-weight density) generally indicates higher risk-taking by banks. Malaysian banking system risk-weight density has remained broadly stable in recent periods (December 2019: 57.6%; June 2019: 58.3%; December 2018: 58.2%).

<sup>3</sup> The average cost of capital for Malaysian banks is estimated using the Capital Asset Pricing Model.

Chart 2.1: Banking System – Capitalisation

#### Banks maintained strong capitalisation



Note: Excess total capital refers to total capital above the regulatory minimum, which includes the capital conservation buffer requirement for 2018 (1.875%) and 2019 (2.5%) and bank-specific higher minimum requirements

Source: Bank Negara Malaysia

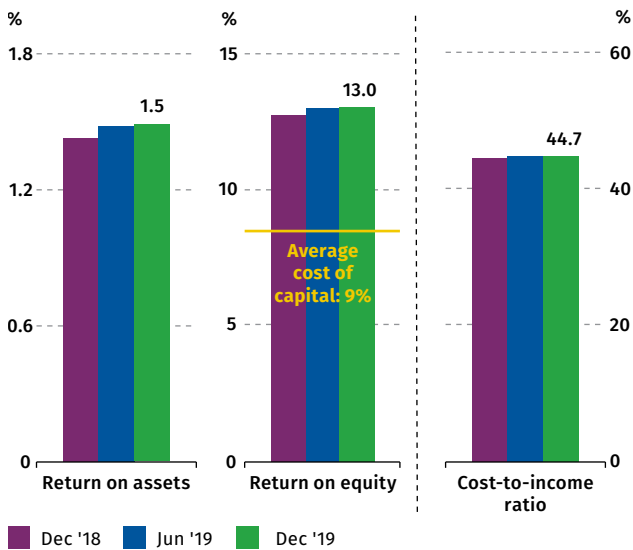
bond market amid declining yields in the second half of 2019 drove higher trading and investment income. The growth in fee and commission income has also been consistent with recent strides by banks to diversify revenue sources through the cross-selling of wealth management and insurance products.

In contrast, growth in net interest income from financing activities, which contributes the bulk (about two-thirds) of banks' gross income, moderated amid slower credit growth and further compression in banks' interest margins.<sup>4</sup> Following the cuts in the Overnight Policy Rate (OPR) in May 2019 and the first quarter of 2020, slower adjustments to banks' funding costs (compared to the repricing of floating-rate loans)

<sup>4</sup> For a broader discussion on trends affecting banks' interest margin, refer to the Financial Stability Review 1H 2019 Box Article 'Malaysian Banks' Profitability - Past Trends and Future Prospects'.

**Chart 2.2: Banking System – Profitability**

**Banks sustained healthy profitability**



Note: The average cost of capital for Malaysian banks refers to the average expected annual stock returns for all listed banks estimated using a Capital Asset Pricing Model

Source: Bank Negara Malaysia

will weigh on interest margins.<sup>5</sup> However, with banks remaining generally prudent in their risk-taking, the drag on banks' earnings is expected to be cushioned by higher non-interest income, continued loan growth and lower debt-servicing burdens of borrowers. The reduction in net interest income from the lower benchmark policy rate is therefore expected to be largely manageable for banks.

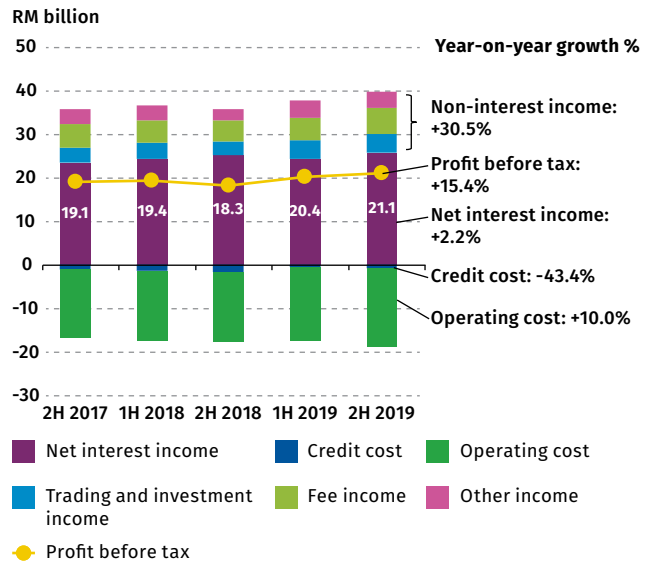
Interest rate risks in both the trading book and the banking book also remained low despite higher holdings of corporate bonds and negotiable instruments of deposit by several domestic banking groups. This reflects the active risk management and hedging strategies of banks, which have continued to contain exposures to levels well within prudent loss limits set individually by banks.

Banks continue to keep a firm lid on operational costs with sustained efforts to streamline and automate business processes as well as optimise their physical branch presence. On aggregate, the operating cost-to-income ratio remains stable at 44.7%.

<sup>5</sup> This is also partly due to the increased stability of banks' funding profile in recent years. Banks now have a greater share of sticky and longer-tenure fixed deposits, following the implementation of the Bank's Liquidity Coverage Ratio and impending Net Stable Funding Ratio requirements.

**Chart 2.3: Banking System – Income, Cost and Profit before Tax**

**Growth in banks' profits was driven by non-interest income**



Note: Year-on-year growth computed based on figures for 2H 2019 and 2H 2018

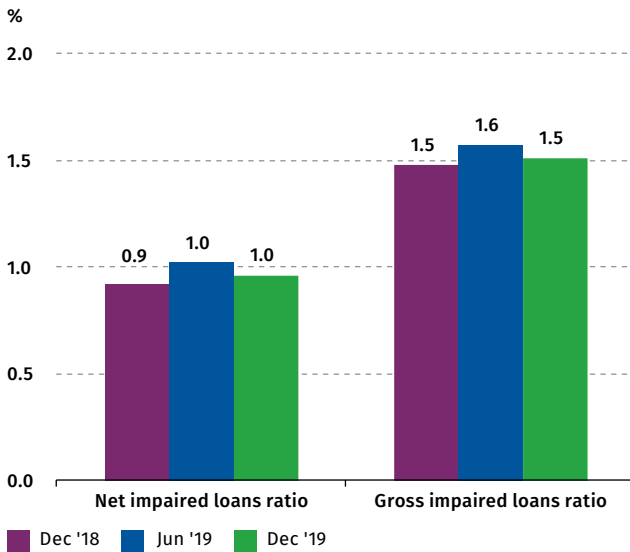
Source: Bank Negara Malaysia

## Potential credit and market losses within financial buffers of banks

Impairments remain low across most credit portfolios and have been stable as a share of total banking system loans at 1.5% (Chart 2.4). As earlier noted, there has been some deterioration in loan performance in specific segments of the household and business sectors, but potential losses remain within the financial buffers of banks (for further details, refer to the credit risk section). In the wake of the COVID-19 pandemic, banks are expecting an increase in the share of restructured and rescheduled loans, particularly by borrowers in the business segments that have been most affected by the pandemic. This is likely to increase provisions over the short-term. Banks are well-positioned to absorb the potential impact on profitability, given the prudent provisioning buffers built up over the years. Total provisions including regulatory reserves held by banks against credit losses stood at RM33.9 billion or 126.4% of impaired loans as at end-2019 (Chart 2.5). Active monitoring and recovery efforts also saw several banks record impairment reversals on selected large credit accounts in December, thus sustaining overall asset quality.

Chart 2.4: Banking System – Asset Quality

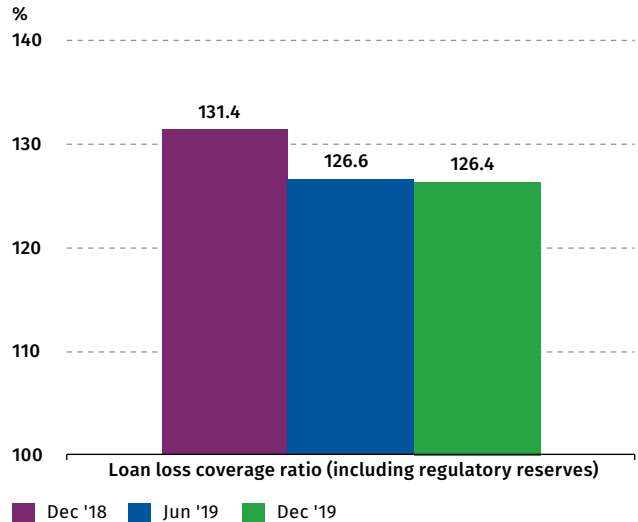
Impairment ratios remain low



Source: Bank Negara Malaysia

Chart 2.5: Banking System – Provisions

Banks continued to maintain strong buffers against potential credit losses



Source: Bank Negara Malaysia

Risks from DBGs’ overseas operations remained low despite the subdued regional economic environment

Weaker regional economic conditions affected the performance of domestic banking groups’ (DBGs) overseas operations<sup>6</sup> in the second half of 2019 (Chart 2.6).

DBGs’ operations in Singapore, which account for almost half of total overseas assets (Chart 2.7), continued to face headwinds amid the challenging operating environment. The impairment ratio remained elevated at 3.8% (June 2019: 3.5%) due to higher new impairments relative to recoveries during the period. In Indonesia, DBGs recorded higher loan loss provisions amid the more moderate domestic growth performance with the impairment ratio rising to 4.1% (June 2019: 3.6%). Notwithstanding this, banking operations in Indonesia remained profitable as reflected by the weighted average return on equity of 9.8% (June 2019: 10.4%).

<sup>6</sup> Refers to DBGs’ overseas offices (branches and subsidiaries) operating outside of Malaysia and Labuan International Business and Financial Centre (LIBFC). Cumulatively, DBGs have presence in 14 overseas jurisdictions, with major operations in Singapore, Indonesia, Thailand and Hong Kong SAR.

