



**BANK NEGARA MALAYSIA**  
CENTRAL BANK OF MALAYSIA

Financial Stability  
Review  
Second Half

**2023**

**F S R**



**BANK NEGARA MALAYSIA**  
CENTRAL BANK OF MALAYSIA

# Preface

This Financial Stability Review – Second Half 2023 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 2023, unless otherwise stated.



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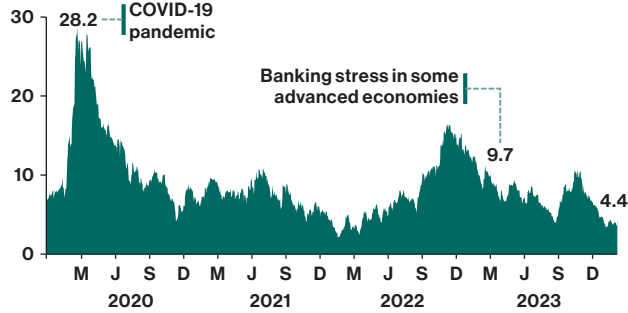
# Key Highlights on Financial Stability Review – Second Half 2023

## Domestic financial stability was preserved despite volatile global markets

Market stress eased in December amid growing expectations that a turning point in US monetary policy path could be approaching

### Financial Market Stress Index (FMSI)

Stress level, % (Minimum=0, Maximum=100)



Orderly domestic market conditions continued to be preserved, supported by several key factors

- Deep and liquid domestic capital markets
- Active market risk management and hedging strategies by financial institutions
- Resilient domestic institutional investors
- Manageable impact from exchange rate movements on banks, businesses and non-bank financial institutions

## Financial institutions are well-capitalised with strong buffers to support financial intermediation

Banks continue to maintain strong capital and liquidity buffers while keeping prudent provisioning buffers in place

**18.5%**

**Total Capital Ratio**  
(Jun. 2023: 18.8%)

**160.9%**

**Liquidity Coverage Ratio**  
(Jun. 2023: 154.7%)

**118.2%**

**Net Stable Funding Ratio**  
(Jun. 2023: 117%)

**119%**

**Loan Loss Coverage Ratio<sup>1</sup>**  
(Jun. 2023: 118.6%)

Insurers and takaful operators remain well-capitalised, above the regulatory minima

**RM38.6 billion**

**Excess Capital Buffers**  
(Jun. 2023: RM38.9 billion)

**222.2%**

**Capital Adequacy Ratio**  
(Jun. 2023: 226.4%)

## Businesses and households' debt repayment capacity continue to be preserved



### Households

Households' debt-servicing capacity remains supported by favourable labour market and wage growth

**35%** **Median Outstanding Debt Service Ratio**  
(Jun. 2023: 35%)

**1.4x** **Median Debt-to-Income Ratio**  
(Jun. 2023: 1.4x)

**4.8%** **Stage 2 Loans Ratio**  
(Jun. 2023: 4.3%)

**1.6%** **Loans under Repayment Assistance**  
(Jun. 2023: 1.8%)



### Businesses

Businesses remain resilient amid persisting operating headwinds

**5.7x** **Interest Coverage Ratio**  
(Jun. 2023: 5.6x)

**26.2%** **Share of Firms-at-Risk (Overall Business)**  
(Jun. 2023: 29.2%)

**12.4%** **Stage 2 Loans Ratio**  
(Jun. 2023: 13.8%)

**5.4%** **SME Loans under Repayment Assistance**  
(Jun. 2023: 5.5%)

<sup>1</sup> Including regulatory reserves

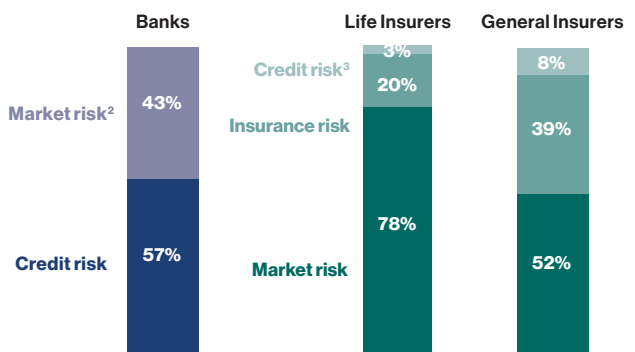
## Stress test reaffirms financial institutions' ability to withstand adverse shocks and support economic recovery

Two adverse scenarios more severe than the 2020 pandemic were used to assess the resilience of financial institutions



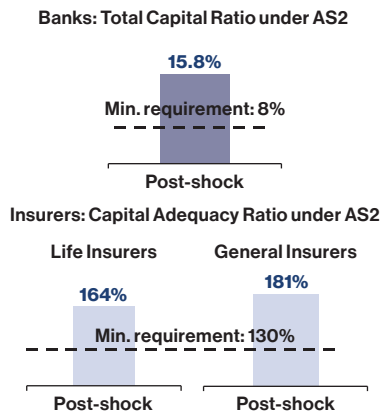
Credit and market risks remain the key drivers of losses for the banking system and insurance sector...

Key Loss Drivers under Adverse Scenario 2 (AS2) (2024e-2026e)



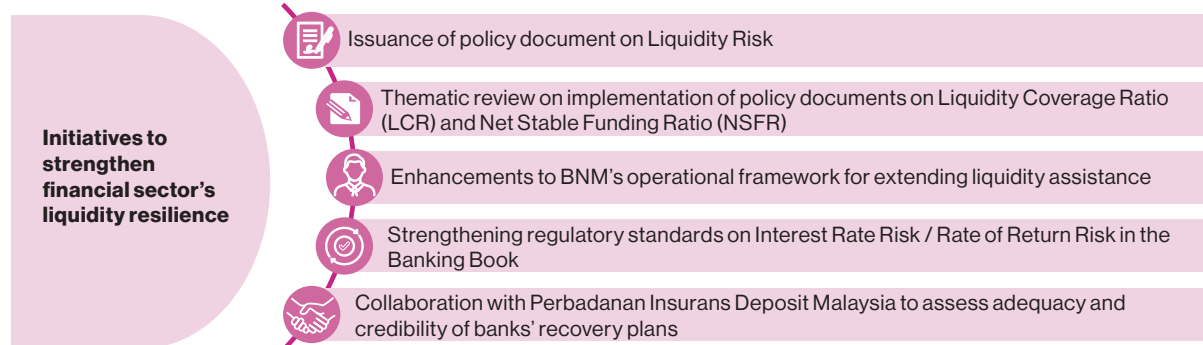
Note: Figures may not add up due to rounding.

...but post-shock capital ratios remained above regulatory minima



## Box Article: The Imperatives for Strengthened Regulation and Supervision of Liquidity Risk in Malaysia

The 2023 global banking turmoil reinforces the importance of financial institutions adopting sound liquidity risk management practices



## Box Article: Progress in Strengthening Climate Risk Management Practices

Financial institutions have made steady progress in strengthening climate risk management practices...

- Most progress on governance practices, with augmented internal governance and reporting structures as well as policies
- Climate risk considerations being integrated into existing sustainability frameworks, risk appetite and business strategies
- Using qualitative approaches to inform risk appetite and risk management policies, while building capabilities towards more quantitative approaches
- Short-term climate scenario analysis incorporates natural disaster event
- Advanced preparations to produce TCFD<sup>4</sup>-aligned disclosures

...while near-term regulatory and supervisory priorities will focus on several key measures

- Address fragmented approaches to managing climate-related risks
- Ensure financial institutions develop credible transition plans
- Ensure financial institutions produce climate disclosure that meets the needs of investors and stakeholders

e Estimated

<sup>2</sup> Market risk for banks includes revaluation losses on bonds held in the fair value through other comprehensive income (FVOCI) portfolio.

<sup>3</sup> Credit risk for insurers refers to losses from corporate bond defaults and reinsurance defaults.

<sup>4</sup> Task Force on Climate-Related Financial Disclosures.

Source: Bank Negara Malaysia



# Overview





# Overview

Global financial markets remained volatile in the second half of 2023, driven by shifting expectations on the timing of policy rate cuts in major economies, renewed geopolitical tensions and China's slower-than-expected economic growth. Despite the global volatility, domestic financial markets remained orderly with continuous intermediation of two-way flows in the bond and equity markets. The Financial Market Stress Index (FMSI) rose in the fourth quarter but subsequently subsided towards the end of the year amid growing expectations of a reduction in the US Federal Funds Rate. Market liquidity remained healthy in the Malaysian government bond market while credit spreads of corporate bonds narrowed further. This has continued to support favourable funding conditions.

In the foreign exchange (FX) market, the yield differential between Malaysian Government Securities and US Treasuries continued to weigh on the ringgit. Since the beginning of 2024, the ringgit has depreciated by 1.8%<sup>1</sup> against the US dollar, driven by external developments. The ringgit remains undervalued and does not reflect Malaysia's positive economic fundamentals and prospects. Coordinated actions by the Government, Bank Negara Malaysia (BNM), government-linked companies (GLCs) and government-linked investment companies (GLICs) have contributed towards encouraging more sustained inflows into the FX market, while structural reforms will provide more enduring support for the ringgit. The impact of recent currency movements on financial stability remains manageable. Foreign currency borrowings by non-financial corporates are mostly hedged. Only a small number of corporates with unhedged external borrowings (1.8% of total business debt) may be susceptible to exchange rate volatility. Banks' external funding and net foreign currency open positions also remain low.

Businesses remained resilient, supported by domestic demand. However, cost pressures continued to weigh

on businesses' financial performance in some sectors. Further improvements in leverage coupled with higher cash buffers maintained by businesses have supported overall debt-servicing ability. The share of firms-at-risk continued to decline, led by firms in the manufacturing and construction sectors, although they remain higher than that observed before the pandemic. A small proportion of SMEs are showing signs of financial vulnerabilities, such as higher instances of missed repayments due to cashflow difficulties. However, most SMEs have been able to sustain their debt repayments, including SMEs that have exited repayment assistance programmes introduced during the pandemic. Going forward, leading indicators point to business impairments remaining relatively contained. The share of business loans identified by banks as having higher credit risk (classified as Stage 2) improved further to 12.4% (June 2023: 13.8%), with banks starting to write-back provisions on some large corporate exposures. Enhanced access to debt resolution mechanisms with the recent amendments to the Companies Act 2016 will serve to further reduce risks of business defaults.

Improving income and employment conditions continue to preserve household resilience. Measures of debt repayment capacity remained healthy. The median debt service ratios (DSRs) for newly approved and outstanding household loans have been stable as banks continued to observe sound lending standards. Household borrowings that may be at higher risk of default increased slightly to 4.8% of total household loans (June 2023: 4.3%). This remains within banks' expectations and is about 40% lower in value terms than at the height of the pandemic. Households facing repayment difficulties were contained to a small segment of borrowers with pre-existing financial vulnerabilities and are more constrained in their ability to adjust to higher costs of living. Help for these borrowers remains in place through the services of the Credit Counselling and Debt Management Agency (AKPK). Enrolments into AKPK's Debt Management Programme (DMP) increased notably in 2023 in tandem with a higher level

<sup>1</sup> Data as of 12 March 2024.

of awareness among borrowers of AKPK's services. However, household borrowings managed under the DMP remain very small at 0.54% of total household loans from banks and development financial institutions.

The banking system remains strong. Banks continue to hold large buffers of high-quality liquid assets to withstand liquidity and funding shocks. The aggregate Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) stood at 160.9% and 118.2% respectively. As the need for precautionary cash buffers subsides, ongoing shifts by depositors towards longer-term deposits will continue to underpin the stability of banks' funding sources. During the year, a number of measures were taken by BNM to further strengthen the regulation and supervision of liquidity risk. This included a stronger focus on the ability of banks to monitor depositor concentrations at a granular level and the adequacy of their contingency funding plans.

Higher funding costs contributed to lower year-on-year profitability for banks relative to the first half of 2023. Nevertheless, sustained lending activities and an improvement in trading and investment income provided some support to bank earnings. Annualised credit costs have also declined significantly from earlier peaks recorded during the pandemic. Banks continue to be well-capitalised to absorb unexpected shocks and support financial intermediation in the economy, with the total capital ratio of the banking system at 18.5% and capital buffers in excess of the regulatory minimum amounting to RM142.6 billion as at end-December 2023.

The insurance and takaful sector similarly remained resilient. The life insurance and family takaful funds continued to record underwriting losses in the second half of 2023 amid higher medical benefit payouts.

Overall profitability however continued to be supported by investment income and sustained growth in total new business premiums. In the general insurance and takaful sector, gains in operating profits were mainly attributed to higher premium growth in the motor segment. Going forward, insurers and takaful operators (ITOs) are expected to remain resilient against a number of risks stemming from elevated financial market volatility affecting investment performance, higher motor and medical claims costs as well as an increasing occurrence of climate events. This is supported by their strong capital positions. The aggregate capital adequacy ratio of ITOs stood at 222.2% with excess capital buffers above the regulatory minimum totalling RM38.6 billion as at end-December 2023.

The latest macro solvency stress tests conducted by BNM further affirm the resilience of financial institutions against unexpected losses from severe macroeconomic and financial shocks. Under the latest stress tests published in this Review which capture additional downside risks, the worst post-shock aggregate capital ratios over the stress horizon for banks (15.4%), life insurers (148%) and general insurers (181%) remain comfortably above the regulatory minima.

Strengthening operational and cyber resilience remains a top priority for BNM and financial institutions amid increasing digitalisation and technology adoption in the financial industry. BNM continues to require financial institutions to adopt strong cyber hygiene standards and to remain vigilant of evolving technological risks and cyber threats. Strengthened requirements were introduced around measures to combat online banking fraud, cloud risk management and the reporting of operational risks. In addition, measures continued to be taken to further improve coordinated system-wide surveillance and crisis response capabilities.

# Key Developments in the Second Half of 2023

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# Key Developments in the Second Half of 2023

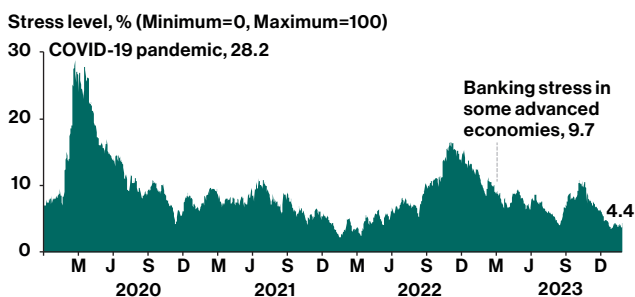
## MARKET RISK

### Domestic financial markets remained orderly despite volatile global markets

In the second half of 2023, central banks of major economies paused or slowed the pace of policy rate increases, signalling that a turning point in their monetary policy path could be approaching. While this development provided some support to global financial markets, volatility continued to remain high due to shifting expectations on the timing and magnitude of policy rate cuts. Increased concerns over the escalation of geopolitical tensions since October 2023 led to a higher demand for safe haven currencies, such as the US dollar. In addition, data releases related to China's slower-than-expected economic growth have dampened investor sentiment towards the region.

Domestic financial markets remained orderly despite the global volatility. Domestic market stress, as measured by the Financial Market Stress Index (FMSI) (Chart 1.1), increased in October and November. This was driven mainly by the higher volatility observed in the equity and foreign exchange (FX) markets. Market stress

**Chart 1.1: Financial Market – Financial Market Stress Index (FMSI)**

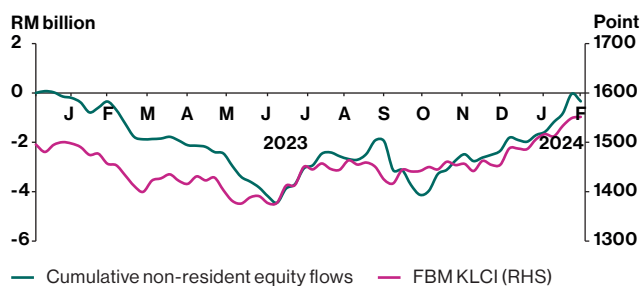


Source: Bloomberg, Reuters and Bank Negara Malaysia estimates

subsequently decreased in December amid growing expectations of a reduction in the Federal Funds Rate (FFR) following the release of the Federal Open Market Committee's (FOMC) projected policy rate path and the anticipation for the US economy to achieve a 'soft landing'.

For 2023 as a whole, non-residents were net sellers in the domestic equity market (net outflow of RM2.3 billion) (Chart 1.2), in line with regional trends (Malaysia: -USD0.5 billion; regional<sup>1</sup> average: -USD2.2 billion). However, non-resident flows into the equity market turned positive since November 2023 and continued into 2024 year-to-date (YTD),<sup>2</sup> mainly supported by the positive sentiments surrounding the announcements of national master plans and special economic zones.<sup>3</sup> Higher demand for industrial land and data centre sites, as well as the rollout of large public infrastructure projects, such as the Pan Borneo Sabah Phase 1B, Bayan Lepas Light Rail Transit (LRT) and Sabah-Sarawak Link Road further lifted the performance of stocks in the construction sector. Meanwhile, expectations of the increased power demand from data centre sites and

**Chart 1.2: Financial Market – Cumulative Non-resident Equity Flows and Performance of the Domestic Equity Market**



Source: Bloomberg

<sup>1</sup> Regional countries comprise Thailand, Philippines, and Indonesia.  
<sup>2</sup> All data in the Market Risk section are as at 29 February 2024, unless stated otherwise.  
<sup>3</sup> These included the New Industrial Masterplan (NIMP) 2030 and the NETR, Johor-Singapore Special Economic Zone as well as key infrastructure projects such as Bayan Lepas Light Rail Transit (LRT).

## Key Developments in the Second Half of 2023

the expected rollout of the National Energy Transition Roadmap (NETR) helped boost the utilities sector. Gains were also recorded in the transport sector, particularly the aviation sector, driven partially by expectations of improved tourism following the announcement of visa-free travel between Malaysia and China, India and the Middle East.

Domestic institutional investors<sup>4</sup> remained net buyers of domestic equities (October 2023–February 2024: +RM0.2 billion; October 2022–February 2023: +RM3 billion). While value traded by retail investors as a share of total value traded on Bursa Malaysia has declined further from the peak seen during the pandemic (August 2020 (peak): 40.3%), retail participation (October 2023–February 2024 average: 24.9%) remained above the pre-pandemic average level (2015–19 average: 18.5%). The increase in net cumulative purchases by retail investors since 2018 (2018–24 (YTD): +RM33.3 billion) has been driven mainly by the search for higher returns amid the low interest rate environment. More recent trends after the dissipation of pandemic-related factors suggest that retail participation in the domestic equity market may settle at levels higher than that observed before the pandemic. This is not expected to have a material impact on overall household resilience arising from exposures to equity price movements given that the bulk of the increase in the purchases of quoted shares has not been funded by debt. Household loans to purchase quoted shares remained low and stable at 0.5% of banking system loans.

### Non-resident flows in the government bond market continued to be largely influenced by external factors

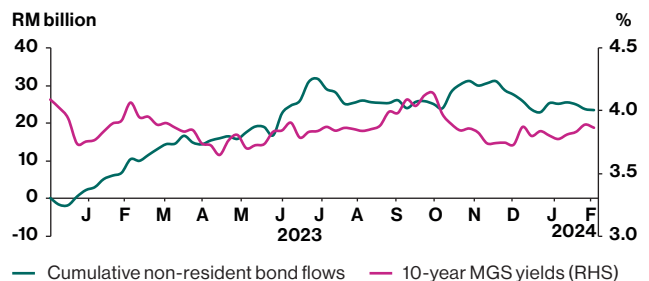
The 10-year Malaysian Government Securities (MGS) yields declined by 12 basis points (bps) (Chart 1.3) since end-September 2023, in line with regional trends (regional<sup>5</sup> average: -40 bps). The yield differential between 10-year MGS and 10-year US Treasuries (UST) narrowed to -39 bps (end-September 2023: -59 bps; 2022 average: +113 bps) due to a steeper decline in the UST yield (change since end-September 2023: -32 bps) on expectations of a decrease in the FFR. Market liquidity remained healthy with continued demand for government bonds in the primary market, as evidenced

by the sustained average bid-to-cover ratio of 2.5 times between October 2023 and February 2024 (2022 average: 2.2 times). Meanwhile, in the secondary market, the daily trading volume for government bonds averaged RM3 billion between October 2023 and February 2024 (2022 average: RM2.6 billion).

Overall in 2023, the domestic government bond market recorded non-resident inflows (+RM27.4 billion; 2022: -RM7.8 billion), with sizeable (+RM31.9 billion) inflows in the first seven months. This followed positive investor sentiment on the back of fiscal reforms and favourable domestic macroeconomic prospects as well as attractive currency-hedged yields.<sup>6</sup> Non-resident flows turned negative from August 2023 onwards and persisted into 2024, partially driven by the lower currency-hedged returns of domestic government bonds. These outflows were also consistent with other regional economies. Consequently, the share of non-resident holdings in the government bond market declined marginally to 21.8% (end-September 2023: 23%; 2022 average: 23.8%). Domestic institutional investors remained active in the government bond market (2023: +RM90.4 billion; 2022: +RM56.7 billion), driven by sustained appetite for government bonds on the back of market expectations that yields have peaked. This sustained appetite by domestic institutional investors has continued to support liquid and orderly market conditions.