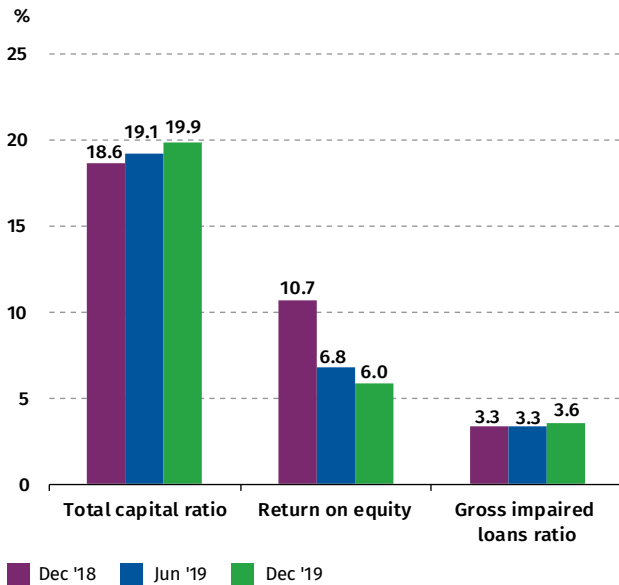
Meanwhile, the impact from heightened social unrest and political uncertainties in Hong Kong SAR has been limited as overseas operations in Hong Kong SAR remained small (7.5% share of total overseas assets) relative to other markets. Several DBGs have scaled back treasury and interbank activities, further reducing exposures in Hong Kong SAR (annual asset growth in 2019: -6.8%). DBGs recorded better earnings performance in Thailand (December 2019: 8.6%; June 2019: 7.3%), supported by relatively firm economic conditions, which contributed to higher interest income and improved asset quality.

The economic impact of the COVID-19 pandemic in the region will continue to weigh on the performance of DBGs’ overseas operations. In the first half of 2020, significant measures being taken by authorities to support affected businesses are however, expected to mitigate credit losses to banks. Based on banks’ internal stress tests, the potential impact of a further deterioration in the performance of DBGs’ overseas operations is expected to be manageable as their operations in Malaysia remain the largest contributor (84.5%) to overall profitability.

For 2020, banks are expecting weaker credit growth compared to 2019. This remains significantly dependent on the duration of the COVID-19 pandemic. While the impact of COVID-19

**Chart 2.6: Banking System – Key Financial Indicators of Overseas Operations**

**Overseas operations remained profitable despite weaker economic conditions**

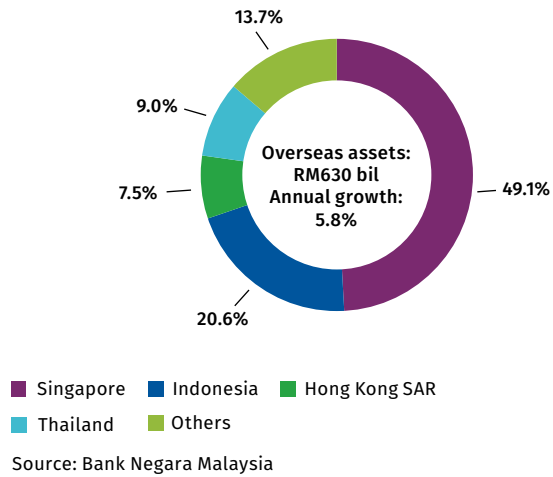


Note: The average key financial indicators are weighted by the asset size of selected overseas operations  
 Source: Bank Negara Malaysia

on the economy is likely to be significant in the short-term, banks are entering this period from a position of strength, with significant capital and liquidity buffers. The prudent management of credit risks and diversified income sources will provide support to profitability. In addition, banks’ digitalisation strategies are expected to drive further operational efficiencies, lending additional support to long-term profitability and overall viability.

**Chart 2.7: Banking System – Asset Composition of Overseas Operations**

**Overseas operations continue to be largely concentrated in Singapore and Indonesia**



In response to the COVID-19 pandemic, the Bank also announced a series of regulatory measures in support of banks’ efforts to assist affected households and businesses. Banks have been allowed to draw down on capital and liquidity buffers, to support lending activities. These buffers, which have been built up over the years, along with liquidity management by the Bank, have placed banks in a strong position to support the economy during these challenging times. The sustained profitability of banks, underpinned by sound underwriting and risk management practices, will also help banks gradually restore their buffers once the flexibilities are lifted.

# THE INSURANCE AND TAKAFUL SECTOR

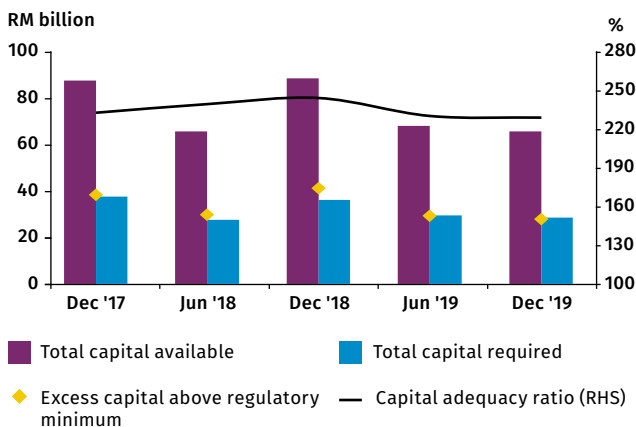
## The Insurance and Takaful Sector Remains Well-capitalised

The insurance and takaful sector maintained strong capital buffers throughout the second half of 2019, well above the prescribed regulatory level of 130% (Chart 2.8). Capital buffers held against insurance and takaful risk, the largest component of total capital required, have remained largely stable in line with the relatively benign claims environment. However, the low interest rate environment in recent years has increased the capital buffers that insurers and takaful operators (ITOs) are required to hold against market risk exposures. While this could pose some challenges, particularly for the performance of life insurance and family takaful funds if interest rates fall further, it is not expected to have a material impact on insurers' profitability or solvency (refer to the Information Box on 'Assessing the Impact of Declining Interest Rates on Life Insurers' Solvency Positions').

Profits in the life insurance and family takaful sector were supported by investment gains from holdings of debt instruments

**Chart 2.8: Insurance and Takaful Sector – Capital Adequacy Ratio**

**Aggregate capital adequacy ratio remained well above the regulatory minimum of 130%**



Source: Bank Negara Malaysia

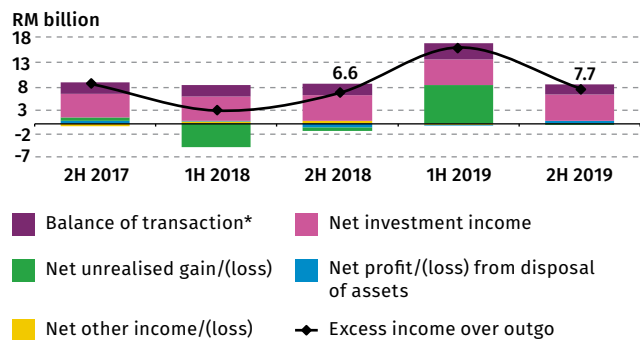
On aggregate, the insurance and takaful sector recorded higher profits<sup>7</sup> in the second half of 2019 compared to the same period in 2018. This was mainly attributed to better performance in the life insurance and family takaful sector (Chart 2.9) arising from gains on investments in debt instruments as interest rates declined. Overall returns on investments correspondingly trended higher (2H 2019: 2.6%; 2H 2018: 1.9%), offsetting the weaker performance of insurers' equity investments.

Life insurers and family takaful operators' income continued to be underpinned by growth in net premiums from both existing and new business. New premiums sustained the strong growth recorded in the first half of 2019, driven by higher sales of ordinary takaful policies, and non-participating endowment and term-life products (Chart 2.10). The strong growth of ordinary family takaful business largely reflected sustained sales of mortgage and credit-related takaful products during the period.

Investment-linked business sustained its growth at 7% for the full year of 2019. Despite adjustments to new regulatory requirements<sup>8</sup> to improve policyholder outcomes which came into effect in July 2019, new

**Chart 2.9: Life Insurance and Family Takaful Sector – Composition of Income and Outgo**

**Higher excess income over outgo driven by net unrealised gains**



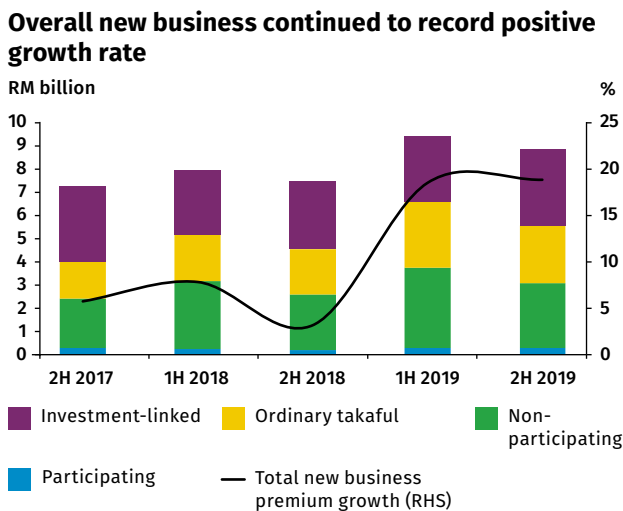
\* Excess of net premium after deducting benefit payouts, agency remuneration and management expenses

Source: Bank Negara Malaysia

<sup>7</sup> For life insurance and family takaful business, profits refer to excess income (net premiums) over outgo (benefit payouts, agency remuneration and management expenses) of the life insurance and family takaful funds.

<sup>8</sup> ITOs have to comply with requirements on the Minimum Allocation Rate, which specifies the minimum proportion of premiums/contributions for investment-linked policies/certificates to be allocated to the unit funds, and the Sustainability Test, which requires investment-linked premiums/contributions to be set at sustainable levels to ensure coverage is able to last for the entire expected term. These requirements will be implemented in phases from July 2019 to July 2020.

**Chart 2.10: Life Insurance and Family Takaful Sector – New Business Premium Growth and Product Composition**



Source: Bank Negara Malaysia

business performed better (+11%) in the second half of 2019 relative to the same period last year. It remains too early to assess the impact of the requirements on longer-term profitability. However, ITOs have taken various measures to manage the impact, including refining their product designs, increasing reinsurance/retakaful support or rebalancing business portfolios. This is expected to mitigate any longer-term effects on profitability although the extent of adjustments by ITOs will only become clearer in the coming year.

Business performance also benefitted from improvements in persistency following the implementation of the Balanced Scorecard (BSC) initiative, which better aligns sales incentives with the quality of advice provided to individuals who buy insurance or takaful products. In 2019, more than 800 additional agents recorded persistency rates<sup>9</sup> above 90% in the first year. Continued improvements in sales practices driven by the BSC are expected to lend support to premium growth while reducing mis-selling risks.

In the general insurance and takaful sector, profitability declined in the second half of 2019 mainly due to higher motor claims paid (+6%) (Chart 2.11). Going forward, several factors are expected to continue to drive higher claims in the motor segment. Amendments to the Civil Law Act 1956 and the Compendium of Personal Injury

<sup>9</sup> Refers to a new product sold/marketted (other than a single premium or contribution product) which remains in force at the end of the following policy or certificate year.

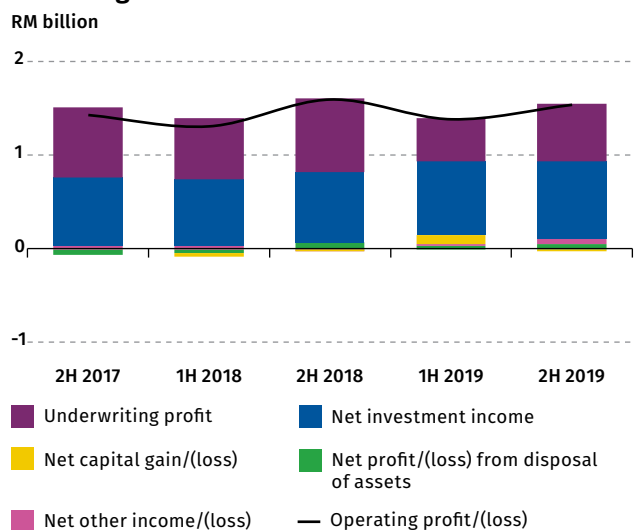
Awards which came into effect in September 2019 and October 2018, respectively, have increased the scope and amount of compensation payable for loss of life, loss of earnings, loss of dependency and personal injury. This is expected to add up to 3.3% to average claims costs for third party bodily injury and passenger liability claims.

Profitability of the general insurance and takaful sector declined due to weaker underwriting performance, particularly in the motor segment

In addition, repair costs for newer vehicle models have continued to trend higher. The increased pricing flexibility accorded to ITOs under the phased liberalisation of Motor Tariffs has partly relieved higher claims cost pressures on overall underwriting performance. However, premium adjustments have largely remained modest, falling within a 10% band around tariff rates for most policies, reflecting both regulatory guidance and competitive pressures in the industry. Ongoing consultations with the Government and industry on the next phase of liberalisation are focusing on providing stronger incentives for road safety

**Chart 2.11: General Insurance and Takaful Sector – Composition of Operating Profits**

**Slight deterioration in operating profits attributed to lower underwriting profit, particularly in the motor segment**



Source: Bank Negara Malaysia

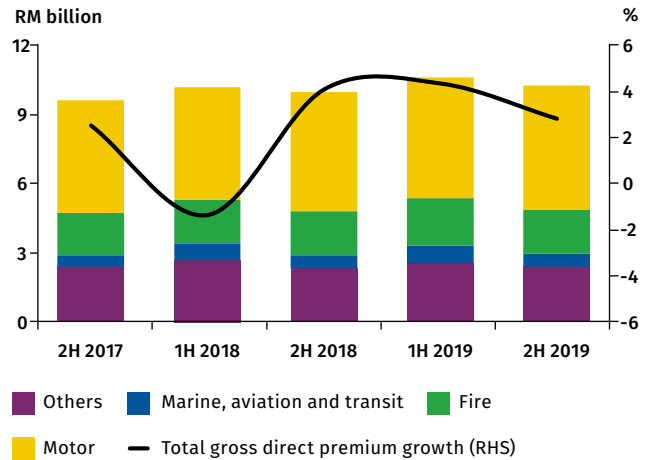
and increasing transparency in the assessment of claims as well as repair costs in order to keep premiums affordable. This remains critical to preserve access to motor insurance without undermining the solvency of ITOs.

The overall performance of general ITOs continues to be largely supported by premium growth in the motor and fire segments which collectively account for more than 70% of total premiums (Chart 2.12). In 2019, premium growth in these segments moderated slightly in line with lower motor vehicle sales and more competitive pricing of new fire products.<sup>10</sup> The gradual liberalisation of the fire tariffs could pose continued pressure on profits although ITOs are expected to maintain positive underwriting margins given the historically favourable claims experience.

The COVID-19 pandemic and the consequent impact on economic activity and financial markets will adversely affect premium and contribution growth in 2020. In response to the pandemic, the Bank has also supported a number of measures by ITOs to preserve continuous coverage for policyholders and takaful participants who are experiencing financial constraints as a result of the pandemic. These include additional flexibility for policyholders and takaful participants to reinstate or make alterations to their policies in order to preserve coverage, the waiver of certain fees and charges, and the option of deferring payments of premiums and contributions without affecting their coverage.

**Chart 2.12: General Insurance and Takaful Sector – Gross Direct Premium Growth and Product Composition**

**Gross direct premium grew at a slower pace**



Source: Bank Negara Malaysia

Based on internal assessments, the impact of the slower premium and contribution growth and relief measures can be absorbed by the ITOs without affecting claims paying ability. The Bank has also taken steps to reflect planned enhancements to the capital framework for ITOs which aim to improve the risk capture and overall consistency of the framework. These enhancements are expected to cushion any impact of the relief measures on solvency, and reduce risks of pro-cyclical behaviour by ITOs in response to significant volatility experienced in the financial markets. The measures taken are expected to enable ITOs to continue supporting households and businesses in managing their risks through these exceptional circumstances.

<sup>10</sup> Under the phase 1 of the tariff liberalisation, general ITOs are able to introduce new products and add-on covers priced at market-determined rates.

## Assessing the Impact of Declining Interest Rates on Life Insurers' Solvency Positions

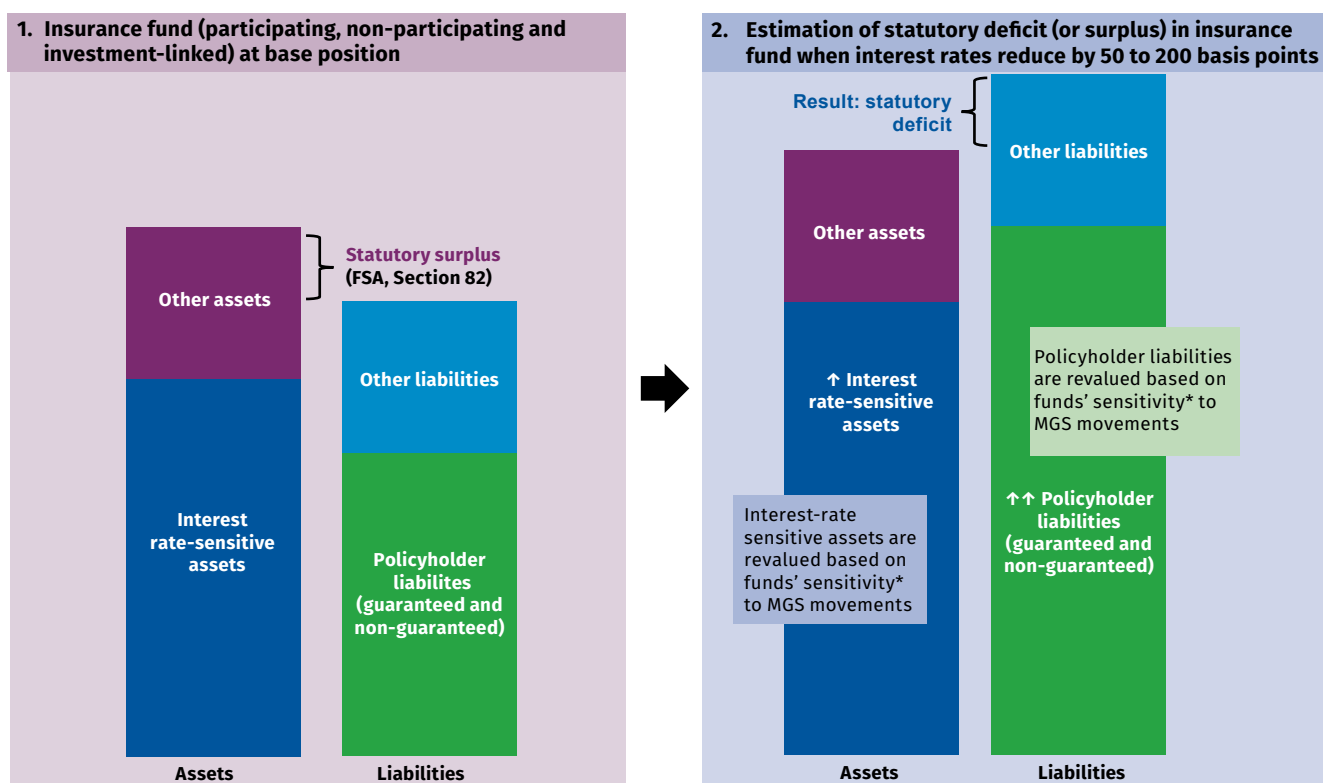
### Background

Life insurance companies generally operate with a negative duration gap given the lack of long-term financial assets available to match the duration of their liabilities arising from products with much longer policy terms of more than 15 years. As a result, declining interest rates can have a bigger impact due to upward adjustments in the value of liabilities<sup>11</sup> that exceed assets. This in turn will reduce a life insurer's solvency position. Given the prolonged low interest rate environment, a sensitivity analysis was carried out to assess Malaysian life insurers' solvency positions under declining interest rate scenarios.