Corporate bond market funding conditions for businesses continued to improve. Credit spreads between 10-year AAA-rated papers and 10-year MGS narrowed further (October 2023–February 2024

**Chart 1.3: Financial Market – Cumulative Non-resident Government Bond Flows and Performance of the Domestic Government Bond Market**



Source: Bank Negara Malaysia and Bloomberg

<sup>4</sup> Domestic institutional investors include banks, non-bank financial institutions (NBFIs) and insurers and takaful operators (ITOs).

<sup>5</sup> Regional countries comprise Singapore, Thailand, and Indonesia.

<sup>6</sup> From a non-resident investor's perspective, this refers to the returns from holding a foreign currency-denominated bond (e.g. MGS) in which the currency risk is hedged back to the home currency of the investor (e.g. USD). For illustration, in 2023, the approximate currency-hedged yields from holding a 3-year MGS hedged using 3-month USDMYR foreign exchange (FX) forward contracts could range up to 6.5% on an annualised basis.

average: 31.3 bps; October 2022–February 2023 average: 58.8 bps), reflecting sustained interest by yield-seeking investors. Gross corporate bond issuances amounted to RM46 billion between September 2023 and January 2024 (September 2022–January 2023: RM82.7 billion).<sup>7</sup> Issuances remained concentrated in high quality papers. As at end-2023, almost 80% of outstanding corporate bonds were rated AA and above, with government-guaranteed (GG)<sup>8</sup> and AAA-rated papers accounting for more than half of outstanding corporate bonds.

Total banking system liquidity remained sufficient to support financial intermediation, ranging between RM115 billion and RM144 billion between October 2023 and February 2024 (average: RM129 billion). Consistent with past seasonal trends, interbank rates rose in the fourth quarter of 2023 (3-month interbank rate: +12 bps). The extent of the rate increases, however, was relatively muted compared to the same period in the previous year amid expectations that Overnight Policy Rate (OPR) increases have peaked. The less intense deposit competition in 2023 also contributed to the lower extent of rate increases, as rate-hunting behaviour by corporates moderated. The upward trend in the longer-term interbank rates subsequently eased and has remained broadly stable since January 2024.

Between October 2023 and February 2024, the ringgit weakened by 1% against the US dollar to 4.7428. Towards end-2023, the ringgit strengthened following improvement in investor sentiment towards emerging

market currencies amid signs that interest rates in advanced economies were nearing their peak. Since the beginning of 2024 however, the ringgit depreciated by 1.8% against the US dollar,<sup>9</sup> in line with most regional currencies. This was mainly driven by the broad US dollar strength as markets pared down expectations on FFR cuts as well as uncertainties surrounding the outlook for global growth.

Daily onshore trading volume averaged at USD15.4 billion in 2024 (2023: USD15.6 billion). Ringgit volatility has risen slightly since the start of the year (2024 YTD average: 5.2%) alongside those of regional currencies, and remains elevated compared to levels observed in recent years (2022 average: 4.5%; 2021–23 average: 4.7%).

The ringgit remains undervalued and does not reflect Malaysia's positive economic fundamentals and prospects. Financial markets continue to expect the ringgit to trade stronger as pressure from external factors abates. Coordinated actions by the Government, BNM, government-linked companies (GLCs) and government-linked investment companies (GLICs) to increase flows into the FX market on a more sustained manner have helped preserve orderly conditions and support for the ringgit, while encouraging more consistent repatriation and conversion of foreign investment income by corporates and other investors. Over the medium-term, the ongoing structural reforms by the Government, which will raise Malaysia's productivity and competitiveness, will provide more enduring support to the ringgit.

<sup>7</sup> The higher levels in 2022 were driven mainly by a large issuance by a major toll road operator in December 2022 (RM25.2 billion).

<sup>8</sup> As at end-2023, government-guaranteed (GG) securities accounted for almost 30% of outstanding corporate bonds.

<sup>9</sup> Data as of 12 March 2024.

## Currency Fluctuations – Transmission Channels to Financial Stability

Currency fluctuations can be transmitted into the financial system through multiple channels. Firstly, adverse movements in the ringgit exchange rate could increase corporates' external debt obligations in ringgit terms. This increases the level of overall indebtedness and debt repayments for these corporates which could expose banks to higher credit risks. The higher cost of foreign currency (FCY) debt-servicing may also make it harder for corporates to obtain additional fresh financing, affecting loan growth. However, despite movements in the ringgit, the share of FCY non-financial corporate debt has risen only marginally above recent historical levels to 27.9% of total business debt (June 2023: 27.8%; 2015–19 average: 26.6%). Most of these external debt exposures (71%) have maturities of above one year, mitigating rollover risk, i.e. the risk that the counterparty is unwilling to rollover these loans when these loans fall due. Furthermore, the bulk of corporates' external debt is hedged, either financially or naturally. This limits foreign exchange (FX) risk arising from currency mismatches. About 22% of large resident-controlled corporates' external borrowings are unhedged (equivalent to only 1.8% of total business debt) and may be susceptible to exchange rate volatility. However, these borrowers have minimal domestic borrowings (less than 0.5% of total domestic banking loans), substantially reducing credit risks to banks. Another channel affecting businesses is via higher import prices which may lead to increased input costs. This could affect profitability, and subsequently the overall debt-servicing capacity of businesses, especially if businesses are unable or unwilling to pass on cost increases to customers. This is more likely to affect businesses in the manufacturing, construction and agriculture sectors due to their higher reliance on imported materials. As at end-2023, these sectors accounted for 11.8% of total domestic banking loans.

Household FCY loan exposures are small at 0.4% of total household loans in the banking system. The bulk (72%) of these FCY loan accounts are attributable to high-income borrowers with a monthly income of RM10,000 and above, who would have larger financial buffers to sustain loan repayments. Thus, the overall household indebtedness and debt-servicing capacity are not directly affected by a weaker ringgit. However, as changes in the exchange rate will have an impact on the domestic cost of goods and services, a weaker ringgit can lead to higher prices and costs of living, particularly from expenditures on selected consumer items such as food<sup>10</sup> that are more sensitive to exchange rate fluctuations. This may in turn reduce household buffers and affect household debt-servicing capacity if households are unable to adjust their expenditure and/or offset the impact of higher prices against current or future incomes.

The aggregate impact from higher costs affecting households and businesses on banks' asset quality is expected to be manageable given the current low level of impairments (gross impaired loan ratio, December 2023: 1.6%; June 2023: 1.7%). This is supported by favourable labour market developments and an improving economic outlook. Correspondingly, the overall share of firms-at-risk, including those more exposed to higher import prices has continued to trend lower, although it remains above the pre-pandemic average level. The share of household loans classified as Stage 2 (identified as having higher credit risk) also remains low (refer to the section on 'Key Developments in the Second Half of 2023 – Credit Risk' for further details).

Banks themselves could also experience higher debt-servicing obligations on their FCY debt following adverse movements in the ringgit exchange rate. At present, onshore banks' external debt remains manageable at 8.3% of banking system total funding, indicating a low level of dependence on external debt to fund their ringgit operations. Interest payments on such exposures have not been significant, with banks' interest expense on FCY external debt making up only about 4.6% of their overall interest expense. Banks also continue to maintain sizeable FCY liquid assets to help cushion the impact from bilateral currency exchange rate movements.

Banks are also exposed to FX risks through their provision of FCY-related products to their clients, such as providing FCY loans and accepting FCY deposits. Most of these FX risks are typically passed through or hedged, while some may be warehoused, depending on the individual bank's view on FX movements. For FX risks that are warehoused, banks may experience FX valuation gains or losses, depending on whether they are in a net long or net short FCY open position. Banks with a net short FCY open position would experience a valuation loss as the ringgit depreciates, which could

<sup>10</sup> Refer to box article on 'Revisiting Exchange Rate Pass-Through to Inflation in Malaysia' in the BNM Economic & Monetary Review 2022 for further details.

weigh on earnings. Nevertheless, such risks remain limited as banks' FX positions are largely hedged. This is evidenced by banks' foreign exchange net open position (FX NOP) from domestic operations which remains manageable at 3.9% of banks' total capital. This reflects the low risk appetite of banks for uncovered exposures which limits further FCY liquidity risk from movements in the ringgit.

Another channel is via non-bank financial institutions (NBFIs) such as pension funds and other domestic institutional investors that have asset exposures abroad vis-à-vis mainly ringgit-denominated liabilities. Some of these domestic NBFIs venture abroad as part of their investment strategy to diversify and enhance returns. In such cases, a higher valuation of foreign assets following a weakening ringgit would support investment returns. Nevertheless, these NBFIs would typically hedge some of their FCY exposures, which limits volatility in both the gains and losses from extreme currency movements (see also box article titled 'Contagion Risk from Non-Bank Financial Institutions' (NBFI) Activity' for an assessment of the NBFI sector in Malaysia and possible contagion channels with the banking system).

Finally, excessive weakening of the exchange rate could weigh on investor confidence and sentiments in the domestic financial markets. Despite the recent depreciation in the ringgit, domestic market conditions have remained resilient, supported by the smooth intermediation of two-way flows in the market (refer to the section on 'Key Developments in the Second Half of 2023 – Market Risk' for further details). Malaysia's sovereign credit rating and outlook have remained stable. Government bonds are mostly denominated in ringgit, with FCY government bonds accounting for less than 3% of outstanding government bonds, thus limiting FX risk. Malaysia's external position is also strong, supported by adequate FCY reserves and continued current account surplus. Additionally, Malaysia's international investment position (IIP) remained favourable. As at end-2023, Malaysia's net IIP recorded a higher net external asset position of RM119.4 billion (equivalent to 6.6% of GDP; end-2022: RM54.2 billion or 3% of GDP). Meanwhile, the net FCY external asset position<sup>11</sup> stood at RM 1.3 trillion (equivalent to 70.8% of GDP; 2022: RM1.2 trillion, or 64.5% of GDP). These net positive positions act as a buffer against external shocks, as a depreciation in the ringgit would result in greater FX translation gains for the country (refer to white box on 'Malaysia's International Investment Position' in the BNM Economic & Monetary Review 2023 for further details).

<sup>11</sup> As measured by external assets in FCY less external liabilities in FCY.

# CREDIT RISK

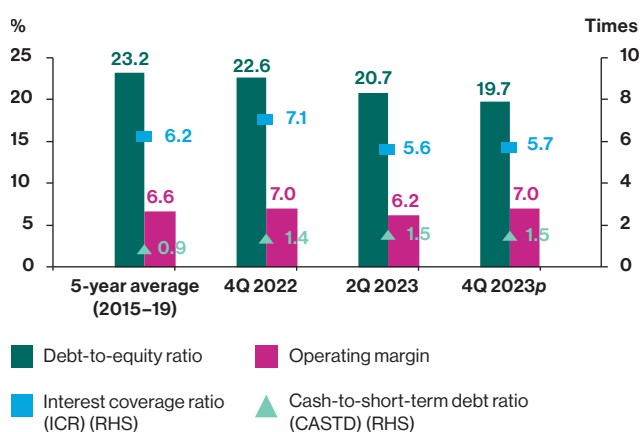
## Businesses remained resilient against persistent challenges

Businesses remained resilient in the second half of 2023, although operating conditions remained challenging amid ongoing headwinds. The recovery and performance of businesses continued to be uneven. Businesses in the services sector benefitted from the improvements in consumer spending and tourism. Businesses in the non-E&E manufacturing sector also experienced some uplift as external regional demand improved slightly towards the end of the year. While demand remained forthcoming, cost pressures continued to weigh on profit margins. Despite some easing throughout the year, input costs remained elevated relative to pre-pandemic levels with the median cost of goods sold ratio<sup>12</sup> at 78.8% (June 2023: 77.6%; 2015–19 average: 75.9%). The cost pressures were more prominent within the construction and manufacturing sectors, where the moderation observed in input prices has yet to have a discernible effect on costs due to pre-existing contractual obligations. Labour costs also remained elevated amid strong competition for skilled labour. In the commercial real estate segment, oversupply conditions continued to persist despite higher market activity. Additional incoming supply coupled with a shift in customer preferences towards newer and 'green-certified' commercial spaces continue to weigh on occupancy and rental rates.

Despite ongoing cost pressures, aggregate business operating margins improved in the latter half of the year as revenue growth of firms continued to be supported by resilient domestic demand (Chart 1.4). Business leverage continued to be on a downward trend, while cash buffers remained significantly above pre-pandemic levels. This supported the overall debt-servicing ability of businesses, with the median interest coverage ratio comfortably sustained above the prudent threshold of two times at 5.7 times. The overall share of firms-at-risk<sup>13</sup> also improved to 26.2%, although it still remained above its pre-pandemic average (Chart 1.5). Some businesses continued to face challenges, reflecting the uneven recovery. While the recovery of tourist arrivals

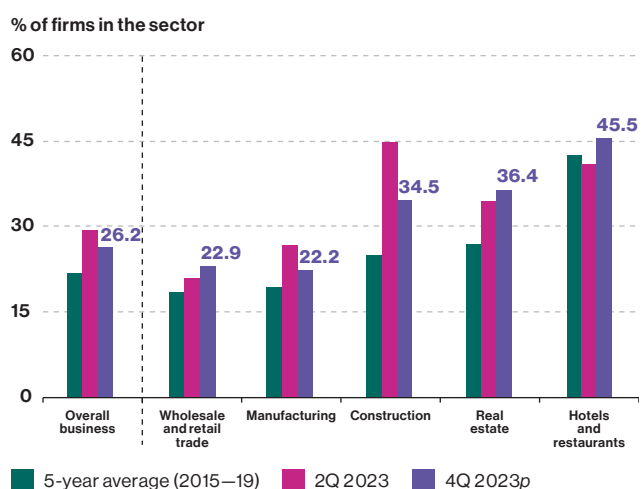
provided support to tourism-related sectors, total tourist expenditure has yet to recover to pre-pandemic levels. Firms in the food and beverages and accommodation sub-sectors have been affected by changes in consumer preferences and behaviour, as some consumers prioritised spending on necessities amid the higher cost of living. In the construction and manufacturing sectors, although business costs remained high, some firms in the sector began to see a turnaround in financial performance in the second half of the year after previously recognising significant losses. This improvement was primarily due to an expansion in construction activities, which also benefitted manufacturers of building materials.

**Chart 1.4: Business Sector – Key Financial Performance Indicators**



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

**Chart 1.5: Business Sector – Firms-at-risk for Selected Sectors**



p Preliminary  
 Source: S&P Capital IQ and Bank Negara Malaysia estimates

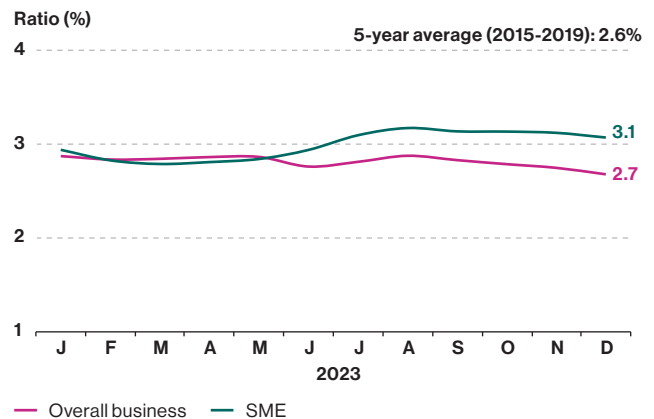
<sup>12</sup> Cost of goods sold (COGS) ratio is calculated by taking a firm's COGS divided by its revenue. A higher ratio indicates that COGS makes up a higher proportion of revenue.

<sup>13</sup> Firms-at-risk refers to firms with interest coverage ratio below the prudent threshold of two times.

Business loans expanded by 3.6% (June 2023: 0.6%) in the second half of 2023. Loan growth was driven mainly by small and medium enterprise (SME) loans, primarily for working capital purposes. This was complemented by the continued availability of facilities under BNM's Fund for SMEs.<sup>14</sup> Meanwhile, a smaller contraction in loan growth was observed among larger firms, in line with a more positive business outlook (December 2023: -0.5%; June 2023: -4.6%). Large corporates also tapped the corporate bond market amid favourable funding conditions, given the narrowing bond spreads for high quality issuers. This resulted in an annual growth of outstanding corporate bonds of 4.3% (June 2023: 5.2%).

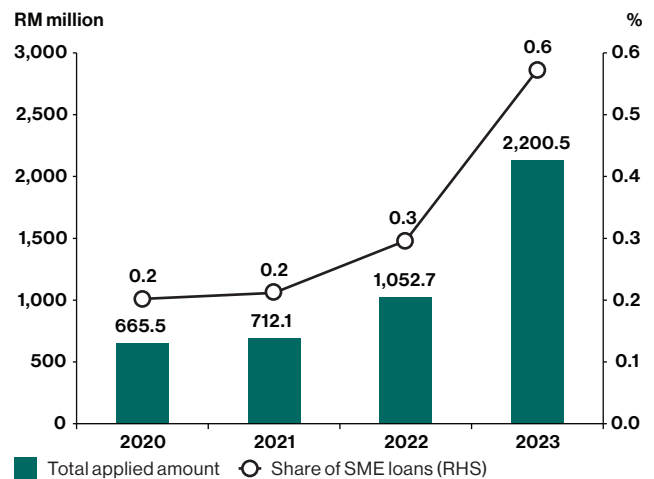
While the overall credit quality of business loans remained sound, some SMEs are showing emerging signs of financial vulnerabilities. The share of SMEs missing repayments<sup>15</sup> increased to 2.1% (June 2023: 1.6%) of total SME loans. The bulk of the increase was driven by SMEs with a history of missing repayments. Insights from banks indicate that these SME borrowers continue to make occasional or partial repayments to manage their cashflows while avoiding a default on their debt obligations. SME impairments also remained elevated at 3.1% of total SME loans (Chart 1.6). Some SMEs that are facing challenges have been proactive in reaching out to banks and the Credit Counselling and Debt Management Agency (AKPK) for repayment assistance. The number of repayment assistance applications from SMEs to AKPK in the second half of 2023 doubled compared to the corresponding period in 2022 – partly owing to greater awareness of AKPK's services – but it remains small at 0.6% of total SME loans (Chart 1.7). Similarly, new enrolments into repayment assistance offered by banks<sup>16</sup> also increased from low levels (December 2023: 0.2% of total SME loans; June 2023: 0.1%). On balance, these risk drivers continue to be offset by the sustained repayments of the vast majority of SMEs that have exited repayment assistance programmes introduced during the pandemic. SME loans under repayment assistance continued to decline to 5.4% of total SME loans (June 2023: 5.5%), or 0.9% of total banking system and development financial institution (DFI) loans. Almost all (94%) SMEs that exited repayment assistance programmes have been able to resume and sustain prompt repayment of their loans.

Chart 1.6: Business Sector – Gross Impaired Loans



Source: Bank Negara Malaysia

Chart 1.7: Business Sector – SME Applications for AKPK Repayment Assistance



Source: Bank Negara Malaysia

In contrast, the quality of borrowings of large corporates has improved in line with general improvements in the financial strength of these firms. Some banks have started to write-back provisions on their large corporate exposures, reflecting sustained improvements in the recovery of business activities and a more positive outlook for specific firms. Movements in the ringgit in the latter half of 2023 were in focus for corporates with external debt obligations. Risks from non-financial corporate external debt, however, are assessed to be manageable as most of the exposures from large resident corporates are naturally or financially hedged against currency mismatches. Only a small number of companies with unhedged external borrowings may be susceptible to exchange rate volatility (22% of all resident-controlled corporates' external borrowings, equivalent to only 1.8% of total business debt). However, these borrowers have minimal domestic borrowings

<sup>14</sup> About RM7.9 billion from a total allocation of RM32.4 billion remained available as at end-December 2023.

<sup>15</sup> Refers to loans with one or two months in arrears, or between 30 and 90 days past due.

<sup>16</sup> Refers to rescheduling and restructuring (R&R) programmes.



## Key Developments in the Second Half of 2023

(less than 0.5% of total domestic banking loans), thus limiting contagion risks to domestic financial stability. Some corporates prudently prepaid their USD borrowings to manage the elevated USD borrowing costs in a high interest rate environment. A large share of the corporate external debt exposures (71%) were with maturities of above one year, further mitigating rollover risk. These exposures also remained adequately covered by assets, with corporate external assets at 1.1 times of corporate external debt.