### Methodology

The sensitivity analysis assessed the change in value of life insurers' assets and liabilities for each fund (i.e. participating, non-participating and investment-linked funds) following parallel declines in interest rates ranging from 50 basis points (bps) to 200 bps. The assessment is undertaken separately for each fund in line with requirements<sup>12</sup> for insurers to maintain minimum solvency positions at the fund level. In assessing the impact on funds' solvency positions, the assessment excludes additional buffers within shareholders' funds and fungible surpluses from other funds that can typically be applied to offset any deficit that might arise. Results at the fund level are then used to estimate the impact to the capital adequacy ratio (CAR) at the company level. For this analysis, the value of non interest rate-sensitive assets is assumed to remain constant. This assumption is considered conservative as assets such as equities and properties typically appreciate in value when interest rates decline (Diagram 2.1).

Diagram 2.1: Illustration on Sensitivity Analysis Approach



\* Sensitivity refers to the expected changes in valuation of assets and liabilities of a particular fund as interest rates move downwards by 100 basis points

Source: Bank Negara Malaysia

<sup>11</sup> Insurance liabilities are derived by computing the net present value of future benefit payouts and expenses. The risk free rate or the internal rate of return are typically used as the discount factor.

<sup>12</sup> Based on the Financial Services Act 2013 (FSA), all licensed insurers are required to maintain assets in an insurance fund of a value equivalent to or higher than the liabilities of that fund.

### Results and findings

Based on the sensitivity analysis, the Malaysian life insurance sector is expected to remain resilient with the aggregate industry CAR sustained above the prescribed regulatory level of 130% even under a scenario of 200 bps parallel decline in interest rates. The results reflect the favorable claims experience and relatively strong pricing power that life insurers have. Out of 42 funds offered by all 14 life insurers, only four insurance funds of three life insurers were insolvent under the different scenarios. In aggregate, these funds account for 1.5% of the total value of all life insurance funds (Table 2.1). In each case, the insurance companies have adequate capital buffers to support the insolvent funds.

**Table 2.1**

#### Impact of Interest Rate Reduction on Insurance Funds' Solvency

Interest Rate Reduction (bps)	Number of Funds Becoming Insolvent			Size of Insolvent Funds (% of Total Life Insurance Industry Fund)
	Participating	Non-participating	Investment-linked	
-50	-	-	-	-
-100	-	-	-	-
-150	-	2	1	0.8
-200	-	3	1	1.5

Source: Bank Negara Malaysia

The impact of interest rate shocks on individual funds, largely depends on the type of fund (Table 2.2), which influences the expected cash flows and discount rates applied. The impact on non-participating funds was the most pronounced relative to other funds given that their liabilities are all guaranteed and hence, are valued using risk-free discount rates i.e. MGS yields.

Participating funds on the other hand, were less sensitive to interest rate movements relative to non-participating funds. This reflects the nature of a participating policy, which comprises both guaranteed and non-guaranteed benefits. Non-guaranteed benefits represent the share of the insurer's business profits attributable to the policyholders, which may vary over time depending on the fund's business and investment performance. They are valued using a fund-based yield (FBY), which is more closely aligned to the risk profile and outlook of the participating fund, as the discount rate. The resulting valuation changes from a movement in the FBY therefore tends to be less sensitive to changes in interest rates compared to non-participating funds.

Investment-linked funds are also less sensitive to lower interest rates compared to non-participating funds. This reflects the feature of an investment-linked policy where any increase in the cost of insurance is borne by the policyholder's unit investment fund. If the policyholder's unit investment fund becomes depleted, the policy will lapse and the corresponding insurance liability of the insurer will cease. This reduces the expected amount of future net outflows and liabilities for the insurer.

**Table 2.2**

#### Average Sensitivity of Insurance Funds to 100 bps Decline in Interest Rates

	Participating	Non-participating	Investment-linked
Assets (%)	+8.0	+8.6	+5.9
Liabilities (%)	+12.4	+15.8	+7.4

Source: Bank Negara Malaysia

# MULTI-YEAR SOLVENCY STRESS TEST FOR BANKS AND INSURERS

## Stress Test Affirmed Resilience of Financial Institutions

The Bank's multi-year solvency stress test exercise examines the potential impact of prolonged financial and macroeconomic strains on the resilience of individual banks and insurers, and the overall financial system. Similar to previous exercises, the latest stress test contains three scenarios, one baseline and two distinct adverse scenarios, over a four-year horizon (2020-2023). The scenarios were designed to be sufficiently severe, with low likelihood to occur (for details, refer to the Information Box on 'Solvency Stress Test Scenarios, Key Assumptions and Shock Parameters'). While unfolding developments surrounding COVID-19 have been unprecedented, the economic impact of these developments over the stress test horizon is likely to be captured by the range of shocks applied under the adverse scenarios. For added conservatism, the stress test exercise does not incorporate any additional policy intervention by the Government,<sup>13</sup> the Bank or other authorities, nor management actions by the financial institutions themselves that could be taken to preserve the resilience of financial institutions under stress. In all likelihood, should the stress scenarios materialise, financial institutions and authorities will take mitigating actions that would improve the outcome of the exercise.

Results from the latest exercise affirm that the banking and insurance sector is able to withstand extreme stress, with existing capital levels and earnings buffers sufficient to absorb potential losses and support lending activity. The capital buffers of banks and insurers in excess of the

regulatory minima stood at RM121 billion and RM23.6 billion respectively,<sup>14</sup> more than double the buffers during the Global Financial Crisis in 2008. Given the continually evolving nature of the COVID-19 response both domestically and globally, the Bank will be updating the stress tests at individual bank level to ensure that they reflect relevant tail-end and major known risks as more clarity emerges on the duration and severity of the pandemic.

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### Financial system remains resilient under simulated adverse macroeconomic and financial conditions

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At the end of the four-year stress horizon, the banking system's capital ratios remained above regulatory minima (Chart 2.13). Nearly 90% of losses are credit-driven, as loan impairments increase significantly under severe macroeconomic conditions (Chart 2.14). Similar to past exercises, banks incur limited losses from other risk drivers (Chart 2.15).

Similarly, the insurance sector is able to maintain capital adequacy ratios (CAR) above the regulatory minima (Chart 2.16). For life insurers, market risk shocks are the largest loss driver, reflecting their significant holdings of financial assets that are susceptible to market valuation changes. For general insurers, shocks related to higher motor claims contribute significantly to a reduction in capital through weaker operating profitability (Diagram 2.2).

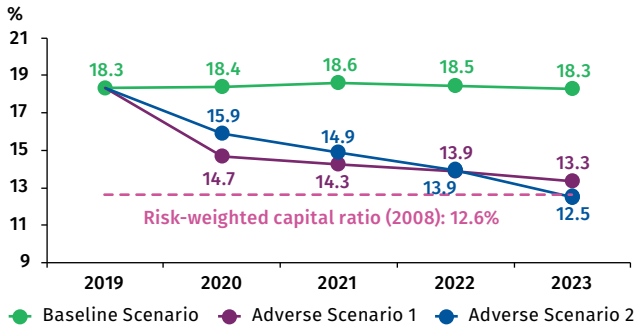
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<sup>13</sup> Including servicing guarantees extended for debt held by financial institutions.

<sup>14</sup> As at February 2020 for banks and as at end-2019 for insurers.

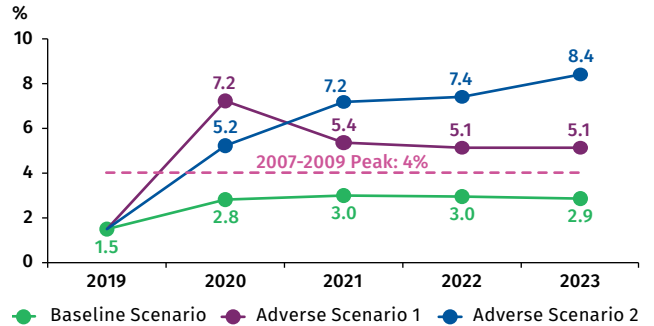
**Chart 2.13: Banking System – Post-shock Total Capital Ratio**

Post-shock capital ratios remain above regulatory minima



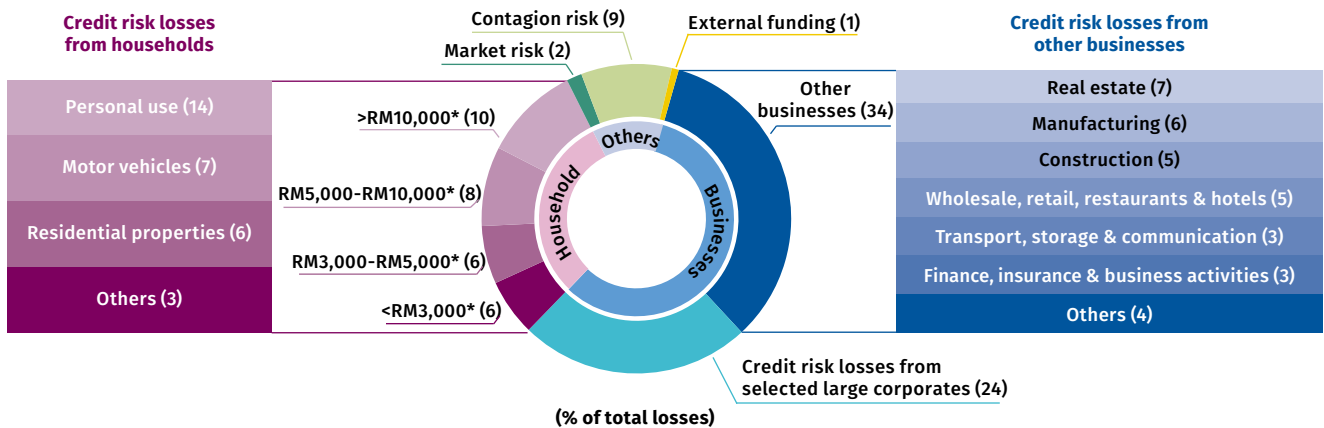
**Chart 2.14: Banking System – Post-shock Gross Impaired Loans Ratio**

Loan impairments expected to rise sharply under adverse conditions



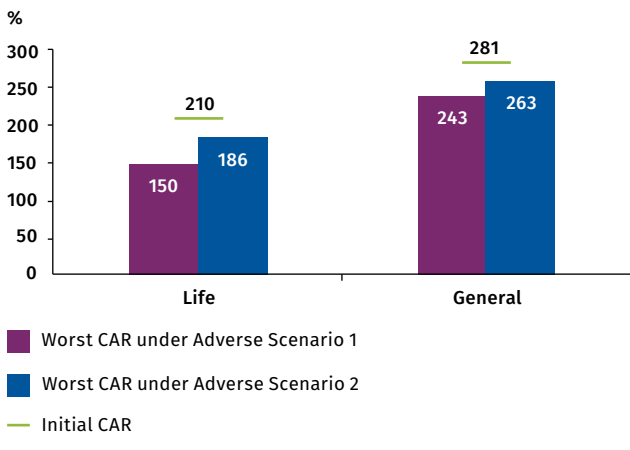
**Chart 2.15: Banking System – Loss Drivers in Adverse Scenario 2**

Nearly 90% of losses are credit-driven

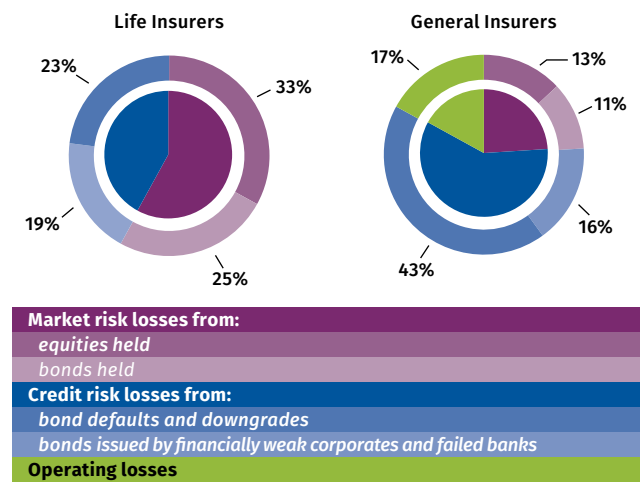


**Chart 2.16: Insurance Sector – Post-shock Capital Adequacy Ratio**

Post-shock CAR remain above regulatory minimum of 130%



**Diagram 2.2: Insurance Sector – Loss Drivers in Adverse Scenario 1**



\* Households monthly income groups  
Source: Bank Negara Malaysia

## Solvency Stress Test Scenarios, Key Assumptions and Shock Parameters

The first adverse scenario (AS1) simulates a V-shaped GDP growth path, in which Malaysia is assumed to experience a sharp recession with a magnitude equivalent to 2.5 standard deviations from the baseline growth in the first year of stress. This simulates a recession more severe than that experienced during the 2008 Global Financial Crisis. Under this scenario, shocks to global growth spill into the domestic economy, leading to lower income for households and firms, weaker business and consumer sentiments and severe stress in financial markets. This is followed by a strong rebound in the following years, amid positive counter-cyclical policy responses and improving sentiments.

In the second adverse scenario (AS2), an L-shaped growth path is simulated with a cumulative decline of 6 standard deviations spread across over four years. This scenario assumes an environment of prolonged sluggish growth, which will adversely impact income, wealth and sentiments over an extended period, as policy responses are either minimal or significantly underwhelming. Again, there is a deliberate focus on conservatism in this stress scenario, as the Government is likely to roll out sizeable measures to address the weakness in the economy.

Table 2.3

### Solvency Stress Test Scenarios, Key Assumptions and Shock Parameters

Key Assumptions	AS1 – V-shaped Recession	AS2 – L-shaped, Protracted Recession
<b>Balance sheet and income projections</b> <ul style="list-style-type: none"> <li>○ Weaker annual loan growth</li> <li>○ Annual decline in banks' income growth, differentiated across segments</li> <li>○ Annual decline in insurers' premium income</li> </ul>	<ul style="list-style-type: none"> <li>○ Drops to as low as +0.5%</li> <li>○ Up to 48%</li> <li>○ Up to 46%</li> </ul>	<ul style="list-style-type: none"> <li>○ Drops to as low as -2.1%</li> <li>○ Up to 21%</li> <li>○ Up to 33%</li> </ul>
<b>Credit risk shocks</b> <ul style="list-style-type: none"> <li>○ Probability of default (PD)                             <ul style="list-style-type: none"> <li>• Business loans</li> <li>• Household loans</li> </ul> </li> <li>○ Loss given default (LGD)                             <ul style="list-style-type: none"> <li>• Business loans</li> <li>• Household loans</li> </ul> </li> <li>○ Default of selected non-financial corporates with large borrowings from the financial system</li> </ul>	<ul style="list-style-type: none"> <li>• 5% to 10%</li> <li>• 1% to 14%</li> <li>• 45% to 54%</li> <li>• 18% to 90%</li> <li>○ Corporations that have weak financial standings (below prudent thresholds) under simulated shocks</li> </ul>	<ul style="list-style-type: none"> <li>• 6% to 12%</li> <li>• 1% to 13%</li> <li>• 46% to 58%</li> <li>• 17% to 89%</li> </ul>
<b>Market risk shocks</b> <ul style="list-style-type: none"> <li>○ Annual increase in MGS yields</li> <li>○ Annual increase in corporate bond yields</li> <li>○ Annual decline in FBM KLCI</li> <li>○ Annual depreciation against major currencies</li> </ul>	<ul style="list-style-type: none"> <li>○ Up to 86 bps</li> <li>○ Up to 103 bps</li> <li>○ Up to 34%</li> <li>○ 10% to 19%</li> </ul>	<ul style="list-style-type: none"> <li>○ Up to 71 bps</li> <li>○ Up to 79 bps</li> <li>○ Up to 17%</li> <li>○ 4% to 8%</li> </ul>
<b>External funding risk shock</b> <ul style="list-style-type: none"> <li>○ Reversal of claims by non-resident banks</li> </ul>	<ul style="list-style-type: none"> <li>○ Up to 30% of borrowings and deposits</li> </ul>	<ul style="list-style-type: none"> <li>○ Up to 15% of borrowings and deposits</li> </ul>
<b>General insurance risk shock</b> <ul style="list-style-type: none"> <li>○ Increase in claims ratio</li> </ul>	<ul style="list-style-type: none"> <li>○ Up to 30%</li> </ul>	<ul style="list-style-type: none"> <li>○ Up to 16%</li> </ul>
<b>Contagion risk shocks</b> <ul style="list-style-type: none"> <li>○ Interbank</li> <li>○ Banks to insurers</li> </ul>	<ul style="list-style-type: none"> <li>○ Deterioration in counterparty bank's solvency</li> <li>○ Deterioration in value of bonds issued by banks that failed the stress test under the adverse scenarios</li> </ul>	

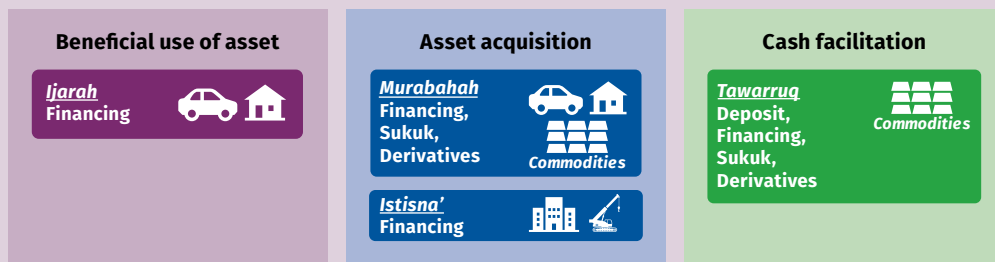
Source: Bank Negara Malaysia

## Managing Commodity Trading Risks in Islamic Financial Transactions

### Introduction

A central tenet of Islamic finance is the direct link between financial transactions and the real economy. Shariah requires all financial transactions to be underpinned by an asset to justify profit generation. The asset must be specifically identified to avoid elements of uncertainty (*gharar*) in the transaction. In facilitating such transactions, a wide spectrum of underlying assets can be used by Islamic financial institutions (IFIs) (Diagram 1).

Diagram 1: Types of Shariah Contracts Used for Different Purposes and Their Underlying Assets

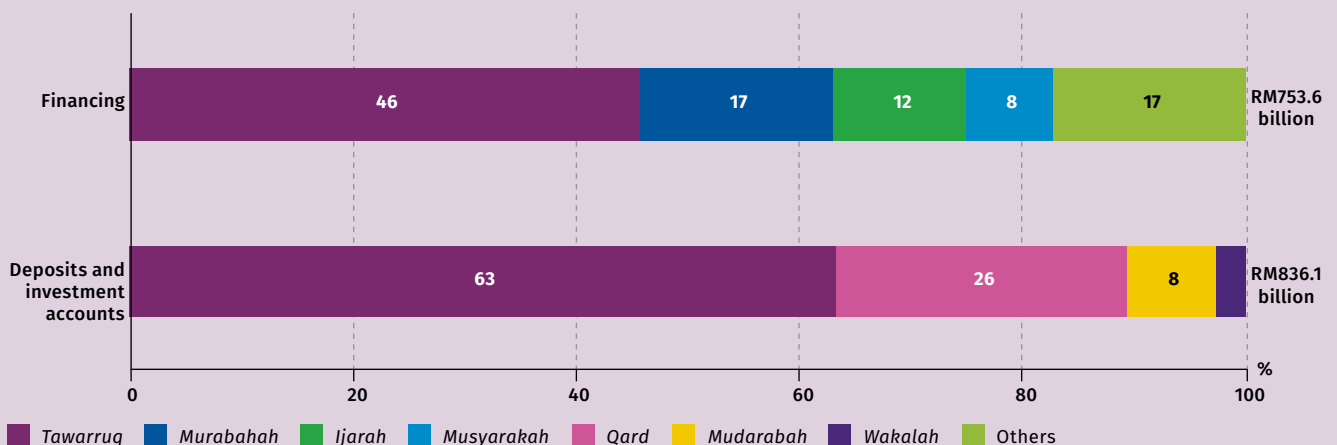


Source: Bank Negara Malaysia

In Malaysia, there has been an increasing use of commodities to facilitate Islamic financial transactions. Commodities alone account for more than half (2019: 56%)<sup>1</sup> of the underlying assets in such transactions (Chart 1).<sup>2</sup> This exposes IFIs to risks associated with commodities such as movements in crop yield or production and prices. This article explores the main risks arising in commodity trading underpinning Islamic financial transactions and the risk management practices adopted by IFIs in mitigating them.