Stress tests conducted by BNM confirmed that banks have adequate capital buffers to withstand a potential increase in credit losses from the business sector in adverse stress scenarios (refer to section on 'Assessing the Resilience of Financial Institutions' for more details). In addition, debt resolution mechanisms such as the Small Debt Resolution Scheme (SDRS), Corporate Debt Restructuring Committee (CDRC) and court-sanctioned corporate rescue mechanisms provide restructuring options for distressed but viable firms.<sup>17</sup> The recent legislative enhancements to the Companies Act 2016

will widen the coverage of firms that will benefit from these rescue mechanisms while embedding sufficient safeguards against potential abuse.<sup>18</sup>

Looking ahead, the anticipated recovery of the global technology cycle and ongoing progress in the implementation of domestic investment and infrastructure ventures will provide support to businesses' earnings. Against this, the implementation of subsidy rationalisation, tax adjustments and wage policies, while necessary, will have a bearing on the near term financial outlook for businesses. Ongoing geopolitical conflicts, China's economic trajectory and financial market volatility present further challenges, alongside an increased focus on climate-related risks and opportunities. Banks are well-buffered against potential downside risks, backed by conservative provisions and strong capital levels. A widespread deterioration in credit quality is not expected, as indicated by the improving Stage 2 ratio (December 2023: 12.4% of business loans; June 2023: 13.8%), which reflects an improving growth outlook for the Malaysian economy.

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<sup>17</sup> Refer to the Information Box on 'Debt Resolution Mechanisms for Viable Businesses Facing Temporary Financial Distress' in the BNM Financial Stability Review for Second Half 2020 for further details.

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<sup>18</sup> The Companies (Amendment) Bill 2023, which aims to strengthen the corporate rehabilitation framework and enhance corporate transparency in the Companies Act 2016, was tabled and passed at the Parliament in December 2023. It is expected to be gazetted into law in 2024.

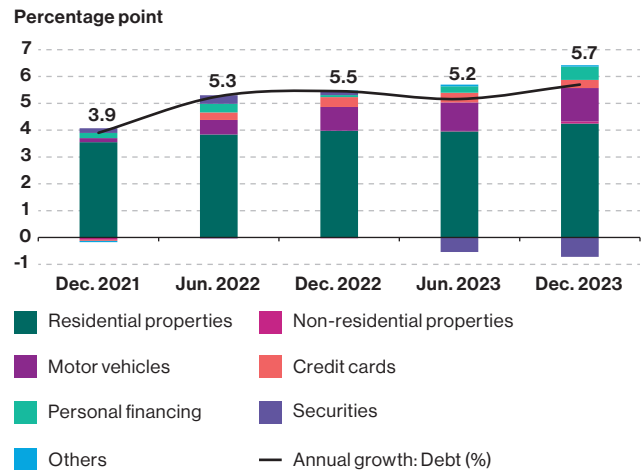
## Overall credit risk from the household sector remained contained, supported by continued improvement in income and employment

In the second half of 2023, household debt<sup>19</sup> grew at a faster pace amidst sustained improvements in the labour market and economic activity (Chart 1.8). The overall debt growth continued to be driven largely by housing and car loans, which collectively make up almost three-quarters (73.7%) of total household debt (Chart 1.9). The growth in housing loans reflects general improvements in residential property market activity, further supported by the continued availability of stamp duty exemptions or remissions for first-time home buyers. Meanwhile, car loans remained on an upward trend on the back of higher car sales following promotional campaigns and new model launches, including electric vehicles, during the period.

Households continued to take on more personal and credit card debt during the period. Such unsecured debt as a share of overall household debt has, however, remained broadly unchanged (15.5% of total household debt). A closer look at new personal financing and credit card debt also indicates that risks remained manageable. New personal financing approvals by banks in 2023 across borrowers from all income segments were primarily associated with debt consolidation, which helps to preserve household resilience. Growth in outstanding credit card debt has also been consistent with the ongoing recovery in consumer spending. Furthermore, prudential requirements remain in place to ensure that new credit card applications are subject to affordability assessments and appropriate credit limits. In line with these observations, credit card cash advance transactions remained low at 1.3% of total card transactions (June 2023: 1.3%; 2015–19 average: 2.2%). Revolving balances, as a proportion of outstanding credit card balances, also continued to trend lower to 47.9% (June 2023: 50.9%; 2015–19 average: 60.6%). Loans for the purchase of securities continued to decline (-13.8%; June 2023: -10.2%). This was driven primarily by lower Amanah Saham Bumiputera (ASB) financing as the narrowing spread between financing and dividend rates led to higher redemptions and lower new demand for such loans.

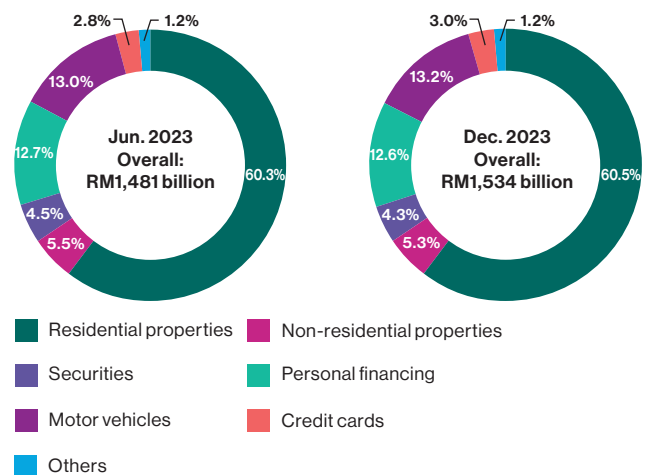
<sup>19</sup> Extended by both banks and non-bank financial institutions.

Chart 1.8: Household Sector – Annual Growth of Debt



Source: Bank Negara Malaysia

Chart 1.9: Household Sector – Composition of Debt by Purpose

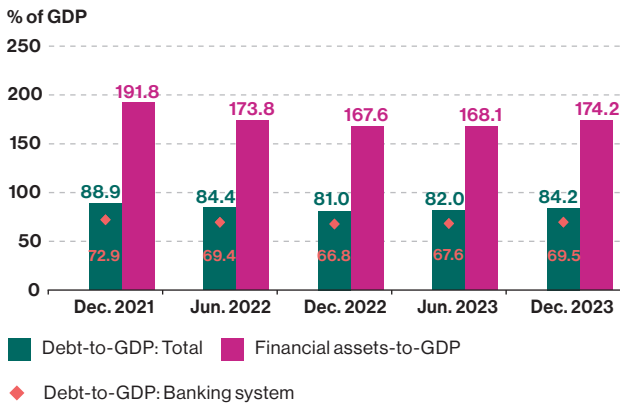


Note: Figures may not add up due to rounding.

Source: Bank Negara Malaysia

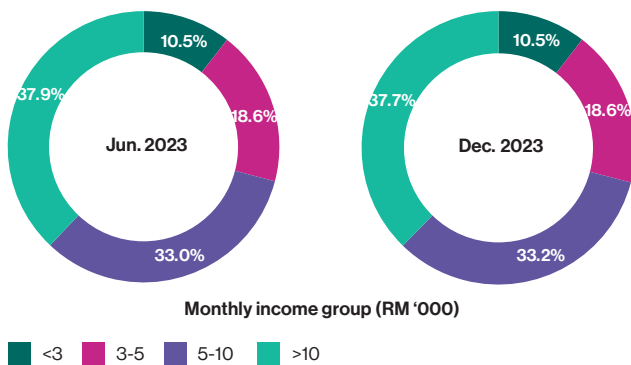
As at December 2023, the ratio of household debt-to-GDP and the ratio of banking system household debt-to-GDP remained elevated at 84.2% and 69.5% respectively (Chart 1.10). Despite this, households remain generally resilient. About 70.9% of household banking system debt is held by middle- and higher-income borrowers with a monthly income of RM5,000 and above (Chart 1.11). The overall median debt-to-income ratio was stable at 1.4 times (June 2023: 1.4 times) as banks maintained sound lending standards (Chart 1.12). Other measures also point to sustained debt-servicing capacity. In the second half of 2023, debt service ratios (DSRs) of newly approved and outstanding household loans stood at 41% and 35% respectively

**Chart 1.10: Household Sector – Key Ratios**



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

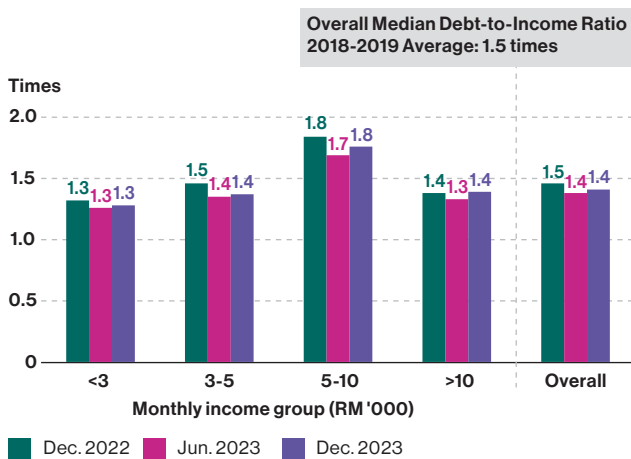
**Chart 1.11: Household Sector – Composition of Banking System Debt by Income Group**



Note: 1. Figures exclude loan accounts with incomplete income information. 2. Figures may not add up due to rounding.

Source: Bank Negara Malaysia

**Chart 1.12: Household Sector – Median Debt-to-Income Ratios by Income Group**

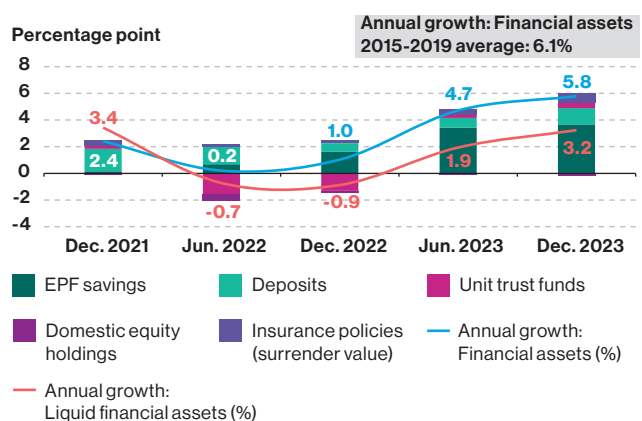


Source: Bank Negara Malaysia

(June 2023: 41% and 35%), providing healthy buffers for households to meet their loan obligations. Meanwhile, the share of borrowers with DSR exceeding 60% remained broadly unchanged at about a quarter of total household borrowers. More than two-thirds (69%) of high-DSR debt is held by middle- and high-income borrowers who typically have larger financial buffers to sustain loan repayments in the event of financial shocks. This is reflected in the low and stable level of impairment ratio among high-DSR borrowers (1.2%; June 2023: 1.3%).

The share of households that reported facing difficulties affording essential monthly expenditures with their current income increased slightly in 2023, notably among lower-income groups.<sup>20</sup> Most households, however, appear to be able to sustain consumption patterns and savings. Household spending on both necessities and discretionary expenditure items continued to expand, lending support to private consumption which grew by 4.4% in the second half of 2023. This has been accompanied by a sustained strong growth in the value of debit card spending of 13.5%. Similarly, the value of credit card spending expanded by 9.2%, with the share of revolving balances continuing to trend lower as earlier noted. Household financial assets also recorded healthy growth (5.8%; June 2023: 4.7%; 2015-19: 6.1%) (Chart 1.13), with higher savings held in bank deposits and contributions to the Employee Provident Fund (EPF), in line with the improvements in labour market conditions. Correspondingly, households continued to hold financial

**Chart 1.13: Household Sector – Annual Growth of Financial Assets**



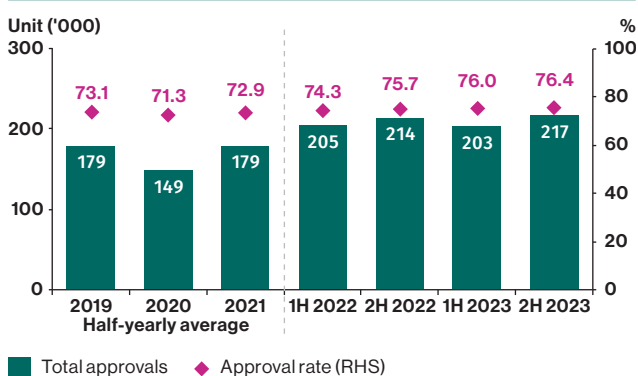
Source: Bank Negara Malaysia, Bursa Malaysia, Employees Provident Fund and Securities Commission Malaysia

<sup>20</sup> Based on BNM's monthly Consumer Sentiment Survey. The survey aims to gauge general economic and financial sentiments and expectations of the Malaysian consumers on a variety of topics such as household financial positions, labour market developments and cost of living. The survey is based on a representative sample of households across all income levels nationwide.

assets in excess of debt, with the aggregate value of financial assets remaining steady at 2.1 times of total household debt (June 2023: 2.1 times; December 2022: 2.1 times).

House financing continues to account for the bulk of household debt (60.5% of total household debt). Financing activity for the purchase of residential properties remained forthcoming in the second half of 2023, with loan applications and approvals picking up amid improved labour market conditions (Chart 1.14). Average lending rates on new house financing were below levels observed in the second half of 2019 (2H 2023 average: 4.2%; 2H 2019 average: 4.4%) when the OPR was last at 3.00%, reflecting strong competition among financial institutions (Chart 1.15). This has helped support access to financing for new home buyers. Owner-occupiers<sup>21</sup> continued to drive overall housing loan growth, accounting for more than two-thirds of the increase in overall housing loans. These borrowers

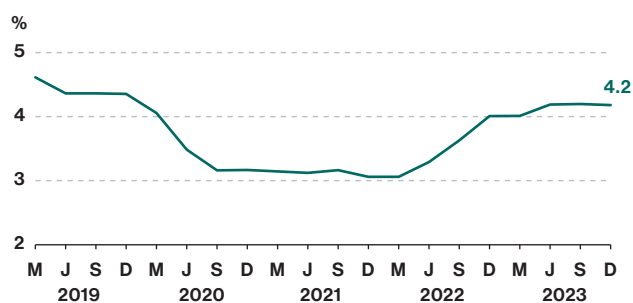
**Chart 1.14: Property Market – Volume of Approvals and Approval Rate for Housing Loans**



Note: Approval rate calculated based on volume of approvals.

Source: Bank Negara Malaysia

**Chart 1.15: Property Market – Average Lending Rate on New Housing Loans**



Source: Bank Negara Malaysia

<sup>21</sup> Proxied by individual borrowers with one housing loan, including first-time home buyers.

typically have higher incentives to service their loans. The median loan-to-value (LTV) ratio of outstanding housing loans remained prudent (66.6%; June 2023: 65.9%). This provides comfortable buffers for banks and borrowers against a correction in house prices, although risks of this materialising have receded amid improving activities in the housing market (see Information Box on 'Developments in the Residential Property Market').

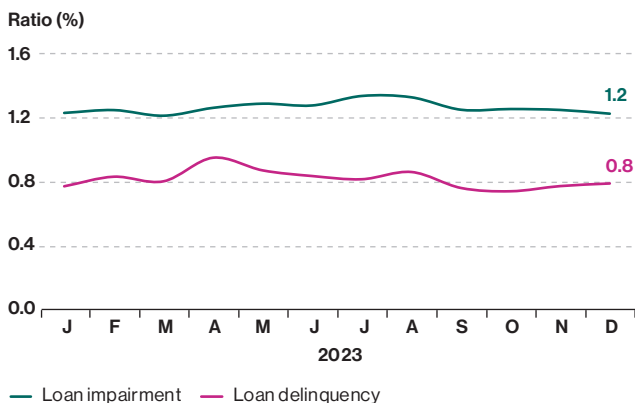
Risks from credit-fuelled property investments have remained low. Outstanding housing loan growth for individual property investors<sup>22</sup> grew at a relatively moderate pace in the second half of 2023 (4.5%; June 2023: 4.4%), well below the growth rate for loans by owner-occupiers (9.2%; June 2023: 8.6%). The median LTV ratio of outstanding housing loans of individual property investors has also been relatively stable at 62.9% (June 2023: 62.4%). The bulk of these investors have no more than two property loans. Insights from banks, consistent with the historical loan performance, point to strong incentives generally observed among these investors to service loans, comparable to owner-occupiers (December 2023 impairment ratio for individuals with only two outstanding property loans: 1%; owner-occupiers: 1.4%). This is partly attributed to investors' longer-term intentions for holding properties (e.g. purchased for children or as a source of retirement income). The share of such exposures that are in a negative equity position also remains small (1.1%).

## Overall household resilience remains intact amid favourable labour market conditions, but vulnerabilities persist within certain segments

The overall quality of household borrowings has remained relatively sound (Chart 1.16). The share of household loans classified as Stage 2 (identified as having higher credit risk) edged higher (4.8%; June 2023: 4.3%). This remains within banks' expectations and is about 40% lower in value terms than that at the height of the pandemic. However, new signs of stress have been muted. The overall share of household borrowings under repayment assistance remained largely stable (1.6%; June 2023: 1.8% of total banking system and DFI loans), with a lower flow of new loans-in-arrears

<sup>22</sup> An individual property investor refers to an individual borrower with more than one housing loan.

**Chart 1.16: Household Sector – Loan Impairment and Delinquency Ratios in the Banking System**



Source: Bank Negara Malaysia

during the period. Newly restructured or rescheduled household loans also remained small at RM4.6 billion, equivalent to 0.2% of total banking system and DFI loans. Of this, newly-distressed exposures (exposures with no prior history of repayment assistance) only amounted to RM1.6 billion (or 0.1% of total banking system and DFI loans), indicating limited signs of emerging pocket of vulnerabilities.

Households facing repayment difficulties remain contained to a small segment of borrowers with pre-existing financial vulnerabilities. These include (i) lower-income borrowers, (ii) borrowers who were previously under repayment assistance programmes,

and (iii) borrowers whose income levels have yet to fully recover since the pandemic. Financial and debt management assistance remains in place through the Credit Counselling and Debt Management Agency (AKPK) to help these segments of borrowers attain a firmer financial footing. Enrolments into AKPK’s Debt Management Programme (DMP) for 2023 increased to 52,057 cases (2022: 34,670 cases; 2019: 48,581 cases) as more borrowers sought help to manage their debt amid cost of living pressures. Greater awareness of support available also contributed to the increase in enrolments. The overall share of household debt under DMP remained small (0.54% of total banking system and DFI loans; June 2023: 0.49%; December 2019: 0.49%).

Favourable labour market conditions, the continued availability of loan repayment assistance for viable borrowers, as well as government support measures for vulnerable households are expected to continue to lend support to overall household debt-servicing capacity. Nevertheless, banks remain firmly resilient to potential stress from the household sector in the unlikely event that ongoing challenges faced by some borrowers become more widespread. The latest stress test conducted by BNM shows that up to 4.8% of total banking system loans could be at risk of default by end-2026 if household borrowers experience severe labour market shocks with the unemployment rate reaching as high as 6.0%. This would continue to remain comfortably within banks’ excess capital buffers (refer to the section on ‘Assessing the Resilience of Financial Institutions’ for more details).

## Developments in the Residential Property Market

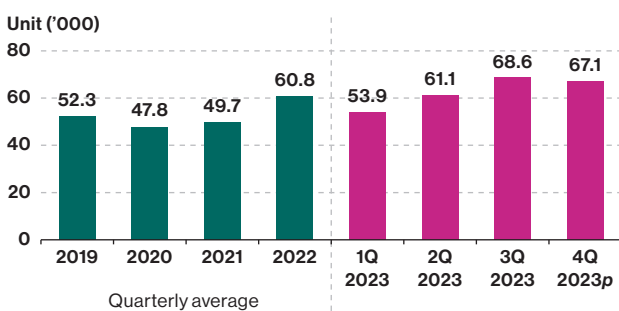
Malaysia's residential property market continued its recovery momentum in the second half of 2023, with further improvements in market activity. Against the backdrop of improving income and employment conditions, demand for housing remained forthcoming. Total residential property transactions picked up further in the second half of 2023 to above pre-pandemic levels (Chart 1.17). More than three-quarters of these transactions were for the purchase of properties in the more affordable mass-market segment (i.e. houses priced RM500,000 and below).<sup>23</sup> Demand for housing was also supported by measures to promote homeownership,<sup>24</sup> as well as competitive financing conditions. The volume of housing loan applications and approvals correspondingly increased during the period.

While transactions have trended higher across all key states,<sup>25</sup> market activity was particularly pronounced in Johor. This was spurred by improved sentiments surrounding projects like the Special Economic Zone and Johor Bahru–Singapore Rapid Transit System Link, as well as favourable demand from Malaysians who are working in Singapore. Importantly, signs of speculative activities remained limited, as most of these purchases were made by first- and second-time home buyers.

House prices<sup>26</sup> expanded by 3.3% in the third quarter of 2023 (Chart 1.18). The growth was largely driven by higher prices for landed properties, reflecting a persistent supply-demand mismatch for affordable housing amid stronger demand for new landed homes compared to high-rise units. Key states continued to drive overall house price growth, with Johor in particular recording strong growth.