Chart 1: Breakdown of Shariah Contracts Used as at End-2019

### Tawarruq and murabahah account for almost two-thirds of the Shariah contracts applied



Source: Bank Negara Malaysia

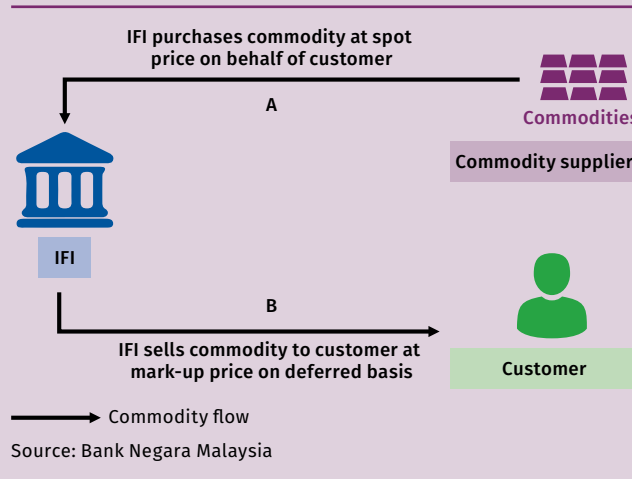
<sup>1</sup> Calculated as a percentage of total deposit and total financing of IFIs.

<sup>2</sup> Other Shariah contracts such as *rahn*, *sarf* and *mudarabah* may also deal with commodities but due to the small exposure, these Shariah contracts are not included in this analysis.

### Commodity Trading in Murabahah and Tawarruq Transactions

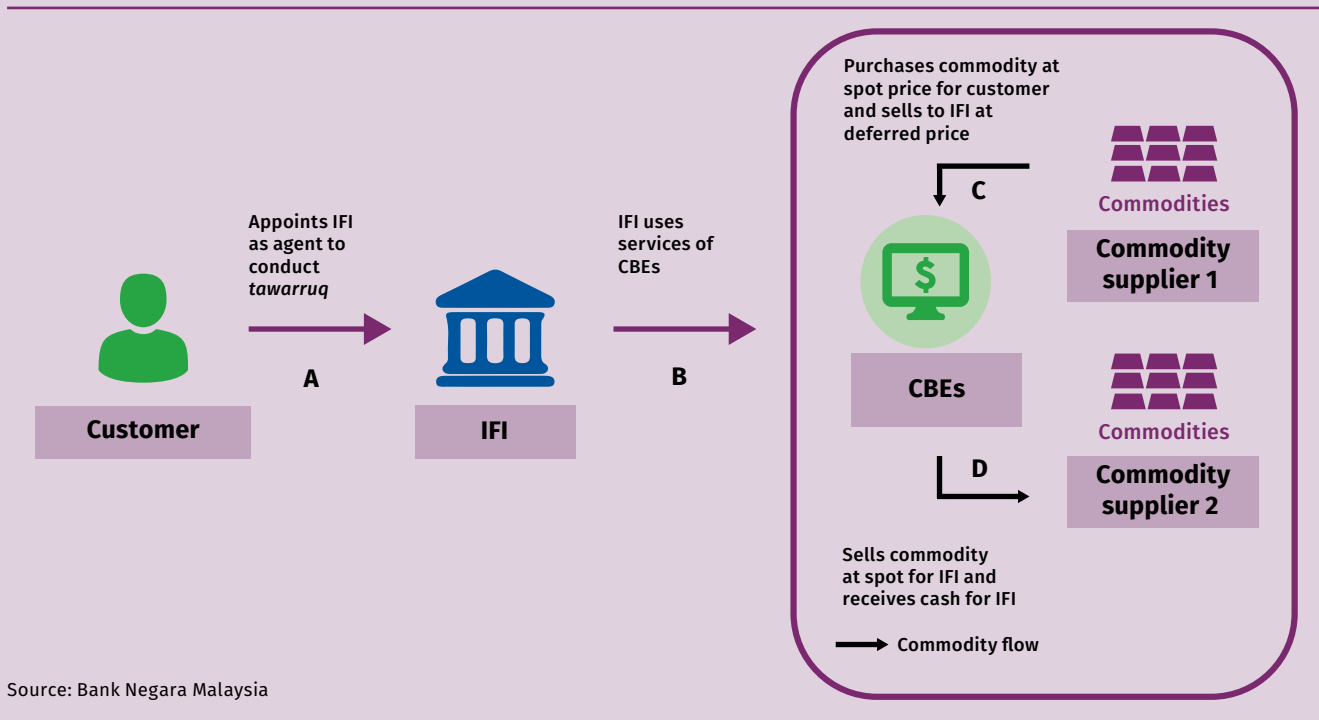
In an Islamic financial transaction, IFIs use the services of commodity brokers or commodity exchanges<sup>3</sup> (CBEs) extensively when executing the trading of commodities for financing and deposit placements. For example, customers may use a *murabahah* contract to finance the purchase of commodities as raw materials for production (Diagram 2). In this financial transaction, an IFI purchases commodities from a commodity supplier and subsequently sells it to the customer on a deferred basis at a mark-up price.

**Diagram 2: The Use of Murabahah in Financing Commodity Purchase**



In another example, IFIs may use *tawarruq* to facilitate a fixed deposit placement (Diagram 3). This involves two separate and sequenced sale and purchase transactions conducted on behalf of the customer and IFI respectively. In practice, IFIs perform two distinct roles namely, as agent of customers to purchase commodities from a commodity supplier on spot basis and, as buyer of the commodities on a deferred basis. To obtain cash, IFIs will sell the commodities to a different commodity supplier on spot basis.

**Diagram 3: The Use of Tawarruq in Facilitating Fixed Deposit Taking**

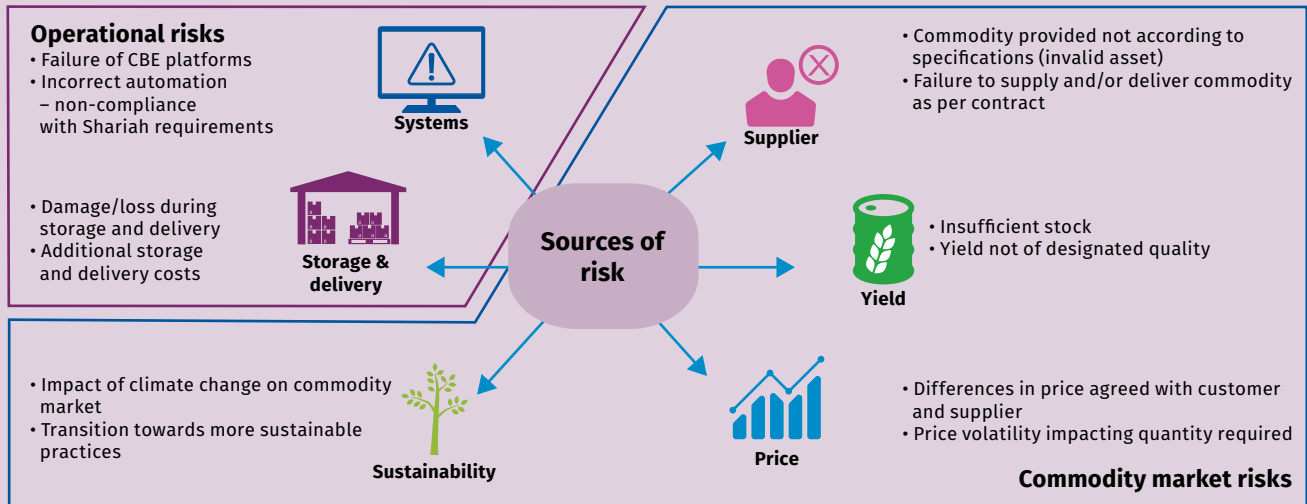


<sup>3</sup> Bursa Suq Al-Sila performed 65% of *tawarruq* transactions in Malaysia in 2019.

## Understanding Risks in Commodity Trading

In Shariah, the validity of financial contracts hinges on the proper execution of sale and purchase transactions. This involves executing the offer and acceptance in proper sequence and verifying the type and quantity of the commodity and its price. As contracting parties, IFIs and customers are accorded specific roles and responsibilities under Shariah, and both parties bear risks (Diagram 4). Such risks arise from the specific characteristics of the market for the underlying assets, in this case the commodity market, and from the execution of transactions for the sale and purchase of commodities by IFIs.

Diagram 4: Summary of Sources of Risk



Source: Bank Negara Malaysia

### (i) Commodity market risks

In a transaction, the parties involved will agree on specific aspects of the commodity including its quality. Yield or production risk, namely the quantity and quality<sup>4</sup> of crops/production, can affect the amount of commodity stock available to meet the demands of commodity trading (Chart 2). The availability of stock, in turn, has a direct influence on prices. Volatility in commodity prices exposes IFIs to market risk when prices agreed with the customer diverge from the prevailing price with the supplier due to the timing difference between the transaction conducted with the customer and the supplier. In the case of *tawarruq*, movements in the price of the underlying commodity will also have an effect on the quantity of commodity required and the management of the stock of commodities (Charts 3 and 4). For example, demand for crude palm oil (CPO) rose throughout 2018 following higher financing approvals and deposit placements. This necessitated CBEs<sup>5</sup> to increase availability of CPO stock to meet the higher demand. The declining CPO prices particularly in the second half of 2018, resulted in the need to further increase the stock of CPO as the total value of the commodity would be lower than the amount of financing/deposit to be extended/accepted. Effective management of supplier risk is therefore critical as the supplier is entrusted to ensure that the commodity stock can be readily provided in sufficient quantity and meeting the necessary trading grade to complete the trade.

Climate change can also affect the supply of commodities. Physical risk arises from the impact of changing weather patterns such as frequency or severity of weather events on commodity yield. Transition risk on the other hand, could arise from changes in market demand due to the move towards more sustainable practices. In mitigating such exposures, CBEs typically maintain a diverse stock of alternative commodities<sup>6</sup> and are engaging with commodity suppliers that are transitioning towards more sustainable practices.

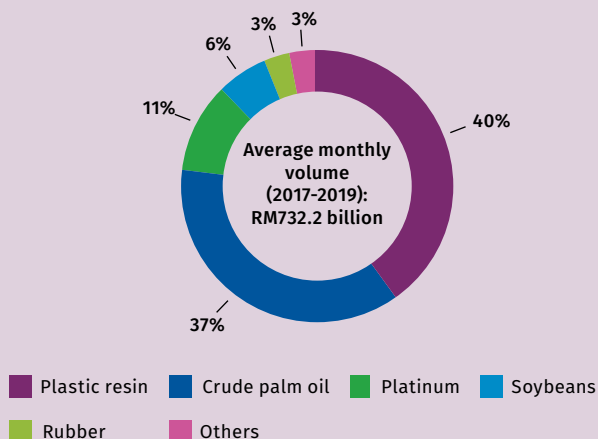
<sup>4</sup> The commodity has to meet a certain level of trading grade to qualify as an eligible asset.

<sup>5</sup> CBE conducts sale and purchase of CPO in batches when trading demand exceeds stock availability.

<sup>6</sup> Certain CBEs also use non-commodities such as telecommunication airtime credits.

**Chart 2: Composition of Types of Assets Traded by Commodity Brokers/Exchanges (CBEs)**

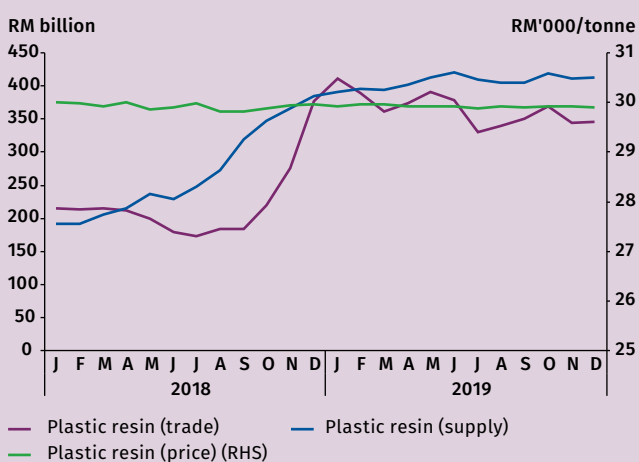
**Plastic resin and crude palm oil are the main commodities being traded by CBEs**



Source: Commodity brokers/exchanges (CBEs)

**Chart 3: Average Monthly Volume and Price of Plastic Resin Used in *Tawarruq***

**Stable price of plastic resin facilitates effective stock management of plastic resin**

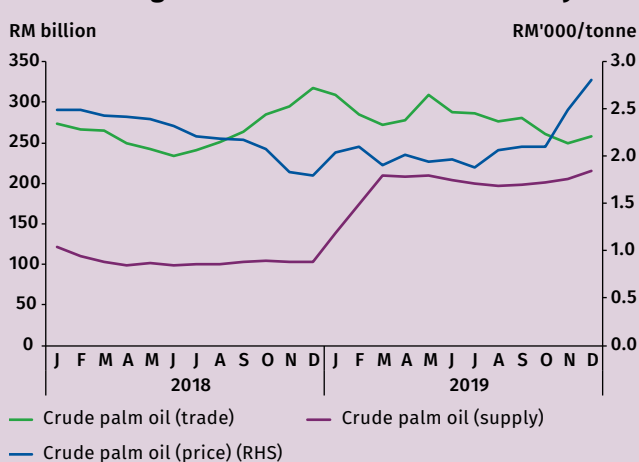


Note: Figures represent *tawarruq* transactions made through CBEs by IFIs only (excludes other institutions e.g. corporates and government)

Source: Commodity brokers/exchanges (CBEs) and Bank Negara Malaysia estimates

**Chart 4: Average Monthly Volume and Price of Crude Palm Oil Used in *Tawarruq***

**Trades in crude palm oil are conducted in batches when trading demand exceeds stock availability**



Note: Figures represent *tawarruq* transactions made through CBEs by IFIs only (excludes other institutions e.g. corporates and government)

Source: Commodity brokers/exchanges (CBEs), Malaysia Palm Oil Council (MPOC) and Bank Negara Malaysia estimates

**(ii) Operational risks**

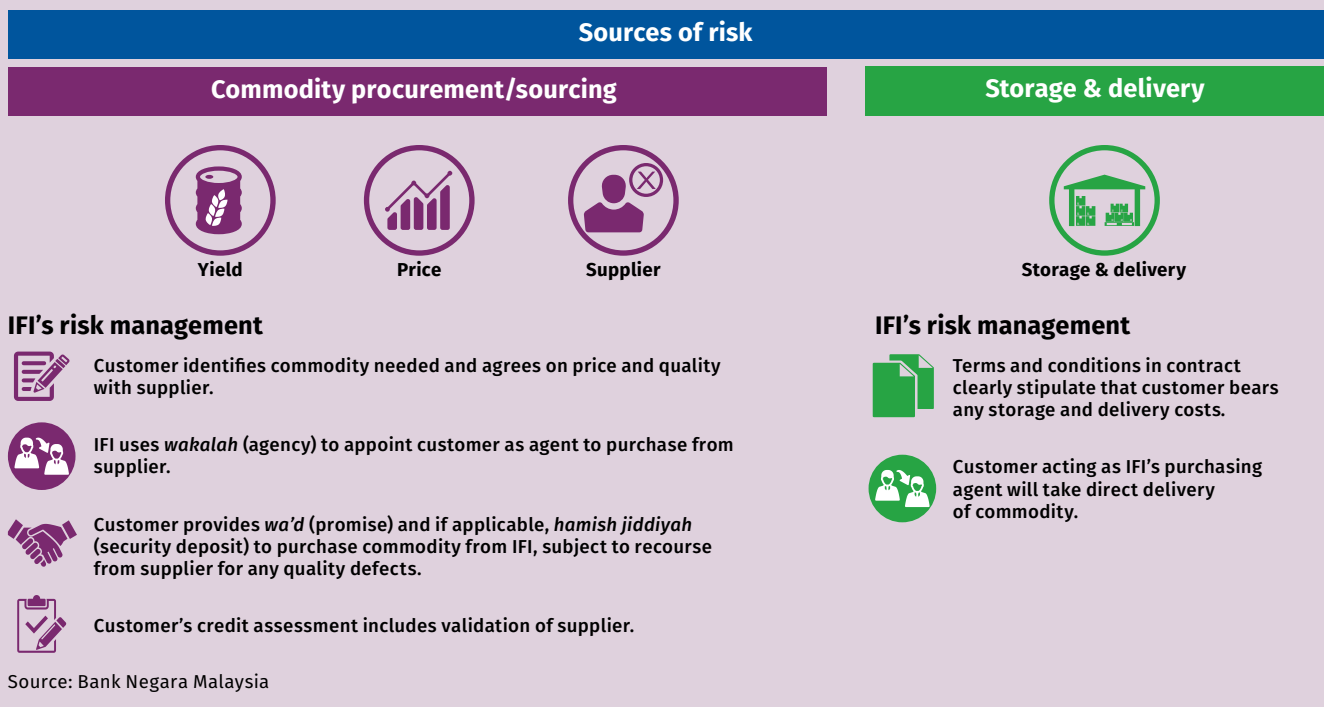
IFIs rely extensively on commodity trading systems provided by CBEs. Trading systems are programmed to automate critical Shariah requirements, especially the sequencing of activities such as offer and acceptance. IFIs have to ensure that system configurations fully comply with Shariah principles and are resilient against technology risk which could cause system disruptions. IFIs are also exposed to storage and delivery risks such as damage to commodities and additional costs in instances where customers require physical delivery of the commodity, although these risks are usually small relative to other risks.

### Risk Management Practices

IFIs are required to have in place appropriate policies and procedures to manage exposures to commodity trading risks in line with the policy documents (PDs) issued by the Bank on *Murabahah* and *Tawarruq*.<sup>7</sup> The risk management practices of IFIs for *murabahah* and *tawarruq* contracts are captured in Diagrams 5 and 6, respectively. The Bank, through its supervisory role, monitors and assesses the adequacy of IFIs' risk management practices and takes actions where relevant to mitigate institutional and system-wide vulnerabilities. This includes IFIs' management of risks in respect of financial transactions executed by CBEs.