Improvements in the housing market have reduced risks to household borrowers and lenders from a sudden and significant decline in house prices. The volume of unsold housing units has also continued to decline to 128,315 units (June 2023: 141,855 units; 2015–19 average: 130,210 units) further mitigating downside risks to house prices. Looking ahead, risks are expected to remain low. This is supported by (i) sustained income and population growth, supporting demand for housing, and (ii) low risk of widespread household defaults and foreclosures that would negatively impact house prices. Housing affordability issues are however expected to persist in the near term given elevated construction costs, which are likely to be passed on by developers to home buyers, and fewer launches relative to the pre-pandemic years constraining supply, particularly in the affordable housing segment.

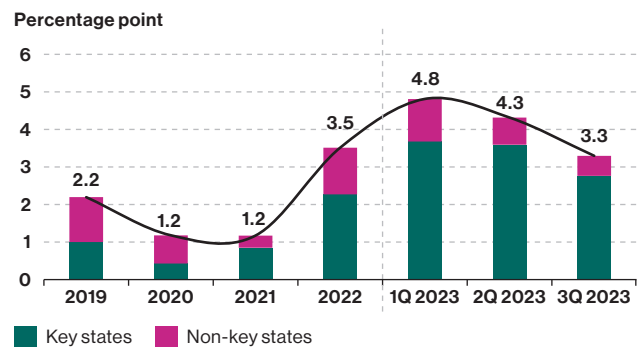
**Chart 1.17: Property Market – Housing Transaction Volume**



p Preliminary

Source: National Property Information Centre (NAPIC)

**Chart 1.18: Property Market – Malaysian House Price Index (MHPI) Growth by State**



Key states Non-key states

Source: National Property Information Centre (NAPIC)

<sup>23</sup> Housing affordability, while remaining within the 'seriously unaffordable' range, has remained broadly steady amid income growth that outpaced that of house prices. The median house price-to-income ratio stood at 4.3 in 2022.

<sup>24</sup> Refers to Malaysian Home Ownership Initiative (i-Miliki) which provides (i) 100% stamp duty exemption for first-time home buyers purchasing residential properties valued at RM500,000 or below until end-2025 and (ii) 75% stamp duty exemption for properties priced between RM500,000 and RM1 million until end-2023.

<sup>25</sup> Key states include Johor, Kuala Lumpur, Pulau Pinang and Selangor.

<sup>26</sup> As measured by the Malaysian House Price Index by National Property Information Centre (NAPIC).

## OPERATIONAL RISK

### Operational resilience of financial institutions remained intact

Ensuring the operational and cyber resilience of financial institutions remained a key focus in the second half of 2023. An increasing frequency of ransomware attacks and the proliferation of cybercrime-as-a-service (CaaS)<sup>27</sup> present a continuous operational risk challenge for financial institutions globally. In defending against such threats, BNM requires financial institutions to implement and enforce strong cyber hygiene standards, particularly around governance and patch management. Financial institutions in Malaysia have maintained a heightened state of vigilance over evolving technological risks and cyber threats. In addition to threat surveillance, detection and responses at the firm-level, measures continue to be taken to further improve coordinated system-wide surveillance and responses.

Unauthorised online banking transactions continued to be on a downward trend following the implementation of additional fraud countermeasures<sup>28</sup> by financial institutions. In the fourth quarter of 2023, BNM consulted the financial industry for feedback on enhanced fraud detection standards focusing on internet banking transactions. These standards aim to augment the industry's ability to detect and avert fraudulent transactions on a near real-time basis with improved analytics and coordinated operational measures.

BNM has also strengthened requirements around financial institutions' cloud risk management capabilities.<sup>29</sup> These include, among others, requirements for financial institutions to put in place additional governance and technical controls such as embracing zero trust principles<sup>30</sup> in the cloud security architecture. These measures will enable financial

institutions to mitigate technical failures and respond more effectively to cloud service outages attributed to the service providers. BNM continues to closely monitor the effective implementation of these measures by financial institutions in tandem with the wider adoption of cloud-based solutions within financial services.

Collaboration among local cybersecurity agencies, through the sharing of timely cyber threat intelligence, remains essential to the financial industry's defence against cyber threats. In the fourth quarter of 2023, BNM signed a Memorandum of Understanding with CyberSecurity Malaysia to enhance information sharing and foster collaboration towards elevating the financial sector's cyber resilience. Engagements with Securities Commission Malaysia and National Cyber Security Agency have also been initiated to further expand the scope of cyber threat intelligence sharing via the Financial Sector Cyber Threat Intelligence Platform (FinTIP).<sup>31</sup> In addition, industry engagement sessions have also facilitated exchanges of insights and best practices on cyber resilience among participants. Internationally, BNM continues to expand bilateral arrangements on cybersecurity cooperation with regional counterparts to facilitate information exchange and support capacity building.

Risks related to third-party service providers remain a key focus for BNM and financial institutions. In November 2023, BNM facilitated an industry simulation exercise with banks that have large branch and Automatic Teller Machine (ATM) networks to test the industry's controls and response to a simulated scenario of disruptions in third-party services affecting cash operations. The exercise provided useful insights to strengthen existing arrangements with alternate service providers to ensure the continuity of businesses and services to customers. This included improved coordination between financial institutions to better manage concentrations on a few alternate service providers in the event of the simultaneous triggering of each financial institution's business continuity plan during a system-wide crisis event.

To facilitate operational risk surveillance in the financial system, enhancements to the existing Operational Risk Integrated Online Network (ORION) standard and system were rolled out on 30 November 2023. The enhancements enable broader coverage and centralisation of more types of operational risk-related

<sup>27</sup> Refers to a subscription-based organised crime model where hackers sell or lease their tools, expertise and services to other cybercriminals or less skilled threat actors.

<sup>28</sup> For details on additional key measures to further strengthen safeguards against financial scams, please refer to the [announcement by BNM Governor during the launch of the virtual Financial Crime Exhibition on 26 September 2022](#).

<sup>29</sup> Additional expectations on cloud risk management for financial institutions were introduced in the revised Risk Management in Technology (RMIT) policy document that was issued on 1 June 2023.

<sup>30</sup> Refers to a security paradigm designed to prevent data breaches and limit internal lateral movement of threat actors by requiring all users, whether in or outside the organization's network, to be authenticated, authorised and validated before being granted access to each separate protected zone.

<sup>31</sup> FinTIP was established by BNM in 2021 to facilitate the collation, aggregation, analysis and sharing of cyber threat information across the financial industry.

information with additional granularity in information reported. This information will support better surveillance of operational risks in individual financial institutions as well as across the financial system. The enhancements would also enable financial institutions to quickly access aggregated industry information for improved benchmarking against industry losses and incidences.

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## Payment and settlement systems sustained their operational resilience

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Throughout the second half of 2023, the Real-time Electronic Transfer of Funds and Securities System (RENTAS) and major retail payment systems maintained a high level of operational resilience and system availability. There were no major operational or cyber incidents experienced during this period. Payment system operators maintained vigilance, actively identifying and addressing potential risks and threats amidst the evolving payment landscape.

The accelerated adoption of e-payment transactions has heightened credit and settlement risks associated with the real-time retail payment systems. Under the existing deferred net settlement arrangement, credit exposures between participating institutions have been increasing especially during weekends and public holidays. In the unlikely event of severely stressed market conditions,

payee banks may be exposed to settlement risk if there is a settlement failure by one or more payer banks.

To address these risks, several enhancements were implemented in October 2023:

- Additional settlement windows at RENTAS for the Real-time Retail Payments Platform (RPP) and Financial Process Exchange (FPX) on weekends and public holidays, supported by funding mechanisms available to banking institutions to facilitate settlement (Intraday Credit Facility and Funding Facility for Retail Payments Settlement).
- The imposition of deferred net settlement collateral requirements on RPP participants, through the ongoing maintenance of adequate cash and eligible securities.

As regional payments interconnectivity expands, greater complexity and interdependence among payment systems can increase systemic risks. To ensure safe and secure connectivity arrangements, BNM is pursuing efforts to strengthen oversight of these cross-border arrangements through cooperative arrangements between the regulatory bodies in the relevant countries. These include enhancing operational procedures and coordinated monitoring of potential fraud threats arising from these cross-border linkages. Additionally, efforts towards fortifying business continuity management and cyber resilience to mitigate risk from cross-border transactions and critical service providers remained a focus for payment system operators.

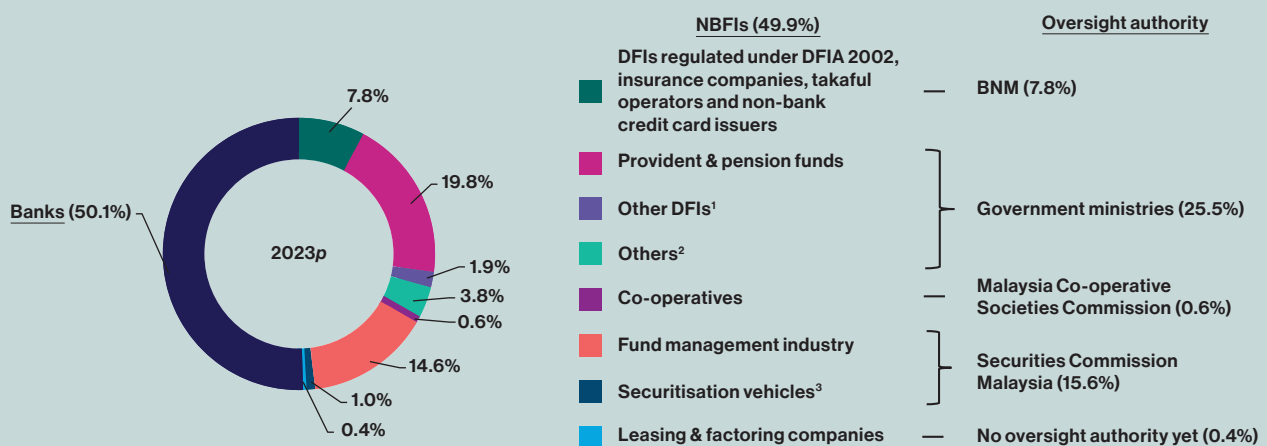
## Contagion Risk from Non-Bank Financial Institutions' (NBFi) Activity

### The NBFi sector, both globally and domestically, has grown significantly in the past decade

Globally, non-bank financial institutions<sup>1</sup> (NBFi) financial assets have more than doubled since 2008, reaching USD218 trillion as at 2022. The interlinkages between the NBFi sector with the rest of the financial system have also deepened, in line with the growing significance of NBFis in the economy. This presents new channels of propagation of financial stress. Recent episodes of financial market stress associated with NBFis in advanced economies<sup>2</sup> have underlined the importance of monitoring developments in this sector that could give rise to systemic risks, particularly from activities and behaviours during stressed conditions that might amplify financial shocks to the economy.

In Malaysia, the NBFi sector has expanded by 67.4% over the past decade, with total assets growing from RM2 trillion in 2013 to RM3.3 trillion in 2023. NBFi assets as a share of total financial system assets have correspondingly increased from 38.1% to 49.9%. Of this, close to half is held by development financial institutions (DFIs),<sup>3</sup> insurers and takaful operators (ITOs), and investment funds that are prudentially regulated by BNM or the Securities Commission. The structural composition of the sector has been relatively stable over the past decade. Pension and provident funds form the bulk of the remaining share of NBFi assets (Chart 1). Such funds are subject to specific laws, regulations or guidelines issued by the Government or regulatory authorities that govern their management and operations.

**Chart 1: Financial System – Composition of Assets**



p Preliminary

<sup>1</sup> Development financial institutions (DFIs) that are not regulated by BNM under the Development Financial Institution Act (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 assets of national mortgage corporation.

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

<sup>1</sup> Based on the Financial Stability Board (FSB), NBFis include the broad measure of all non-bank financial entities, composed of all financial institutions that are not central banks, banks, or public financial institutions.

<sup>2</sup> Among the notable examples include the "dash-for-cash" episode in the United States in March 2020, the collapse of Archegos Capital Management in March 2021, and the stress in the United Kingdom pension funds sector in September 2022.

<sup>3</sup> Refers to DFIs under the Development Financial Institutions Act 2002.

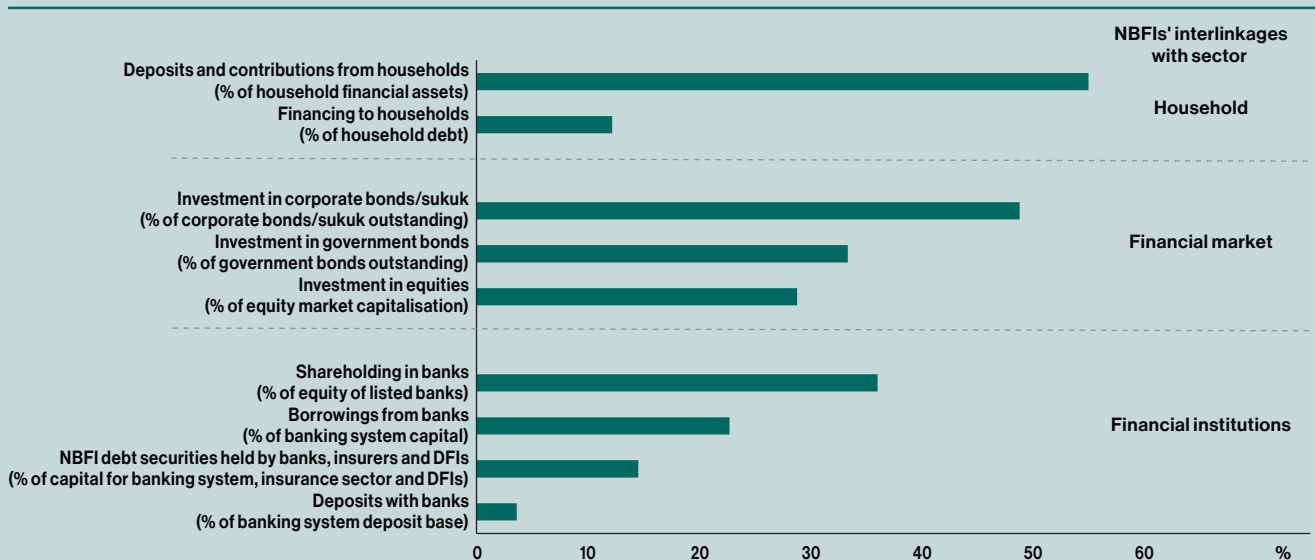
Other non-bank credit intermediaries<sup>4</sup> account for a much smaller share (10.9%) of NBFIs assets. Lending by these non-bank credit intermediaries is extended to individual borrowers and typically funded via bank loans, the capital market or government grants, with limited maturity transformation.<sup>5</sup> Their share of credit was at 12.2% of total credit to households, with the balance intermediated by traditional banks. The share of total financial system assets of these entities has remained stable over the years, with generally modest credit expansion observed, consistent with their niche target markets. While some of these non-bank credit intermediaries are currently unregulated, the impending enactment of the Consumer Credit Act (CCA) will pave the way for the establishment of the Consumer Credit Oversight Board as an independent competent authority to oversee consumer credit providers and credit service providers.<sup>6</sup>

## NBFIs are interconnected with the banking system, both directly and indirectly

NBFIs<sup>7</sup> exhibit both direct and indirect connections with the banking system:

- NBFIs hold a substantial stake in banks, accounting for 36.1% of the total listed equity of banks (Chart 2). This increases the potential for strains from the NBFIs sector to spill over to the broader banking system, and vice versa, through financial and reputational channels. Dividends distributed by banks are also an important source of income for several large NBFIs. A significant fall in the profitability of banks could adversely impact the financial performance of these NBFIs and ultimately, household savings held with NBFIs. This in turn could create negative feedback loops to the banking system and broader economy.
- NBFIs are also large depositors in the banking system, with deposits concentrated in individual banks. For some banks, NBFIs deposits account for as much as 17% of their deposit base. As such, large unplanned withdrawals by NBFIs, particularly in response to sudden liquidity needs, could result in subsequent liquidity strains on banks. During the COVID-19 pandemic, the implementation of relief measures<sup>8</sup> led to large deposit withdrawals by some NBFIs to meet an unexpected demand for liquidity. Banks' strong liquidity positions at the time had cushioned the impact, with

**Chart 2: Non-Bank Financial Institutions – Interlinkages with the Financial System**



■ 2023<sup>p</sup>

<sup>p</sup> Preliminary

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

<sup>4</sup> Includes co-operatives, moneylenders, pawnbrokers, leasing and factoring companies, non-bank providers of housing loans, hire purchase, and student loans.

<sup>5</sup> Maturity transformation assesses the extent of maturity gap risk taken by an NBFIs and is measured by the coverage ratio of short-term liabilities over short-term assets. The maturity transformation ratio for selected non-bank credit intermediaries ranges from 0.12 times to 0.41 times, which remained below the median maturity transformation ratio for finance companies in other jurisdictions (2022: 0.86 times). (Financial Stability Board, 2023, p. 50).

<sup>6</sup> The CCA is expected to be tabled at the Parliament in the third quarter of 2024.

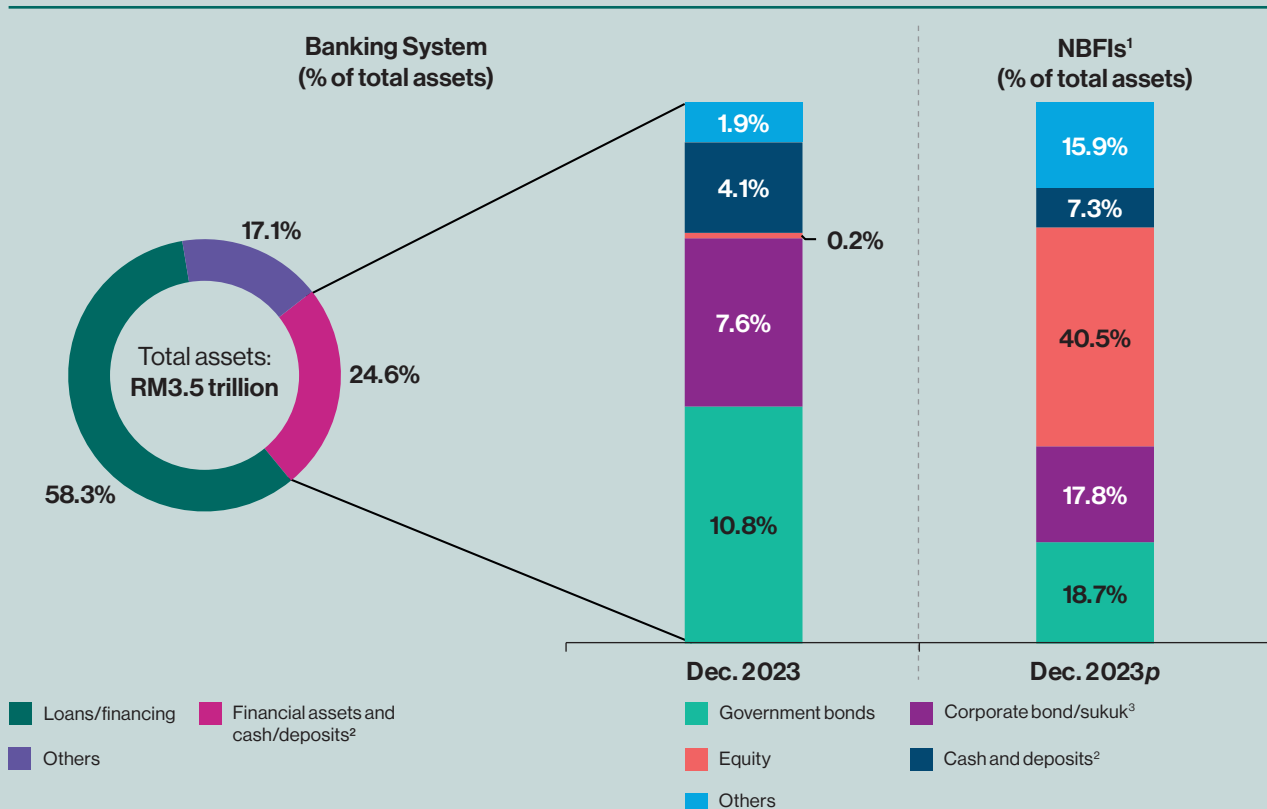
<sup>7</sup> In the subsequent section of this box article, references to NBFIs exclude DFIs, ITOs and non-bank credit card issuers that are regulated by BNM. BNM-regulated DFIs, ITOs and non-bank credit card issuers are subject to strong prudential standards that mitigate financial stability risks.

<sup>8</sup> The relief measures implemented by NBFIs include lowering the contribution rate and allowing the withdrawal of savings from retirement funds, introducing job protection and hiring incentive programmes, and deferring loan repayments.

the overall Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) remaining well above their minimum requirements.

- Direct contagion risk can also stem from banking institutions' funding to NBFIs, either via loans to or holding of debt securities issued by NBFIs. NBFIs' inability to meet their debt obligations could result in credit losses to banks. At present, such risks are largely mitigated as about half of the credit exposures of banks to NBFIs are guaranteed by the Government, thus minimising potential credit losses to banks if NBFIs face financial distress.
- NBFIs are significant participants in the domestic financial markets, with substantial investments in equities, government bonds and corporate bonds/sukuk (Refer to Chart 2). The common asset holdings between NBFIs and the banking system are primarily concentrated in the government bond markets (Chart 3). While NBFIs' participation in the financial markets provides stability and depth to these markets, any large-scale disposal of these assets by NBFIs under stressed conditions could significantly depress asset prices. This could subsequently affect the balance sheets of banks with similar asset holdings, presenting indirect contagion risks from NBFIs to the banking system. Based on the liquidity profiles of key NBFIs, in the event of sustained stressed outflows faced by these NBFIs that lead to a fire sale of their government bonds and an associated increase in bond yields by up to 53.5 bps, the subsequent contagion risk to banks' solvency is assessed to be minimal. Results from the simulation show that the banking system's total capital ratio as at December 2023 may decline from 18.5% to 18.1% post-simulation.
- While banks and NBFIs also both have sizable holdings of corporate bonds and sukuk, the exposures are more dispersed across various issuers. This significantly reduces the transmission of indirect contagion risk from an asset fire-sale by NBFIs. Similarly, the indirect contagion risk from an equity fire-sale by NBFIs to the banking system is expected to be limited, given that banks have minimal exposure to equity investments (0.2% of total banking system assets).

Chart 3: Asset Allocation in the Banking System and Non-Bank Financial Institutions



p Preliminary

<sup>1</sup> Includes systemic provident and pension funds, systemic unit trust funds, systemic non-bank deposit-taking institutions, non-bank provider of education financing, non-bank provider of housing credit, government-owned trustee company, social security organisation, and national mortgage corporation.

<sup>2</sup> For banks, this comprises cash and cash equivalents, deposits placements and reverse repurchase agreement, and statutory deposits placed with BNM.

<sup>3</sup> Includes debt securities issued by BNM, Cagamas Berhad and Khazanah Nasional Berhad.

Source: Bank Negara Malaysia

## Robust surveillance of the NBFi sector is crucial for the timely detection of potential financial stability risks

Given the important interlinkages between NBFIs and the rest of the financial system, BNM regularly engages the relevant regulatory authorities, such as the Securities Commission and the Malaysia Co-operative Societies Commission, and selected systemic NBFIs as part of its surveillance on financial stability risks that may emerge from the activities of NBFIs. These engagement platforms allow for the sharing of information to enable more integrated risk assessments. Efforts continue to be made to expand the coverage of risk assessments of the NBFi sector through greater data sharing across relevant entities and agencies. Where potential risks to financial stability are identified, the Financial Stability Executive Committee<sup>9</sup> (FSEC) serves as the apex committee empowered to specify policy measures applicable to NBFIs in order to avert or reduce such risks. The last time such measures were taken was in 2013 when macroprudential measures were extended to selected non-bank credit intermediaries to curb excessive household indebtedness and promote the adoption of sound responsible financing standards across the key credit providers.<sup>10</sup>

### References

Barr, M. S. (2022, December 1). *Why Bank Capital Matters*. Board of Governors of the Federal Reserve System. <https://www.federalreserve.gov/newsevents/speech/barr20221201a.htm>

Cetorelli, N., Landoni, M., & Lu, L. (2023). *Non-Bank Financial Institutions and Banks' Fire-Sale Vulnerabilities*. Federal Reserve Board of New York Staff Report No. 1057.

Choudhary, R., Mathur, S., & Wallis, P. (2023). *Leverage, Liquidity and Non-Bank Financial Institutions: Key Lessons from Recent Market Events*. RBA Bulletin - June 2023.

Financial Stability Board. (2023). *Global Monitoring Report on Non-Bank Financial Intermediation*.

International Monetary Fund. (2023). Chapter 2: Nonbank Financial Intermediaries: Vulnerabilities amid Tighter Financial Conditions. In *Global Financial Stability Report: Safeguarding Financial Stability amid High Inflation and Geopolitical Risks*. (pp. 59–80).

Sydow, M., Schilte, Aurore, Covi, G., Deipenbrock, M., Del Vecchio, L., Fiedor, P., Fukker, G., Gehrend, M., Gourdel, R., Grassi, A., Hilberg, B., Kaijser, M., Kaoudis, G., Mingarelli, L., Montagna, M., Piquard, T., Salakhova, D., & Tente, N. (2021). *Shock Amplification in an Interconnected Financial System of Banks and Investment Funds*. ECB Working Paper No. 2021/2581.

<sup>9</sup> The FSEC was established in accordance with Section 37 of the Central Bank of Malaysia Act 2009. Refer to the chapter on "Board of Directors, Senior Management, Organisation Structure and Statutory Committees of the Bank" in the BNM Annual Report 2023 for further details.

<sup>10</sup> In 2013, the FSEC decided to extend the responsible financing standards to all credit co-operatives regulated by the Malaysia Co-operative Societies Commission and two large retail credit providers. Among others, the measures included limiting the loan tenures for personal financing and housing loans, and prohibiting the offering of pre-approved personal financing facilities without an application from the borrower. Refer to the BNM Financial Stability and Payment Systems Report 2013 for further details.



# Financial Institution Soundness and Resilience

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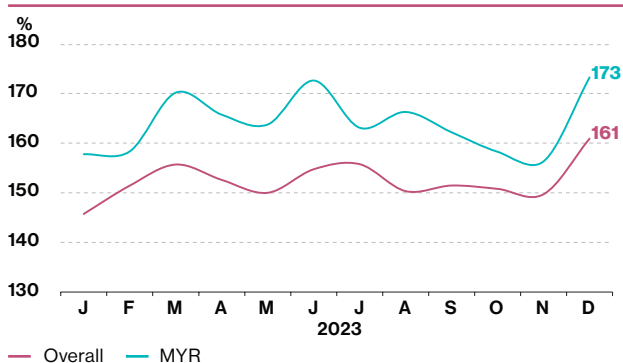
# Financial Institution Soundness and Resilience

## THE BANKING SECTOR

### Banks' strong funding and liquidity positions supported intermediation activities

The liquidity and funding positions of the banking system remained strong in the second half of 2023. The aggregate Liquidity Coverage Ratio (LCR) (Chart 2.1) and Net Stable Funding Ratio (NSFR) (Chart 2.2) remained healthy and well above regulatory minima, at 160.9% and 118.2% respectively as at end-December 2023 (June 2023: 154.7% and 117.0% respectively). Banks' holdings of high-quality liquid assets (HQLA) increased further (RM758.3 billion; June 2023: RM744.3 billion), mostly in the form of central bank placements and government bonds, which banks can pledge in the interbank market or with BNM for access to additional liquidity.<sup>1</sup>

**Chart 2.1: Banking System – Liquidity Coverage Ratio**

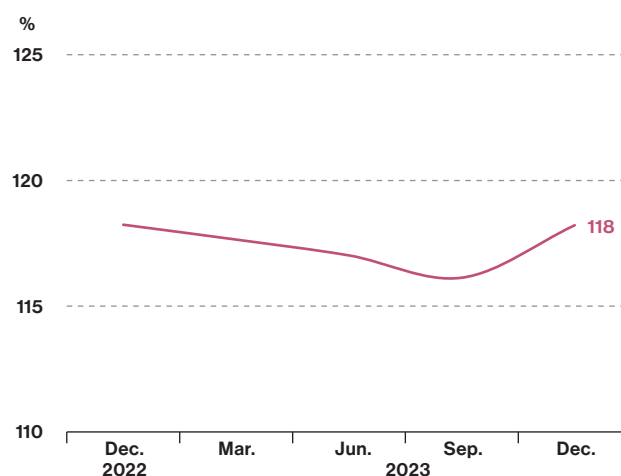


Note: 1. MYRLCR is calculated based on HQLA and expected net cash outflows denominated in ringgit.  
2. Overall LCR is calculated based on HQLA and expected net cash outflows denominated in all currencies.

Source: Bank Negara Malaysia

<sup>1</sup> All banks have access to standing facilities and Restricted Committed Liquidity Facility (RCLF) with BNM to meet liquidity needs. The RCLF was introduced by BNM in 2016 to allow banks to obtain liquidity for tenures greater than 1 month from BNM. Banks that intend to use the RCLF will be charged a fixed facility rate and will be required to designate a pool of unencumbered eligible securities that would be sufficient to support the total size of the RCLF.

**Chart 2.2: Banking System – Net Stable Funding Ratio**



Source: Bank Negara Malaysia

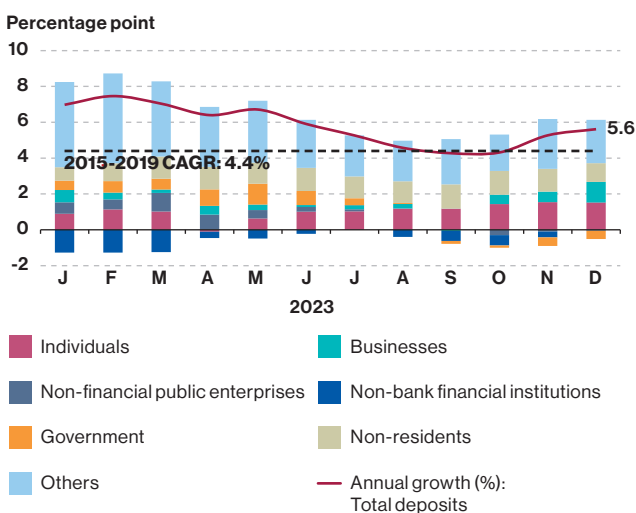
Banking system deposits continued to grow (Chart 2.3), mainly driven by businesses and individuals, in line with the improvements in business activities and household incomes. Resident individual and business (including non-financial public enterprises) deposits accounted for the bulk of banking system deposits at 35.6% and 34.1% respectively. These continued to provide a stable source of funding for banks amid lower deposits of non-bank financial institutions (NBFIs) and the Government in some periods during the second half of 2023. Longer-term fixed deposits (including Commodity Murabahah) grew faster than other major deposit types for the second consecutive year to make up nearly half (48.5%) of total banking system deposits (Chart 2.4). This remains lower than the historical average share of fixed deposits (2015–19 average: 51.2%). As the need for precautionary cash buffers subsides, the ongoing shifts observed from current and savings (CASA) deposits to longer-term fixed deposits will continue to underpin the stability of banks' funding sources. BNM's sensitivity analysis,<sup>2</sup> which assumes adverse deposit outflows and severe bond yield shocks further affirms

<sup>2</sup> Stressed outflows applied vary by bank depending on the bank's historical deposit outflow volatility and deposit composition (residents versus non-residents and retail versus corporate). The resultant outflow is at least 300% higher than each bank's historical average monthly outflow since 2016.

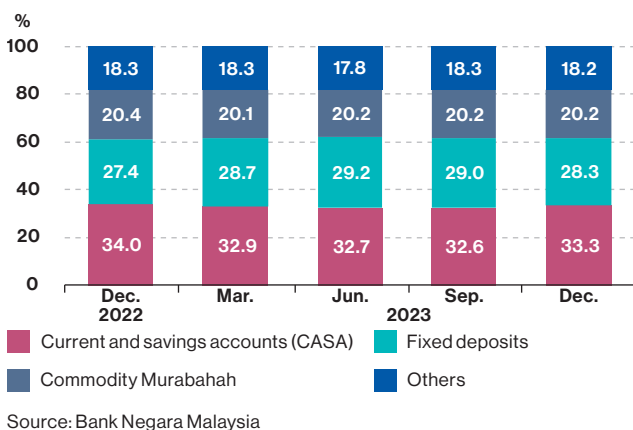
the banking system's resilience against liquidity shocks. Results of the analysis show that banks possess sufficient HQLA to withstand such adverse liquidity conditions (refer to the section on 'Assessing the Resilience of Financial Institutions' for further details).

Similar to previous seasonal trends, deposit competition picked up towards the end of the year as banks shored up buffers in anticipation of larger year-end withdrawals, particularly from large depositors. Compared to previous years, the extent of deposit competition was relatively muted as rate-hunting behaviour by corporates moderated amid expectations that the Overnight Policy Rate (OPR) has peaked. Banks were also observed

**Chart 2.3: Banking System – Contribution to Growth in Deposits Accepted**

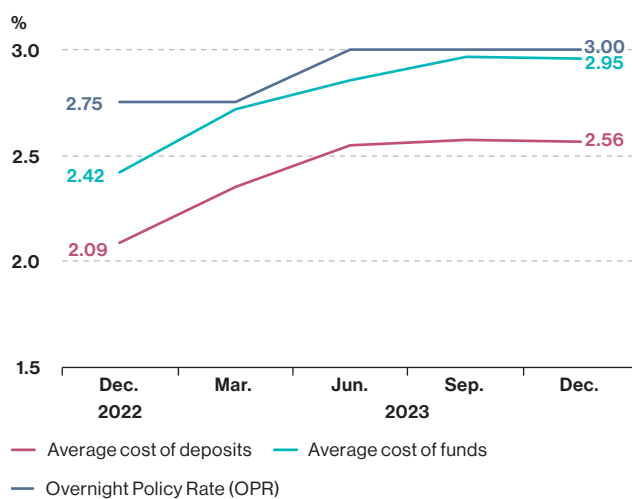


**Chart 2.4: Banking System – Composition of Deposits by Type**

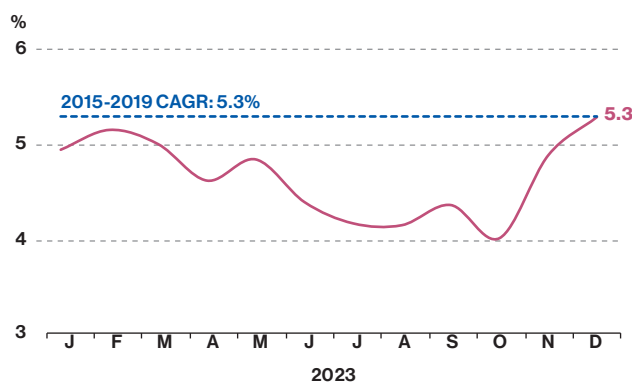


tapping the interbank market for longer-term funding, which saw interbank rates move slightly higher in the fourth quarter of 2023 (year-on-year increase in 3-month interbank rate: +4 bps).<sup>3</sup> This had a minimal impact on banks' cost of funds as ringgit interbank funding remained a small share of the banking system's overall funding mix at an estimated 2% of total funding. Going forward, continuing measures by banks to diversify and extend the maturity profile of funding sources will further strengthen their resilience to funding shocks. Overall, the average cost of funds rose by 10 bps between June and December 2023 to 2.95% (Chart 2.5). The bulk of the increase in banks' cost of funds was attributable to the higher share of longer-term

**Chart 2.5: Banking System – Average Cost of Deposits, Average Cost of Funds and OPR**



**Chart 2.6: Banking System – Annual Loan Growth**



<sup>3</sup> Increase between end-December 2022 and end-December 2023.

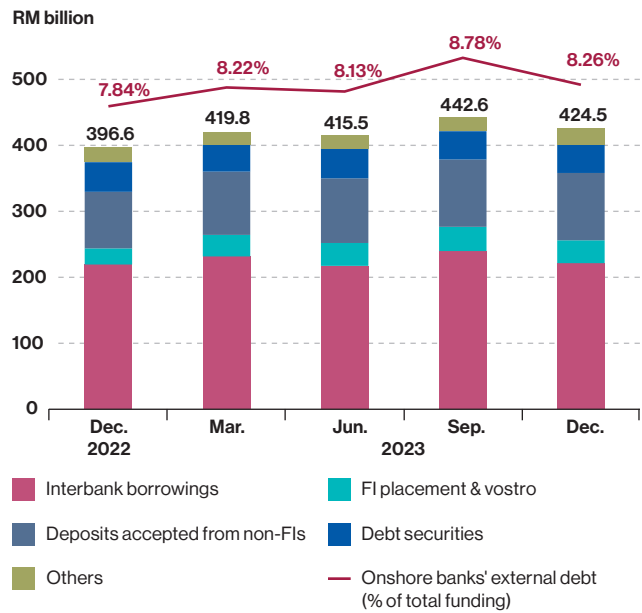
fixed deposits as the series of previous OPR increases worked through the system. The increase in banks' cost of funds has not resulted in any notable tightening of credit conditions. Bank lending to households and businesses continued to expand at a healthy rate (+5.3%; June 2023: +4.4%) (Chart 2.6). The weighted average lending rates for new business and retail loans have also remained broadly stable (+10 bps and -9 bps from June to December 2023 respectively) amid healthy competition observed among banks.

### Contagion risks from banks' exposures to external counterparties remained manageable

Banks' external debt increased by RM9 billion in the second half of 2023 to RM424.5 billion (Chart 2.7). The increase was largely driven by foreign currency (FCY) interbank borrowings, which some banks used to obtain ringgit funding via FCY swap arrangements. Depending on prevailing market conditions, such funding arrangements could be a source of ringgit funding at a lower cost compared to directly borrowing ringgit from domestic money markets. This remained relatively small as a share of banking system total funding, consistent with the historically low level of dependence on external debt by banks in funding their ringgit operations.

Overall risks from banks' external debt continued to be limited. The bulk of total banking system external debt exposures (78.6%; June 2023: 79.3%) are with related counterparties or in the form of long-term, stable debt, thereby limiting rollover or withdrawal risks. Banks maintained sizeable FCY liquid asset buffers, sufficient to cover up to 2.4 times (June 2023: 2.4 times) of total FCY external debt-at-risk<sup>4</sup> (Chart 2.8).

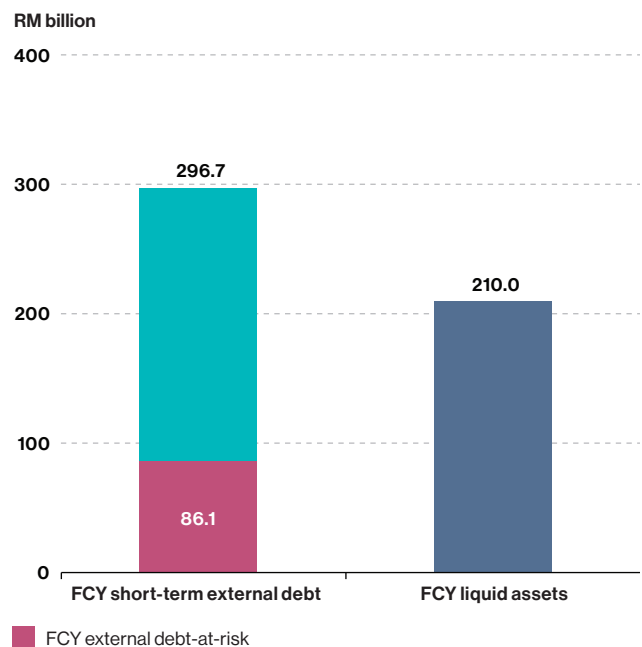
Chart 2.7: Banks' External Debt – by Instrument



Note: Banks' external debt in this context refers to external debt of DBGs, LIFBs and banks in the Labuan International Business and Financial Centre (LIBFC).

Source: Bank Negara Malaysia

Chart 2.8: Banking System – FCY External Debt-at-Risk and Liquid Assets



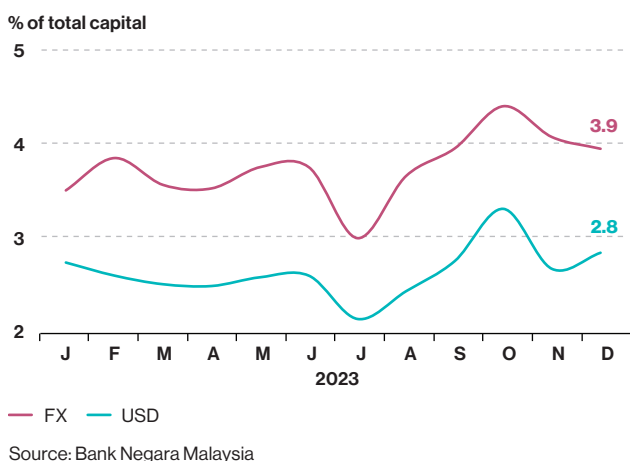
Note: Liquid assets comprise cash and cash equivalents, unencumbered debt securities held and interbank placements.

Source: Bank Negara Malaysia

<sup>4</sup> Banks' external debt-at-risk comprises financial institutions' deposits, interbank borrowings and short-term loans from unrelated non-resident counterparties, which are considered to be more susceptible to sudden withdrawal shocks.

Banks' foreign exchange net open position (FX NOP) from domestic operations remained manageable at 3.9% of banks' total capital (June 2023: 3.7%; 2020–22 average: 4.2%) (Chart 2.9) amid the market volatility during the period. This conservative FX NOP position reflects banks' relatively low risk appetite for uncovered exposures, limiting further FCY liquidity risks from movements in the ringgit.