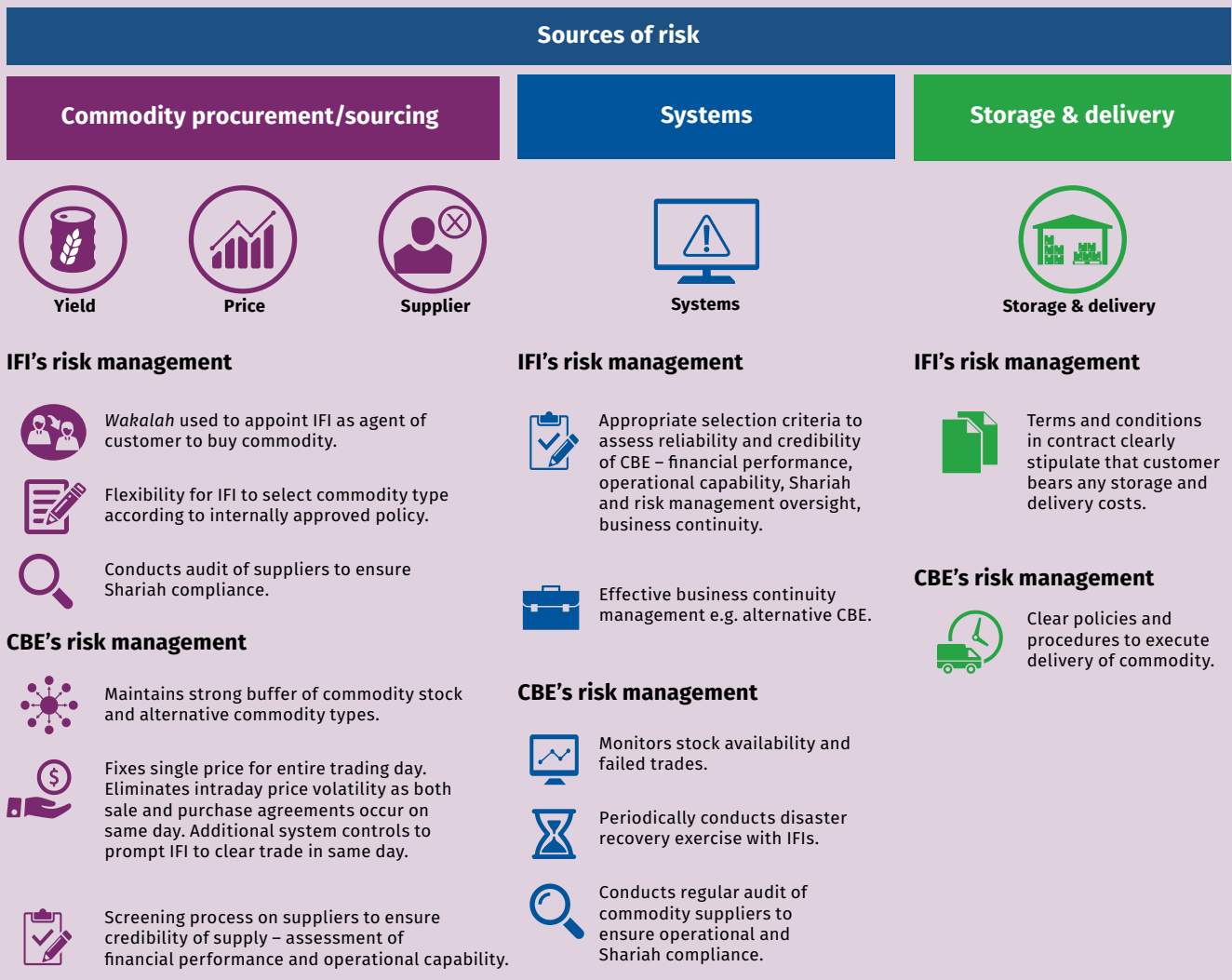
Overall, commodity trading risks in Islamic financial transactions are assessed to be limited. IFIs generally observe robust risk management practices in managing their exposures to commodity trading risks. Both IFIs and CBEs have not experienced any major and prolonged system downtime that disrupted the execution of transactions. Neither has there been any major cyber incident that affected the integrity of the functioning of the CBEs and hence execution of the transactions. That said, there were a small number of non-compliances, triggered mainly by gaps in the overall operational risk management. Future commodity demands by customers are closely monitored by IFIs in coordination with CBEs in order to ensure availability of commodity stock, particularly for large transactions. IFIs also regularly engage the CBEs to manage the impact of regulatory changes on the execution of commodity trading. This includes understanding the impact of sustainability requirements on future demand and supply of commodity stock. To date, there has not been any incident where IFIs have had to incur storage and delivery costs on behalf of customers. Considering the risk controls in place, the residual risk stemming from the reliance on CBEs is not expected to significantly disrupt IFIs' operations. If necessary, IFIs may perform commodity trading directly with the relevant counterparties.

Diagram 5: Risk Management Practices in *Murabahah*



<sup>7</sup> For example, PD on *Tawarruq* only allows for commodities that are traded in the open market and meet recognised trading quality standards. The PD also stipulates commodity supplier selection criteria, systems requirements and expectations on the ongoing review of and engagements with CBEs.

Diagram 6: Risk Management Practices in *Tawarruq*



Note: The enterprise-wide risk management of the local exchange incorporates the risk management of the commodity exchange under its purview  
 Source: Bank Negara Malaysia

**Annex**





Table A.1

**Key Financial Soundness Indicators**

	As at end				
	2H 2017	1H 2018	2H 2018	1H 2019	2H 2019p
	% (or otherwise stated)				
<b>Banking System</b>					
Total Capital Ratio	17.8	17.6	18.1	18.0	18.3
Tier 1 Capital Ratio	15.0	14.2	14.6	14.7	14.8
Common Equity Tier 1 Capital Ratio	14.0	13.4	13.9	14.0	14.3
Return on Assets	1.5	1.5	1.4	1.5	1.5
Return on Equity	13.1	13.3	12.7	13.0	13.0
Liquidity Coverage Ratio	134.9	139.3	143.2	153.0	149.1
Net Impaired Loans Ratio	1.1	1.0	0.9	1.0	1.0
Capital Charge on Interest Rate Risk in the Trading Book to Capital Base	1.0	1.1	1.1	1.1	1.2
FX Net Open Position to Capital Base	6.1	5.2	5.8	4.9	4.4
Equity Holdings to Capital Base	1.9	0.6	0.9	0.7	0.9
<b>Insurance and Takaful Sector</b>					
Capital Adequacy Ratio	232.5	239.2	243.9	230.0	228.8
Life Insurance and Family Takaful					
Excess Income over Outgo (RM billion)	8.4	2.9	6.6	16.5	7.7
New Business Premium / Contribution (RM billion)	7.4	8.2	7.6	9.7	9.0
Capital Adequacy Ratio	227.7	237.9	234.8	212.8	206.8
General Insurance and General Takaful					
Underwriting Profit (RM billion)	0.7	0.7	0.8	0.5	0.6
Operating Profit (RM billion)	1.4	1.3	1.6	1.4	1.5
Gross Direct Premium / Contribution (RM billion)	9.6	10.2	9.9	10.6	10.2
Claims Ratio	58.1	57.9	58.2	59.3	59.0
Capital Adequacy Ratio	270.6	264.2	278.3	273.2	283.3
<b>Household (HH) Sector</b>					
HH Debt (RM billion)	1,133.8	1,157.2	1,186.6	1,216.7	1,250.0
HH Financial Assets (RM billion)	2,420.5	2,462.5	2,543.5	2,627.6	2,708.8
HH Debt-to-GDP Ratio	82.7	82.1	82.0	82.2	82.7
HH Financial Assets-to-Total HH Debt Ratio	213.5	212.8	214.4	216.0	216.7
HH Liquid Financial Assets-to-Total HH Debt Ratio	145.7	145.4	143.4	145.7	143.4
Impaired Loans Ratio of HH Sector	1.4	1.4	1.2	1.2	1.2
<b>Business Sector</b>					
Return on Assets	2.6	2.2	1.6	1.4	1.5
Return on Equity	4.5	3.8	3.0	2.7	2.8
Debt-to-Equity Ratio	21.9	23.4	24.9	25.0	25.1
Interest Coverage Ratio (times)	6.5	6.1	4.9	4.7	4.6
Operating Margin	6.7	6.4	5.6	5.4	5.7
Impaired Loans Ratio of Business Sector	2.6	2.6	2.4	2.6	2.5
<b>Development Financial Institutions<sup>1</sup></b>					
Lending to Targeted Sectors (% change)	0.1	-1.9	-0.3	0.4	-0.3
Deposits Mobilised (% change)	2.7	1.3	0.4	1.8	2.5
Impaired Loans Ratio	5.1	6.0	5.8	6.7	6.4
Return on Assets	1.4	1.2	1.0	1.5	1.5

<sup>1</sup> Refers to development financial institutions under the Development Financial Institutions Act 2002

p Preliminary

Note: Figures may not necessarily add up due to rounding

Source: Bank Negara Malaysia, Bursa Malaysia, Department of Statistics, Malaysia, Employees Provident Fund, Securities Commission Malaysia, S&P Capital IQ and internal computation

Table A.2

**Key Financial Indicators: Islamic Banking and Takaful Sectors**

	As at end				
	2H 2017	1H 2018	2H 2018	1H 2019	2H 2019 <sup>p</sup>
<b>Islamic Banking System</b>	RM million (or otherwise stated)				
Total Assets <sup>1</sup>	829,494.3	898,206.7	955,598.9	979,393.3	1,019,338.4
% of total assets of entire banking system <sup>1</sup>	30.0	31.2	32.3	32.8	33.5
Total Financing <sup>1</sup>	605,433.4	667,179.9	701,013.7	720,748.1	753,609.9
% of total loans / financing of entire banking system <sup>1</sup>	34.9	37.0	37.7	38.4	39.2
Total Deposits and Investment Accounts <sup>1</sup>	678,539.1	731,281.7	780,370.6	812,634.7	836,113.0
Total Deposits	594,654.5	651,459.5	688,468.9	724,326.0	738,997.9
Total Investment Accounts	83,884.6	79,822.2	91,901.7	88,308.7	97,115.1
% of total deposits and investment accounts of entire banking system <sup>1</sup>	34.3	35.5	36.6	37.6	38.0
	%				
Total Capital Ratio	18.1	17.3	18.5	17.6	17.7
Tier 1 Capital Ratio	14.3	13.7	14.7	14.3	13.8
Common Equity Tier 1 Capital Ratio	13.8	13.3	14.1	13.8	13.3
Return on Assets	1.1	1.1	1.1	1.1	1.2
Net Impaired Financing Ratio	0.9	0.8	0.8	1.0	1.0
<b>Takaful Sector</b>	RM million (or otherwise stated)				
Takaful Fund Assets	29,283.3	29,833.6	31,323.1	34,522.0	36,522.3
Family	25,638.7	26,312.5	27,594.8	30,601.4	32,284.5
General	3,644.6	3,521.1	3,728.3	3,920.6	4,237.8
% of insurance and takaful industry	10.1	10.3	10.5	10.9	11.2
Net Contribution Income	4,108.1	4,790.0	4,770.9	5,788.3	5,542.4
Family	3,165.9	3,671.4	3,644.0	4,456.0	4,150.9
General	942.2	1,118.5	1,126.9	1,332.3	1,391.4
% of insurance and takaful industry	14.9	16.8	16.4	18.9	17.6
Family Takaful					
New Business Contributions	2,120.6	2,510.3	2,403.0	3,253.9	2,904.0
General Takaful					
Gross Direct Contributions	1,248.0	1,400.4	1,388.5	1,631.3	1,677.2
Claims Ratio (%)	48.1	54.5	57.7	56.6	59.5

<sup>1</sup> Including development financial institutions under the Development Financial Institutions Act 2002

<sup>p</sup> Preliminary

Note: Figures may not necessarily add up due to rounding

Source: Bank Negara Malaysia

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