**Chart 2.9: Banking System – FX and USD Net Open Positions**

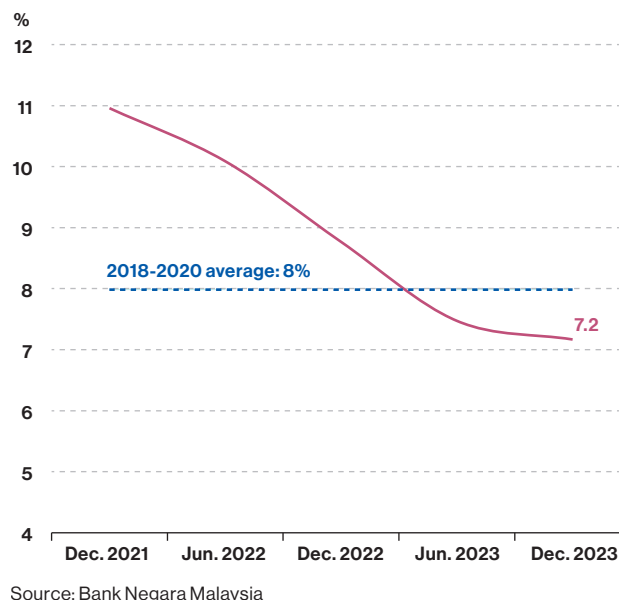


## Banks' asset quality improved but downside risks remain

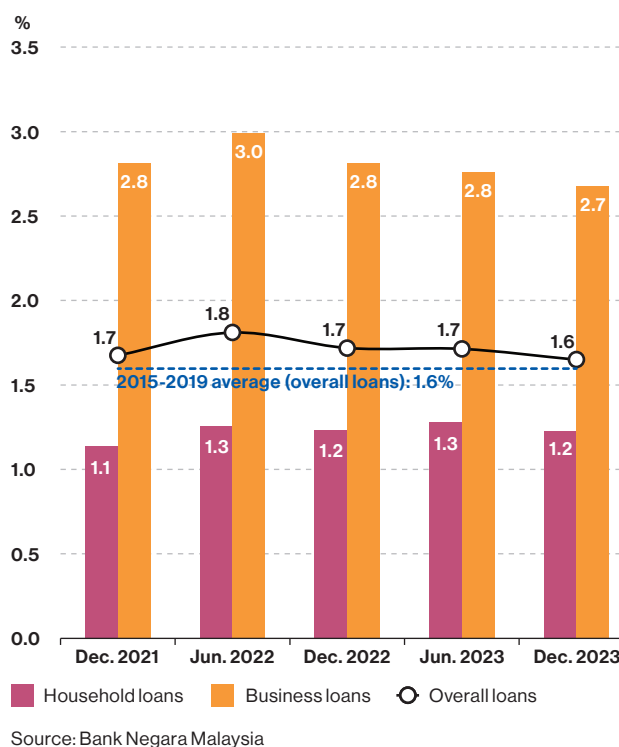
Banks' asset quality continued to improve in the second half of 2023. The share of loans classified under Stage 2 continued to decline, to 7.2% of total banking system loans (Chart 2.10). Total loans under repayment assistance programmes<sup>5</sup> improved to 2.4% of total banking system loans (June 2023: 2.5%) amid a steady recovery in borrowers' repayment capacity. New requests for restructuring and rescheduling from borrowers facing financial strains remained small at 0.16% of banks' total loans (June 2023: 0.1%). The gross impaired loans ratio correspondingly moderated slightly (1.6% of total loans; June 2023: 1.7%) (Chart 2.11). Moving forward, banks expect a modest increase in impairments as repayment assistance programmes are progressively reviewed. Persistent cost pressures could also start to weigh more heavily on the debt-servicing capacity of a

small segment of borrowers. Higher potential losses are expected to remain comfortably within banks' provisioning buffers as the vast majority of borrowers continue to show improvements in their debt-servicing ability.

**Chart 2.10: Banking System – Stage 2 Loans Ratio**



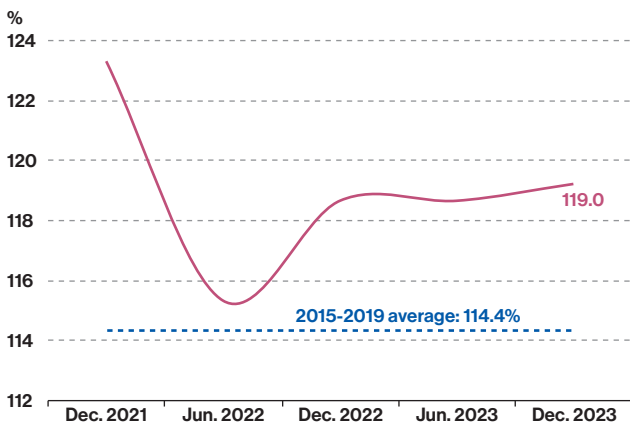
**Chart 2.11: Banking System – Gross Impaired Loans Ratio**



<sup>5</sup> Refers to all types of repayment assistance programmes including remaining loans under assistance extended under COVID-19, banks' bespoke packages, and restructuring and rescheduling (R&R).

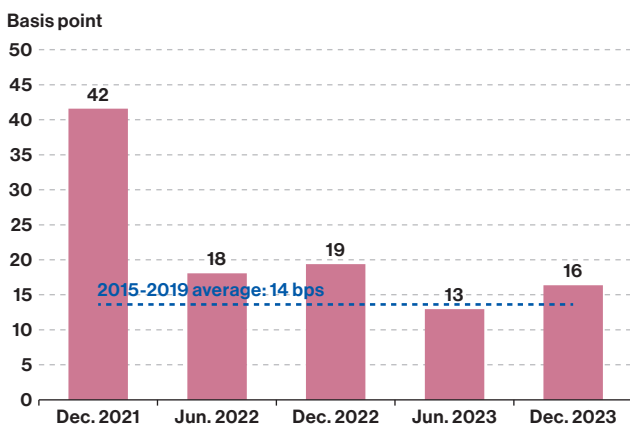
Consistent with the improvements observed in overall repayment trends, banks' provisions declined by 5.3% year-on-year. Banks continued to use management overlays<sup>6</sup> to account for uncertainty in the operating environment, particularly for high-risk borrowers. Such management overlays have been maintained by banks at around 28% of model-based expected credit loss (ECL) provisions for loans, broadly unchanged from June 2023. The banking system loan loss coverage ratio (including regulatory reserves) was correspondingly sustained at a high level of 119% (June 2023: 118.6%) (Chart 2.12) as banks continued to be vigilant. Annualised credit costs remained slightly elevated relative to pre-pandemic levels but have declined significantly from earlier peaks (Chart 2.13).

**Chart 2.12: Banking System – Loan Loss Coverage Ratio (Including Regulatory Reserves)**



Source: Bank Negara Malaysia

**Chart 2.13: Banking System – Annualised Credit Cost Ratio**



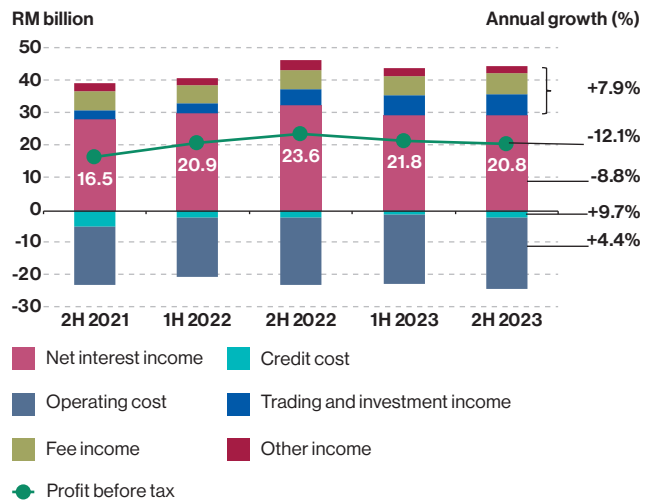
Source: Bank Negara Malaysia

<sup>6</sup> Management overlays are additional provisions set aside on top of provisions derived from expected credit loss (ECL) models. It reflects adjustments to account for data deficiencies or uncertainties not adequately captured by the ECL models.

## Banks' earnings moderated amid continued narrowing interest margins

Banks' earnings declined year-on-year and were lower relative to the first half of 2023 (Chart 2.14). However, profitability continued to be supported by lending activities amid continued compression in interest margins due to higher funding costs. A slight improvement in trading and investment income (2H 2023: RM6.3 billion; 1H 2023: RM6.1 billion) provided some support to banks' profitability. This was partially driven by a decline in domestic bond yields in the second half of 2023. While banks' holdings of government bonds increased marginally (10.3% of total banking system assets; June 2023: 10.1%), their exposure to interest rate risk remains manageable.<sup>7</sup> This has been helped by strategies to reduce the duration of government bond holdings. Amid expectations of interest rates having peaked, banks of late have rebalanced their new government bond holdings from amortised cost to fair value through other comprehensive income (FVOCI). Potential revaluation gains could provide further support to banks' capital positions, should yields decline going forward.

**Chart 2.14: Banking System – Income, Cost and Profit before Tax**



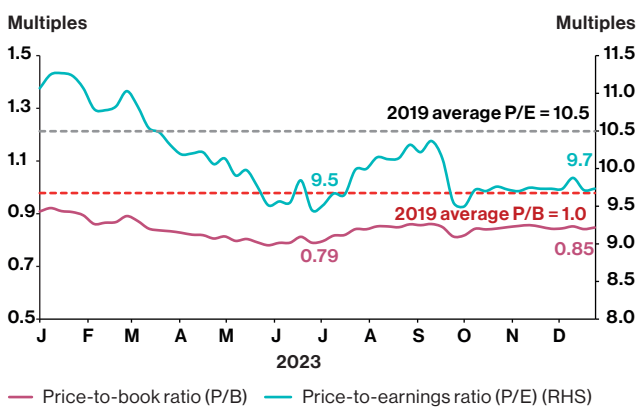
Note: 1. Annual growth computed based on figures for 2H 2022 and 2H 2023.  
2. Figures may not add up due to rounding.

Source: Bank Negara Malaysia

<sup>7</sup> Interest rate risk in the banking book (IRRBB) reflects the current or prospective risk to the banks' capital and earnings arising from adverse movements in interest rates that affect banking book positions. It is measured as a percentage of banks' capital (December 2023: 7.2%; June 2023: 7.4%).

In line with the lower earnings, returns on asset and equity of the banking system declined to 1.2% and 11.2% respectively (June 2023: 1.3% and 11.6% respectively). Market valuations of listed banks, as measured by the price-to-book (P/B) and price-to-earnings (P/E) ratios, remain below their pre-pandemic average levels (Chart 2.15). This partly reflects prevailing credit and economic conditions. The moderation in market valuations observed among listed Malaysian banks was also largely in line with regional peers.<sup>8</sup> An improving outlook for the economy in the period ahead coupled with the relatively strong position of banks to capitalise on growth opportunities will provide sustained support for bank profitability going forward.<sup>9</sup>

**Chart 2.15: Banking System – Price-to-Book and Price-to-Earnings Ratios of Publicly Listed Banks in Malaysia**



Note: Refers to the median ratio of all publicly listed banks in Malaysia.

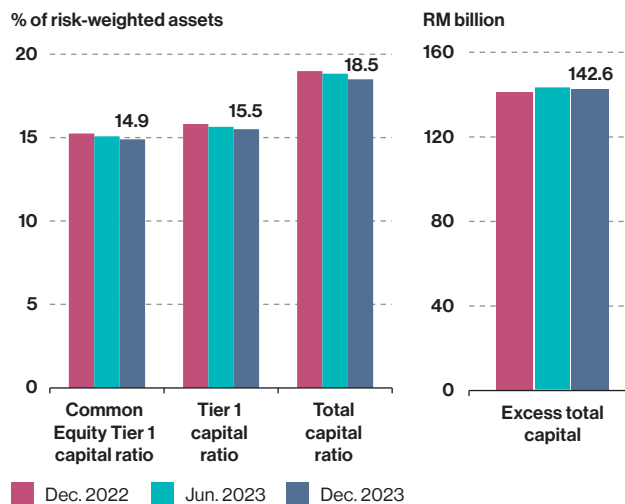
Source: Bloomberg

## Banking system remained well-capitalised

The banking system total capital ratio remained strong (18.5%; June 2023: 18.8%), with capital buffers of RM142.6 billion in excess of the regulatory minimum (Chart 2.16). These buffers continue to preserve banks' capacity to support credit to the economy, as well as absorb unexpected losses. The large capital buffers have also enabled banks to sustain dividend payouts which have largely returned to payout ratios observed before the pandemic for most banks. Banks' capital

buffers were further supported by revaluation gains from bond holdings in the banking book, driven by a decline in domestic bond yields.

**Chart 2.16: Banking System – Capitalisation**



Note: Excess total capital refers to total capital above the regulatory minimum, which includes the capital conservation buffer requirement of 2.5% and bank-specific higher minimum requirements.

Source: Bank Negara Malaysia

## Contagion risk from DBGs' overseas operations remained low

The profitability of overseas operations of domestic banking groups (DBGs) declined in the second half of 2023 (Chart 2.17). The decline in profitability was mainly observed in operations in Thailand (9% of total overseas operations in terms of assets) (Chart 2.18), reflecting higher credit costs that were mainly driven by non-retail borrowers which have yet to recover from the pandemic. Notwithstanding that, spillover risks to parent banks in Malaysia remain manageable, as operations in Thailand contributed only up to 2% of DBGs' total consolidated assets (overall total overseas operations accounted for 22.6% of DBGs' total consolidated assets). Similar to Malaysia, the share of loans under repayment assistance programmes in the overseas operations continued to trend lower (1.3% of total overseas operations loans; June 2023: 1.7%), following the conclusion of pandemic-related repayment assistance programmes in most jurisdictions.

<sup>8</sup> Based on comparison of valuations of financial indices in Thailand, Indonesia, Hong Kong SAR and the three largest financial institutions in Singapore.

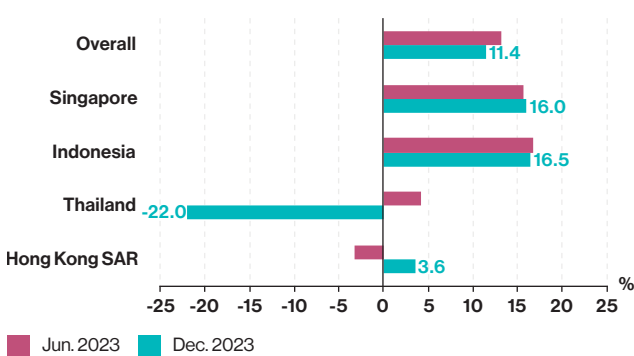
<sup>9</sup> Refer to the box article on 'Malaysian Banks' Profitability – Past Trends and Future Prospects' in the BNM Financial Stability Review for First Half 2019 for a more detailed discussion on trends and key drivers of bank profitability in Malaysia.

The write-off of some legacy loans in Hong Kong SAR, coupled with improved repayment performance of borrowers in Indonesia and Singapore, further contributed to improved asset quality (Chart 2.19).

Liquidity and funding risks posed by DBGs' overseas operations remained limited. Key overseas operations

continued to be primarily funded by stable customer deposits (Chart 2.20). Capital levels maintained at DBGs' overseas operations remained strong (average total capital ratio as at December 2023: 20.7%, June 2023: 20.5%), providing strong buffers to absorb unexpected losses without relying on parental support.

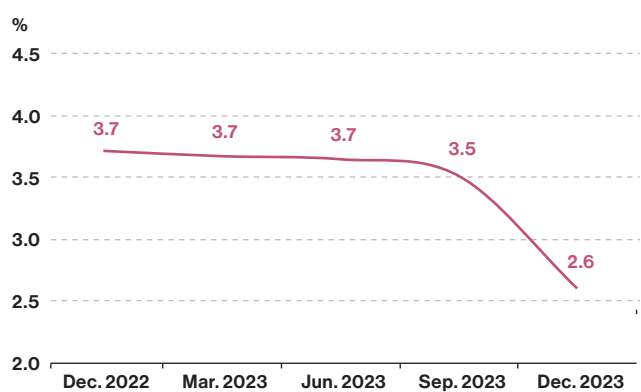
**Chart 2.17: Banking System – Return on Equity of Overseas Operations by Jurisdiction**



Note: 1. Overall average ROE is weighted by the asset size of selected overseas operations.  
2. Average ROE is weighted by the asset size of each domestic banking group's overseas operations in respective jurisdictions.

Source: Bank Negara Malaysia

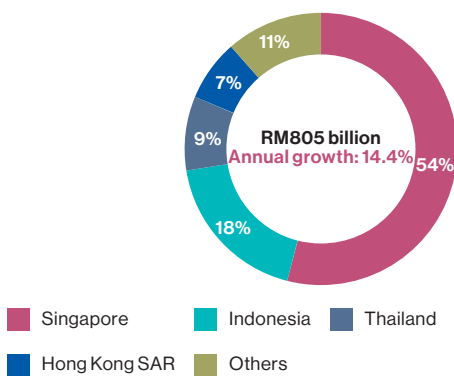
**Chart 2.19: Banking System – Gross Impaired Loans Ratio of Overseas Operations**



Note: The average gross impaired loans ratio is weighted by the asset size of selected overseas operations.

Source: Bank Negara Malaysia

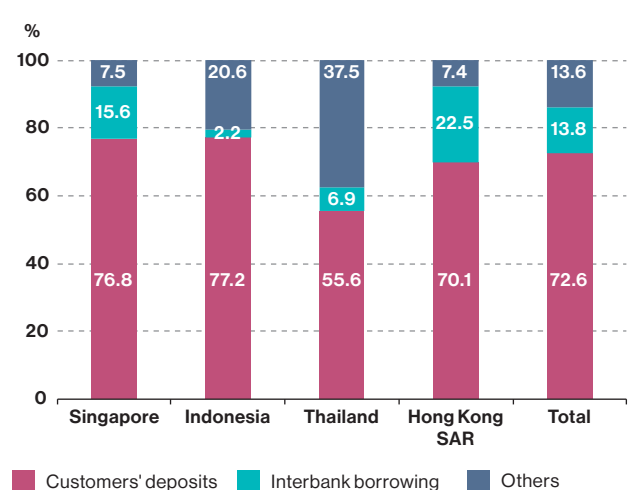
**Chart 2.18: Banking System – Asset Profile of Major Overseas Operations**



Note: Figures may not add up due to rounding.

Source: Bank Negara Malaysia

**Chart 2.20: Banking System – Funding Profile of Major Overseas Operations**



Note: Figures may not add up due to rounding.

Source: Bank Negara Malaysia

## Digital Banks: Supervisory Focus Around Key Risks

Three recently licensed digital banks have passed operational readiness assessments and entered their foundational phase<sup>10</sup> of operations. During this period, digital banks are progressively expected to execute strategies that are compatible with long-term viability and investments in strong risk management capabilities. The supervisory activities of BNM over digital banks adopt the principle of proportionality. Initial supervisory scrutiny prioritises digital banks' progress in meeting the prudential requirements to 'graduate' from the foundational phase. Increased rigour in supervision is applied as the scope of business activities expand along with heightened expectations on risk management practices. This supervisory approach enables digital banks to stabilize their business models and build financial sustainability during the foundational phase. It also anticipates and aims to be facilitative of the prospect that digital banks may have to refine their strategies for delivering on BNM's intended policy objectives of financial inclusion and innovation.

BNM's supervisory focus and expectations are informed by its assessment of key risks in the operations of digital banks. Among these, the rise in fraud cases involving mobile banking apps, coupled with fully digital onboarding of customers without face-to-face interaction underscores the need for digital banks to have strong electronic Know-Your-Customer (eKYC) controls to deter criminal activities. A common trait in a digital bank set-up is the outsourcing of key infrastructure and capabilities to cloud and software-as-a-service (SaaS) service providers. A greater reliance on such external service providers could increase digital banks' vulnerabilities to the operational failures of these providers. This may, in turn pose systemic risks to the extent that multiple banks are reliant on the same service providers for their key infrastructure. Supervisory scrutiny is therefore directed at digital banks' governance and risk management practices (including the capacity to recover critical business functions) to ensure these outsourcing arrangements do not create sources of excessive vulnerability to ongoing operations. Focus is also directed at the controls in place to guide the deployment of artificial intelligence (AI) or machine learning models in use cases such as credit approvals to ensure they are fit-for-purpose.

Digital banks may face additional risk arising from the exclusive use of digital channels by customers to perform banking transactions. Given the digital set-up, the impact of negative social media on reputational risks, which in turn could lead to a sharp and sudden withdrawal of deposits, warrants particular attention. As digital banks do not operate with physical branches, there is also a need to be able to mitigate operational risks under a range of scenarios, in the event of any disruptions to digital infrastructure. Therefore, supervisory focus is also given to digital banks' ability to effectively manage technology and operational risks, including ensuring there are robust business continuity and disaster recovery plans to preserve the continuous availability of banking services to customers.

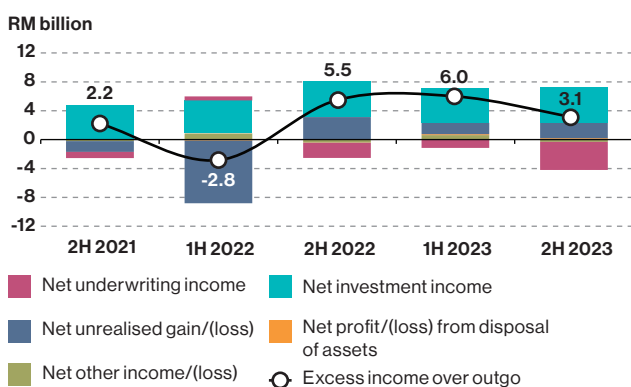
<sup>10</sup> Foundational phase is for a period of three to five years during which an asset limit of RM3 billion and simplified regulatory requirements apply. Refer to the policy document on Licensing Framework for Digital Bank issued on 31 December 2023 for details.

## THE INSURANCE AND TAKAFUL SECTOR

### Aggregate profitability of insurance and takaful funds declined due to larger net underwriting losses, but investment performance provided support

Overall profitability of insurance and takaful funds was lower in the second half of 2023 compared to the earlier half of the year. This was mainly driven by larger net underwriting losses of life insurance and family takaful funds amid a sustained increase in medical claims payments. As a result, the profitability of life insurance and family takaful funds, as measured by excess income over outgo, declined to RM3.1 billion (1H 2023: RM6 billion) (Chart 2.21).

**Chart 2.21: Life Insurance and Family Takaful Fund – Composition of Income and Outgo**



Note: 1. Data excludes investment-linked unit funds.  
2. Net underwriting income refers to excess of net premium after deducting benefit payouts, agency remuneration and management expenses.

Source: Bank Negara Malaysia

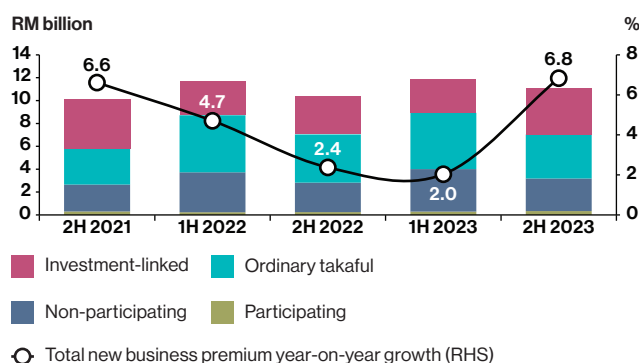
Underwriting income of life insurance and family takaful funds continued to be weighed down by higher medical benefit payouts (2H 2023: RM5.3 billion; 1H 2023: RM4.7 billion; 2H 2022: RM4.3 billion). Insurers and takaful operators (ITOs) observed higher average cost and incidence rate for medical treatment compared to the pre-pandemic period, resulting in higher-than-expected claims. While ITOs have commenced repricing exercises,<sup>11</sup> the effect of these changes on underwriting margins will take time to materialise as price adjustments

<sup>11</sup> Refer to the box article on 'Evaluating the Impact of Medical Re-pricing Deferrals on Life Insurers and Family Takaful Operators' in the BNM Financial Stability Review for First Half 2021 for further details.

are applied only at policy anniversaries. To maintain policy affordability and fair outcomes for policyholders, ITOs continue to spread the premium<sup>12</sup> increments over a longer period or opt for shorter repricing cycles with a smaller quantum of adjustments. Underwriting income was also weighed down by the longer-term decline of participating<sup>13</sup> insurance business, where payouts related to participating insurance policies have surpassed net premium income. This reflects the continued shift in new business premiums from participating insurance policies to investment-linked policies over time. The share of net premiums for participating business has correspondingly declined sharply to 16% of total net premium income (2H 2022: 17%; 2015–19 half-yearly average: 35%). Notwithstanding this trend, insurers have set aside adequate reserves to fund the benefit payouts. Insurers are also required to take reasonable pre-emptive measures in managing small and shrinking participating life funds to safeguard the interests of policyholders.

Sustained growth in the total new business premiums continued to provide support to overall earnings. After accounting for seasonality effects, new business premiums in the second half of 2023 improved by 6.8% compared to the same period in 2022, supported mainly by the investment-linked and non-participating segments (Chart 2.22). The growth in these segments was driven mainly by the higher sales through the bancassurance channel, as well as the continued roll-out of new insurance and takaful products launched during the period.

**Chart 2.22: Life Insurance and Family Takaful Sector – New Business Premium Growth and Product Composition**



Source: Bank Negara Malaysia

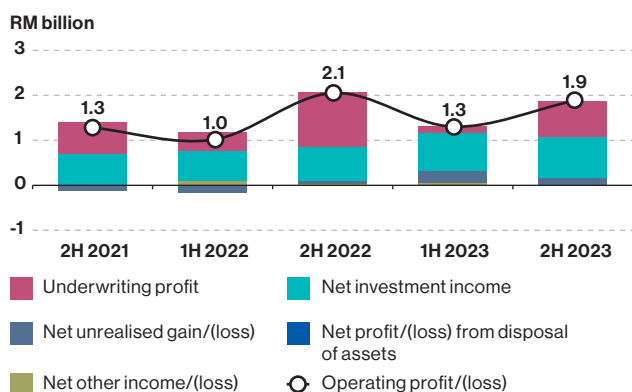
<sup>12</sup> Refers to both insurance premium and takaful contribution, unless stated otherwise.

<sup>13</sup> A participating life policy provides policyholders with the opportunity to participate in the profits of the insurance fund, in addition to receiving guaranteed benefits. The profits may be distributed in the form of non-guaranteed cash bonuses and/or dividends at regular basis and/or upon termination, as determined by the insurers.

Sustained investment income in the second half of 2023, further bolstered by improvements in the performance of equities, also provided support to the profitability of life insurance and family takaful funds. For the year as a whole, excess income over outgo rose to RM9.1 billion (2022: RM2.6 billion).

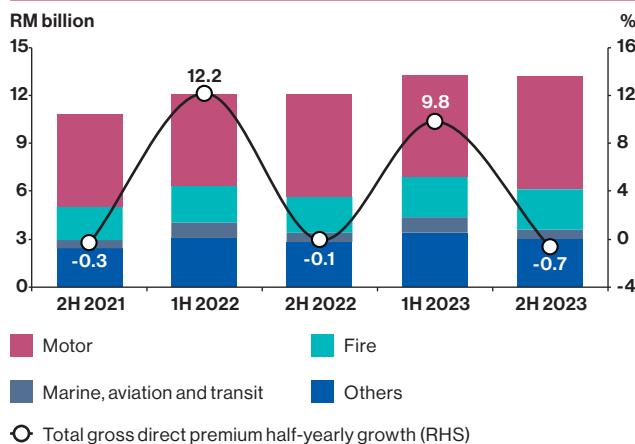
For general insurance and takaful funds, operating profits improved compared to the first half of 2023 (2H 2023: RM1.9 billion; 1H 2023: RM1.3 billion) (Chart 2.23). The increase in operating profits was contributed mainly by higher net underwriting profit, attributable largely to higher premium growth in the motor segment amid continued improvements in risk-based pricing (Chart 2.24). This corresponded with the higher car sales due to promotional campaigns and new model launches, including electric vehicles, during the period. The higher underwriting profits in the second half of 2023 was also supported by the absence of large claims from flood and

**Chart 2.23: General Insurance and Takaful Fund – Composition of Operating Profits**



Source: Bank Negara Malaysia

**Chart 2.24: General Insurance and Takaful Sector – Gross Direct Premium Growth and Product Composition**



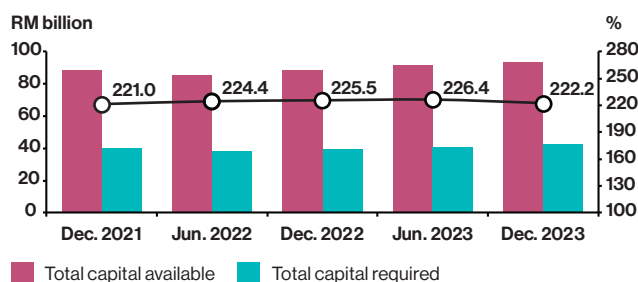
Source: Bank Negara Malaysia

fire events during the period compared to the first half of 2023 (see box article titled 'Floods and Finance: Building Resilience of Malaysian Businesses' for further details on flood risk in Malaysia).

Similar to life insurance and family takaful funds, sustained investment income lent further support to the operating profits of general insurance and takaful funds for 2023 as a whole. This resulted in a slight increase in the annual operating profits relative to that of the previous year (2023: RM3.2 billion; 2022: RM3.1 billion).

The industry aggregate capital adequacy ratio (CAR) remained healthy at 222.2% (June 2023: 226.4%), well above the regulatory minimum of 130% (Chart 2.25). Aggregate capital buffers in excess of regulatory requirements also remained sound at RM38.6 billion (June 2023: RM38.9 billion).

**Chart 2.25: Insurance and Takaful Sector – Capital Adequacy Ratio**



Source: Bank Negara Malaysia

Looking ahead to 2024, volatile financial market conditions will remain a key downside risk to ITOs given their sizeable bond and equity investments. Sustained cost pressures stemming from inflation in motor and medical claims are also likely to persist amid a more gradual pace of premium rate adjustments to preserve insurance affordability (see Chapter titled 'Promoting a Progressive and Inclusive Financial System' in the BNM Annual Report 2023). BNM will continue to monitor closely the ongoing phased liberalisation of tariffs in the motor and fire segments. This is to ensure that the pricing flexibility is aligned with the expanded phased liberalisation limits, and to prevent market dislocations that could hinder access to coverage or disproportionately impact segments of the insured population.

In the reinsurance market, while rates and terms continued to harden, the extent of adjustments had been smaller as the market adapted to the current risk

environment. More significant adjustments continue to be confined to loss-making commercial lines of business. As such, the impact to overall profitability has remained manageable, with minimal increase in the cost of protection borne by households and businesses apart from these loss-making segments. Looking ahead, more frequent and severe climate events, particularly floods, will continue to weigh on the performance of general ITOs in the short term. However, in the long run, it is also likely that this risk will increase demand for insurance

protection as a form of financial risk management. A robust approach to managing climate-related risks will be crucial, along with strong capital and sound reinsurance arrangements, to ensure that ITOs remain resilient to downside risks. The recent macro stress test exercise conducted by BNM, which has incorporated these downside risks, indicates that the insurance sector remains resilient to withstand potential shocks under adverse scenarios (refer to the section on 'Assessing the Resilience of Financial Institutions' for more details).

# ASSESSING THE RESILIENCE OF FINANCIAL INSTITUTIONS

As part of BNM's financial stability framework to assess and mitigate risks, BNM conducts a multi-year, top-down macro solvency stress test annually to evaluate the potential impact of adverse macroeconomic conditions and the resultant financial strains on individual banks and insurers, and the broader financial system. The latest macro solvency stress test was conducted in early 2024, covering a three-year horizon up to end-2026. Two hypothetical adverse scenarios, which feature two different paths of economic contraction or slowdown, were applied under the stress test exercise to assess the resilience of financial institutions. It is important to note that these scenarios are not indicative of BNM's actual economic forecasts but are designed to assess the capacity of financial institutions to withstand extremely severe shocks.

The first adverse scenario (AS1) is designed to test the resilience of financial institutions against a temporary but deep shock in economic conditions. It assumes a severe contraction in the domestic economy in 2024 followed by a rapid recovery in 2025 and a normalisation of GDP thereafter. Meanwhile, the second adverse scenario (AS2) assesses financial institutions' ability to withstand a persistently challenging operating environment over an extended period. Compared to AS1, AS2 assumes a milder but more prolonged economic contraction where GDP records negative growth in 2024 and 2025 before

commencing a sluggish recovery in 2026. Under both simulated environments, GDP growth is assumed to be between the rate seen during the Asian Financial Crisis (AFC) and Global Financial Crisis (Table 2.1).

Under both AS1 and AS2, it is assumed that major economies maintain a higher-for-longer policy rate environment amid elevated inflationary pressure. This, coupled with tighter global financial conditions, results in large and volatile portfolio outflows from emerging market economies. Bond yields are assumed to increase substantially, up to two times the rise seen during the AFC. The ringgit weakens against the US dollar to levels beyond historical lows in both scenarios, with more pronounced adjustments in 2024 under AS1. The FBM KLCI loses about a third of its value under both scenarios, with a sharp rebound observed from 2025 onwards under AS1 while recovery remains sluggish under AS2. Headline inflation is assumed to remain high, leading to OPR hikes in both scenarios despite the weak economic growth. AS1 witnesses a more substantial OPR increase in the first half of 2024, while AS2 experiences a gradual yet prolonged series of rate hikes throughout 2024. All rate hikes are assumed to occur within the first year of stress and maintained throughout the next two years.

Similar to the previous exercise,<sup>14</sup> the current stress test exercise prioritises conservatism in its assumptions over strict coherence with the broader macroeconomic scenario to account for potential additional downside risks.<sup>15</sup> The stress test assumes a steep contraction

**Table 2.1: Macro Stress Test – Key Assumptions and Shock Parameters Applied Under Assumed Adverse Scenarios**

Key Assumptions	AS1	AS2
Annual domestic real GDP growth	Up to -6.0%	Up to -3.5%
Annual unemployment rate	Up to 5.4%	Up to 6.0%
Market risk shocks - Increase in 10Y MGS yield - Increase in 10Y AAA corporate bond yield - Decline in FBM KLCI	Up to 296 basis points Up to 422 basis points Up to 32%	Up to 266 basis points Up to 369 basis points Up to 31%
OPR hike <sup>(i)</sup>	Up to 100 basis points	Up to 100 basis points
MYR depreciation against USD	Up to 31%	Up to 22%

Note: <sup>(i)</sup> The assumption of an OPR hike may not, in certain circumstances, be consistent with the broader macroeconomic scenarios but is assumed by design to account for potential downside risks.

Source: Bank Negara Malaysia

<sup>14</sup> Refer to the macro solvency stress test exercise published in the BNM Financial Stability Review for Second Half 2022.

<sup>15</sup> For further details on the stress test methodology, please refer to the boxes on 'Key Features of the Enhanced Macro Solvency Simulation for Banks', 'Forecasting Business Impairments: Two-pronged Approach', and 'Forecasting Households' Time to Default' in the BNM Financial Stability Review for First Half 2020.

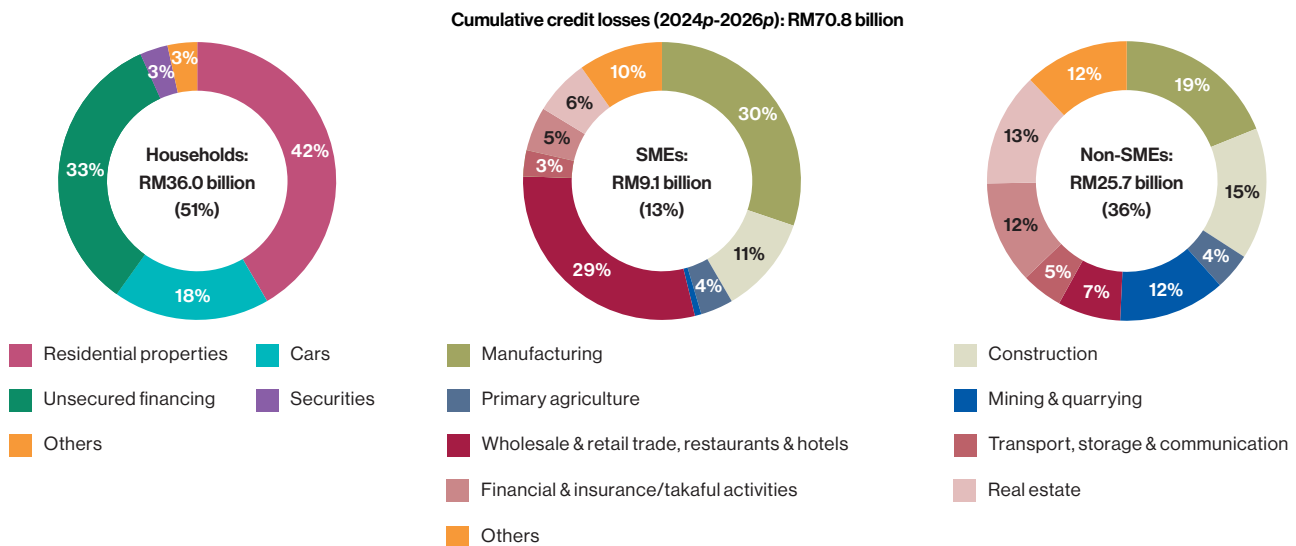
in GDP, coupled with high unemployment. These are then exacerbated by a series of OPR hikes, instead of a rate cut that could provide support to the economy. The higher OPR is assumed to adversely impact the debt-servicing capacity of borrowers but has no positive bearing on banks' profitability. Where relevant, judgemental overlays based on company-specific developments are incorporated into the assessments of potential impairments for selected large non-SME borrowers. Furthermore, non-SME borrowers that fail the simulation are assumed to trigger a cross-default across their entire business group, even though their other subsidiaries may be financially strong. Similar assumptions on cross-default are also applied to household borrowers who default on their loans. No reversal in the loan staging classification by banks is assumed throughout the stress horizon, even if defaulted borrowers' debt-servicing capacity improves. Similar to the previous exercise, the current stress test assumes that no loan repayment assistance or policy support measures are made available to borrowers. The exercise also incorporates projected losses from significant overseas operations of the domestic banking groups (DBGs).

### Stress test results reaffirm the resilience of financial institutions even under severe simulated shocks

While the macroeconomic and financial shocks applied in the 2024 macro solvency stress test exercise are broadly similar to that applied in the 2023 exercise, revisions were made to some of the parameters along with further conservatism built into judgemental overlays to capture additional downside risks.

Over the 3-year stress test horizon, the banking system is projected to incur substantial losses arising mainly from credit risk and revaluation of securities held at FVOCI. The cumulative credit costs are estimated to be RM63.1 billion and RM70.8 billion under AS1 and AS2 respectively (or 53% and 57% of total losses) (Chart 2.26). Losses from DBGs' overseas operations account for less than 20% of the cumulative credit costs, stemming primarily from defaults of large non-SMEs. Meanwhile, the stress test yield shocks are expected to

**Chart 2.26: Macro Stress Test: Banking System – Drivers of Cumulative Credit Losses Under Adverse Scenario 2**



p Projected

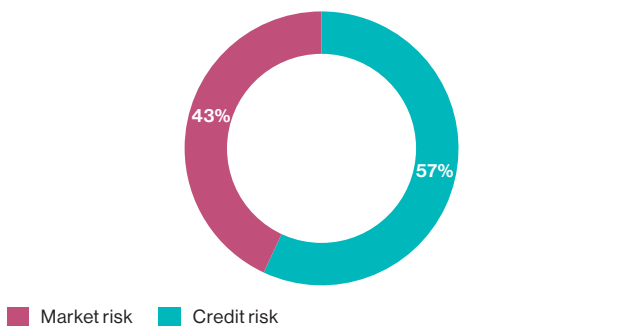
Note: 1. (...) refers to % of overall cumulative credit costs.  
2. Figures may not add up due to rounding.

Source: Bank Negara Malaysia

cause sizeable revaluation losses for bonds in the FVOCI portfolio (RM54.7 billion or 45% and RM51.7 billion or 41% of total losses under AS1 and AS2 respectively), directly reducing the banking system's capital buffers (Chart 2.27). In contrast, market risk losses attributed to banks' trading books are minimal, accounting for only about 2% of total losses. Similarly, losses from FX movements remain limited under both scenarios (AS1: 0.2% of total losses; AS2: 0.1%) due to the relatively small net open positions of banks.

By the end of the stress horizon in 2026, overall impairments are projected to rise to 7.8% and 8.6% of total banking system loans under AS1 and AS2 respectively, driven mainly by household impairments (Chart 2.28). Under AS1 and AS2, household borrowers earning less than RM5,000 per month account for the largest share (64%) of borrowers at risk of defaulting given their thinner financial buffers (Chart 2.29). However, in value terms, these borrowers form a smaller share (41%) of new impairments, reflecting lower amounts borrowed relative to higher-income groups. Borrowers earning between RM5,000 and RM10,000 monthly also remain vulnerable to economic downturns given their relatively high indebtedness compared to other income groups. They constitute up to 30% of borrowers at risk of defaulting and 43% of new impairments by value. Meanwhile, 61% of the projected increase in business impaired loans under AS2 are attributable to non-SMEs, the bulk of which are borrower groups with pre-existing weak financials. SMEs comprise the remaining 39% of business impairments with projected defaults notably higher under AS2 (1.6% of total banking system loans; AS1: 1.2%). This is to be expected given the erosion of SMEs' limited financial buffers during a prolonged economic downturn, leading to more defaults.

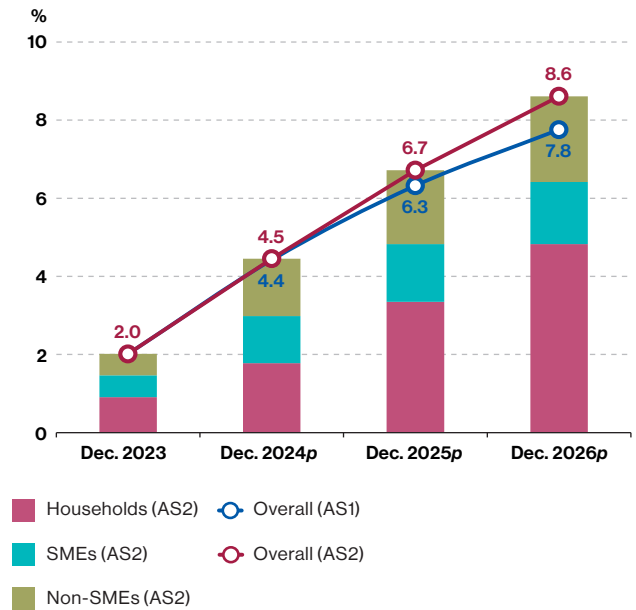
**Chart 2.27: Macro Stress Test: Banking System – Key Loss Drivers under Adverse Scenario 2**



Note: Market risk includes revaluation losses on bonds held in the fair value through other comprehensive income (FVOCI) portfolio.

Source: Bank Negara Malaysia

**Chart 2.28: Macro Stress Test: Banking System – Impaired Loans Ratio Under Adverse Scenarios 1 and 2**

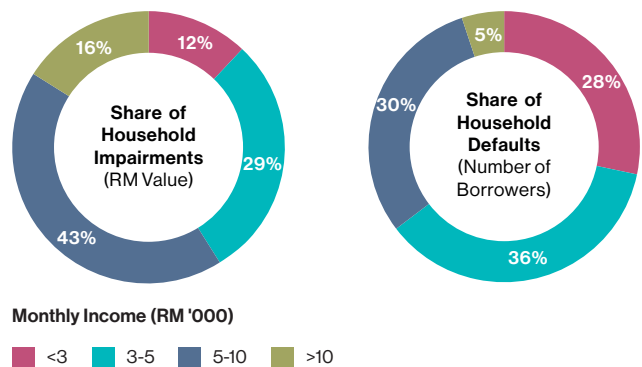


p Projected

Note: Impairment figures are inclusive of exposures from selected DBGs' overseas operations.

Source: Bank Negara Malaysia

**Chart 2.29: Macro Stress Test: Household Sector – Impairment Profile Under Adverse Scenario 2**

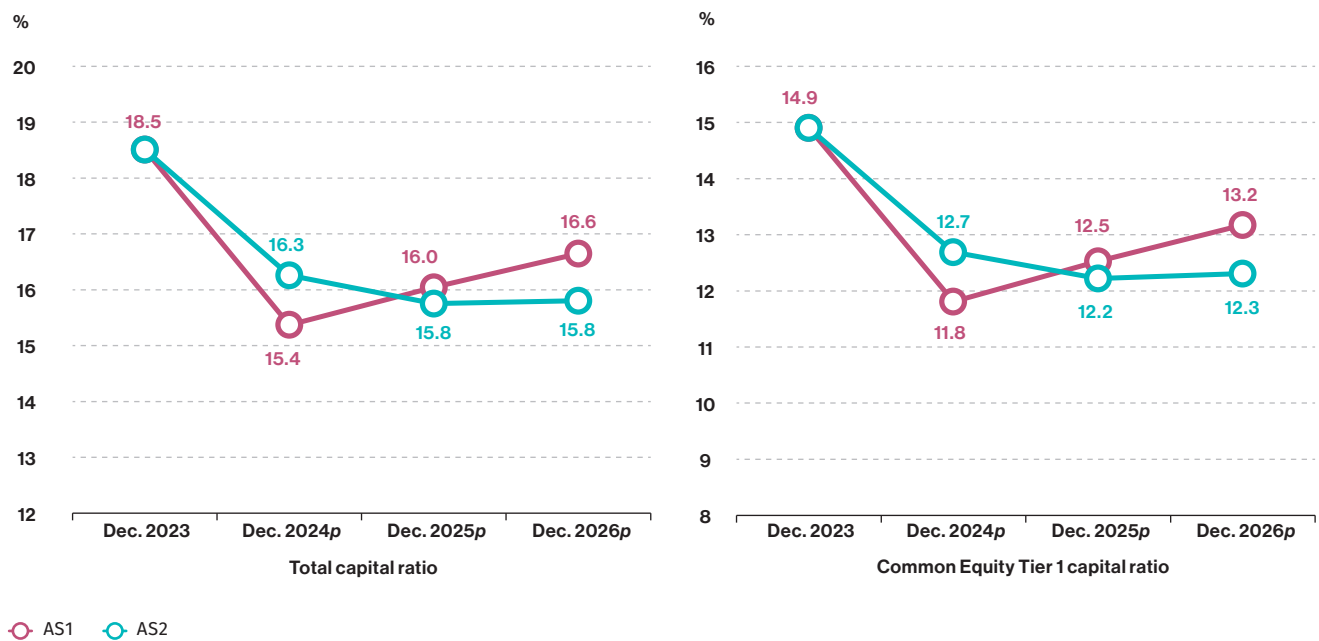


Note: Figures may not add up due to rounding.

Source: Bank Negara Malaysia

Under the severe stress test shocks, the aggregate banking system's profitability would decline sharply in the initial year of stress, driven mainly by increased credit costs. Net interest income would also decline sharply amid elevated funding costs without the corresponding interest income gains assumed from the OPR hikes. However, net interest income is expected to gradually rebound in the subsequent years, leading to a recovery in profits and capital buffers. Losses incurred from overseas operations, while notable for large DBGs,

Chart 2.30: Macro Stress Test: Banking System – Capital Ratios Under Adverse Scenarios 1 and 2



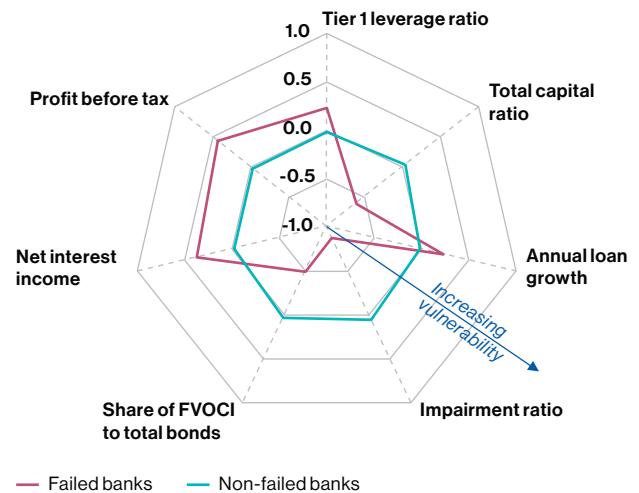
AS1 AS2  
 p Projected  
 Source: Bank Negara Malaysia

are not expected to pose major risks to overall DBGs’ resilience because of the healthy capital buffers held by the respective overseas entities.

Overall, the banking system’s capital ratio will remain above the regulatory minima under both scenarios (Chart 2.30). Three banks,<sup>16</sup> however, would breach the minimum regulatory capital requirements. These banks, which account for less than 2% of total banking system assets, share common traits of weaker profitability and net interest income as well as higher loan growth leading to higher leverage levels at the onset of the stress test (Chart 2.31).

To further stress the resilience of banks, additional liquidity shocks<sup>17</sup> were applied to banks that incurred persistent losses<sup>18</sup> or whose capital ratios dipped below regulatory minima. All banks maintained sufficient HQLA to meet the heightened cashflow demands, with nine banks recording LCR below 100% following the liquidation of their HQLA.

Chart 2.31: Macro Stress Test: Banking System – Common Characteristics of Failed Banks’ Pre-stress Position (2023)



Note: 1. Failed banks refer to banks which would breach the minimum regulatory capital requirements under stress test scenario.  
 2. Chart values are standardised using z-score, where larger values along a given axis signify more risks along that characteristic.  
 3. 'Tier 1 leverage ratio' refers to Tier 1 capital divided by total assets.

Source: Bank Negara Malaysia

<sup>16</sup> Refers to the banking group or standalone bank if it does not belong to a larger banking group, as the case may be.  
<sup>17</sup> Stressed outflows applied vary by bank depending on the bank’s historical deposit outflow volatility and deposit composition (residents vs non-residents and retail vs corporate). The resultant outflow is at least 300% higher than each bank’s historical average monthly outflow since 2016.  
<sup>18</sup> Refers to banks that incurred at least two consecutive quarters of losses, or a minimum two years of annual losses.

Taken together, the solvency and liquidity stress test exercises continue to affirm that banks remain highly resilient in the face of severe macroeconomic, financial, and liquidity shocks.

The macro solvency stress test for insurers also incorporates identical AS1 and AS2 scenarios, with additional insurance-specific assumptions (Table 2.2). Under both scenarios, the insurance sector is assessed to maintain an aggregate CAR above the regulatory minimum (Chart 2.32). Market risk remains the key loss driver for both life and general insurers (Chart 2.33), as the rising bond yields and the weak equity market weigh on their significant holdings of financial assets. Notwithstanding this, the downward revaluation of liabilities due to the increase in bond yields is expected to partly cushion the impact on the CAR for life insurers. Sustained underwriting income from new business premiums further supported the CAR despite higher

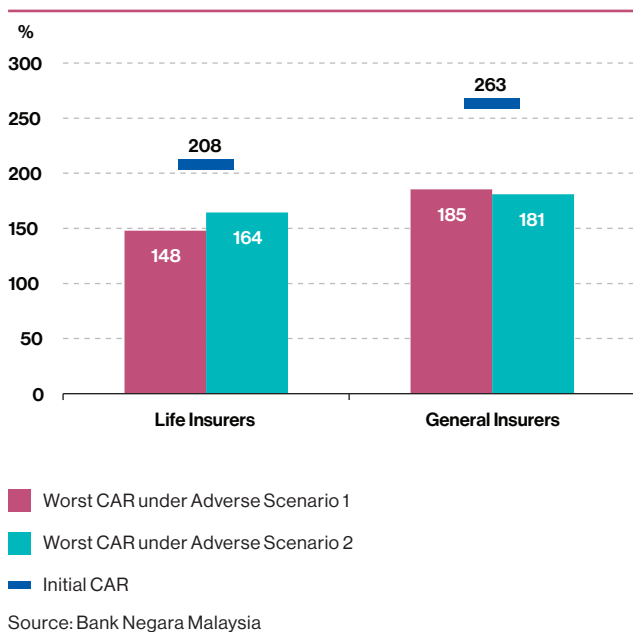
assumed medical and health insurance payouts. For general insurers, lower premium income amid intensified competition, and higher claims from the motor and fire segments also contributed to the decline in CAR. Two insurers, accounting for less than 3% of total insurance assets, are projected to breach the regulatory minimum post-shock. The insurance macro solvency stress test exercise is supplemented with a liquidity assessment to evaluate insurers' ability to meet short-term liquidity needs under stressed conditions arising from elevated medical-related payouts, surrenders and higher motor and fire claims including that arising from floods. The liquidity assessment affirms that insurers have sufficient liquid assets and are able to fulfil these obligations.

**Table 2.2: Macro Stress Test – Additional Assumptions in Insurance Stress Test**

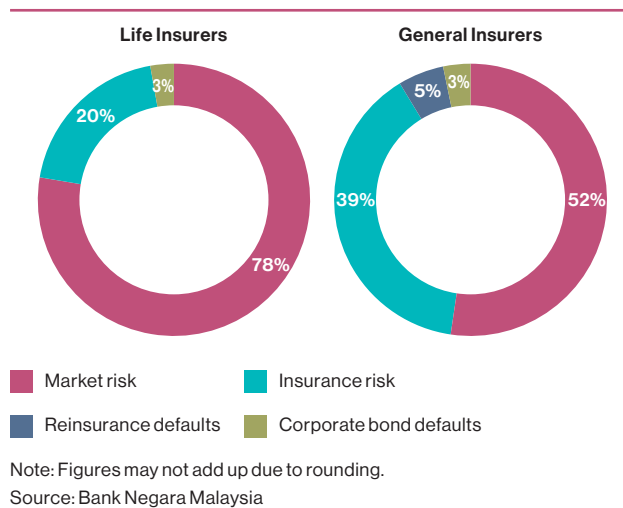
<b>Payouts for medical and health insurance policies</b>	Elevated claims payouts from medical and health insurance policies due to increasing incidence rate and size of claims.
<b>General insurance premiums</b>	Lower premium rates due to intensified competition in the motor and fire segments and the hardening of the reinsurance market due to lower global reinsurance capacity.
<b>General insurance claims</b>	Elevated general insurance claims and expenses attributable to higher motor parts costs due to supply disruptions and increased import costs, coupled with significant flood events every year-end.

Source: Bank Negara Malaysia

**Chart 2.32: Macro Stress Test: Insurance Sector – Capital Adequacy Ratio (CAR) Under Adverse Scenarios 1 and 2**



**Chart 2.33: Macro Stress Test: Insurance Sector – Loss Drivers Under Adverse Scenario 2**



# The Imperatives for Strengthened Regulation and Supervision of Liquidity Risk in Malaysia

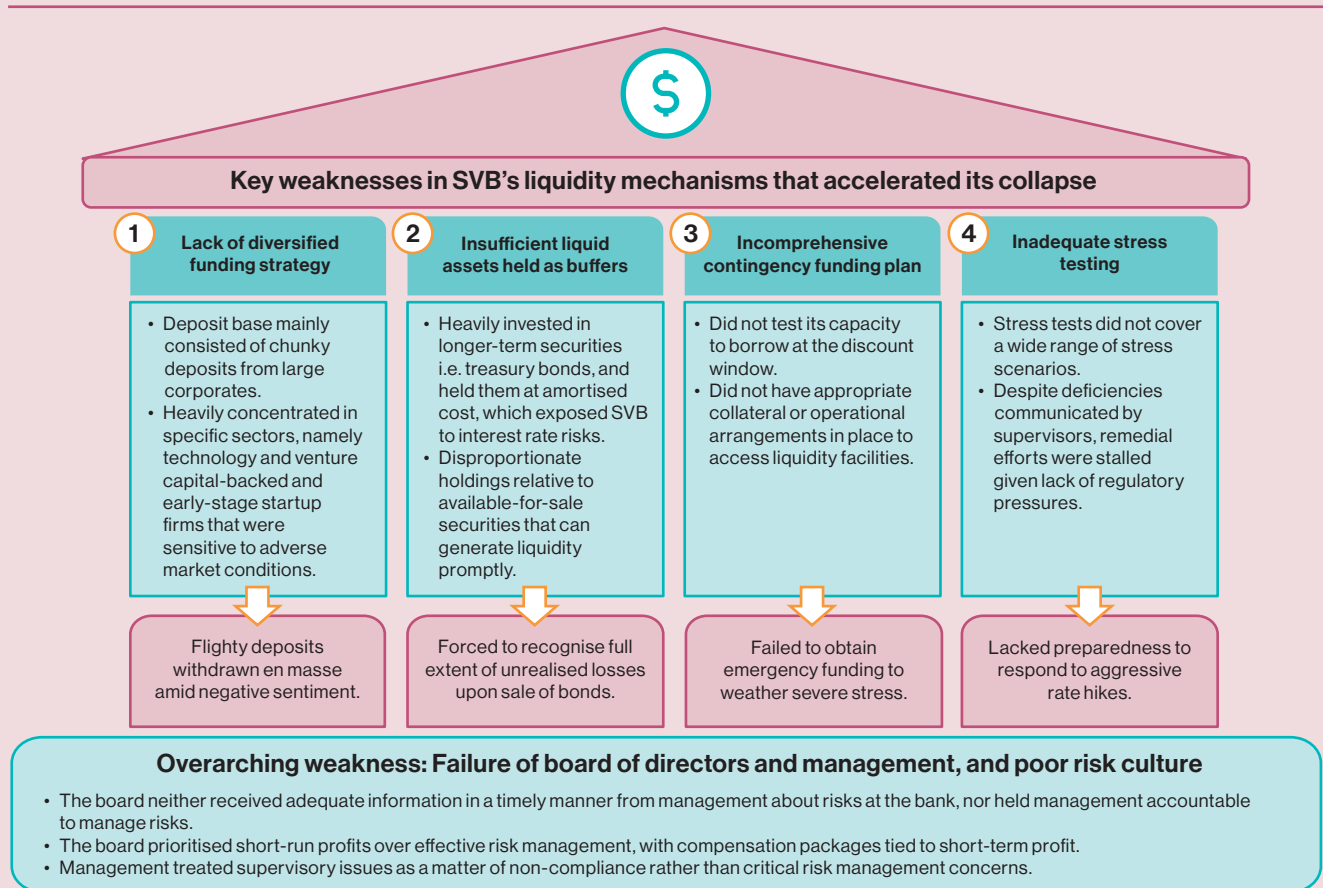
## The Silicon Valley Bank (SVB) crisis

The global financial crisis in 2007–09 saw a raft of global regulatory reforms put in place to improve the banking sector’s ability to absorb financial and economic shocks. This includes Basel III which comprises measures to strengthen global capital and liquidity standards. The higher quality and levels of capital and liquidity held by banks have helped ensure the continued resilience of the banking system against various financial and economic shocks, including the COVID-19 pandemic.

In early 2023 however, a number of notable bank failures in several advanced economies triggered what has been termed the most significant system-wide banking stress since the global financial crisis in terms of scale and scope.<sup>1</sup> One such bank failure was that of SVB in March 2023, which experienced a sharp outflow<sup>2</sup> of its deposits within just a few days, leading to its collapse.

Various observers have pointed out that while SVB’s collapse was precipitated by rapidly changing macroeconomic conditions, its fragility was ultimately rooted in its core weaknesses in liquidity risk management (summarised in Diagram 1).

**Diagram 1: Key Weaknesses in SVB’s Liquidity Mechanisms that Accelerated its Collapse**



Source: Board of Governors of the Federal Reserve System

<sup>1</sup> Basel Committee on Banking Supervision, 2023.

<sup>2</sup> Withdrawals peaked on 9 March 2023, which on that day alone saw USD42 billion in deposit outflows. SVB was subsequently placed into receivership on 10 March 2023, which resulted in deposit withdrawals being temporarily suspended. It is estimated that had it remained open, SVB would have seen a further USD100 billion in deposit outflows that day, resulting in total withdrawals amounting to 85% of its deposits.

The collapse of SVB also revealed how the dynamics of liquidity have evolved with the digitalisation of finance, heightening the challenges faced by banks in managing liquidity. First, the increased prevalence of online and mobile banking, as well as instant payments, while bringing about greater customer convenience, also enabled customers to easily move funds in and out of any bank. Second, the rapid and widespread dissemination of information through the use of social media has heightened the sensitivity of banks to reputational risks and shifting public sentiment, especially in times of uncertainty. These factors amplify the speed and magnitude of bank runs, increasing the challenge of managing liquidity risk for banks.

### The global regulatory and supervisory response

The effects of the turmoil arising from the events at SVB and other bank failures in 2023 were relatively contained, with limited impact on global financial system stability. This affirms the effectiveness of Basel III and other financial reforms implemented in the aftermath of the global financial crisis to increase the quality and levels of capital and liquidity of banks. It also underscores the critical importance for all banks to adopt sound liquidity risk management practices.

At the global level, the Basel Committee on Banking Supervision (BCBS) has conducted a stocktake of regulatory and supervisory lessons arising from the failure of SVB and the turmoil. The BCBS is also pursuing analytical work to determine whether features of the Basel Framework, specifically those related to liquidity risk and interest rate risk in the banking book (IRRBB), had performed as intended during the crisis.

### Developments in the regulation and supervision of liquidity risk in Malaysia

While events at SVB and the broader banking turmoil have had only a limited impact on Malaysia, Bank Negara Malaysia (BNM) has taken measures to further strengthen the regulation and supervision of liquidity risk (summarised in Diagram 2). These include implementing a number of initiatives in 2023, many of which were either planned for or initiated prior to the SVB crisis. The banking turmoil however provided additional impetus and surfaced new dimensions of risks to consider.

As part of ongoing supervision, BNM conducted **targeted supervisory reviews of liquidity risk and funding management practices** during the year by looking at how banks manage deposit concentrations and set monitoring thresholds for key risk indicators, as well as evaluating their liquidity stress test assumptions and contingency funding plans.

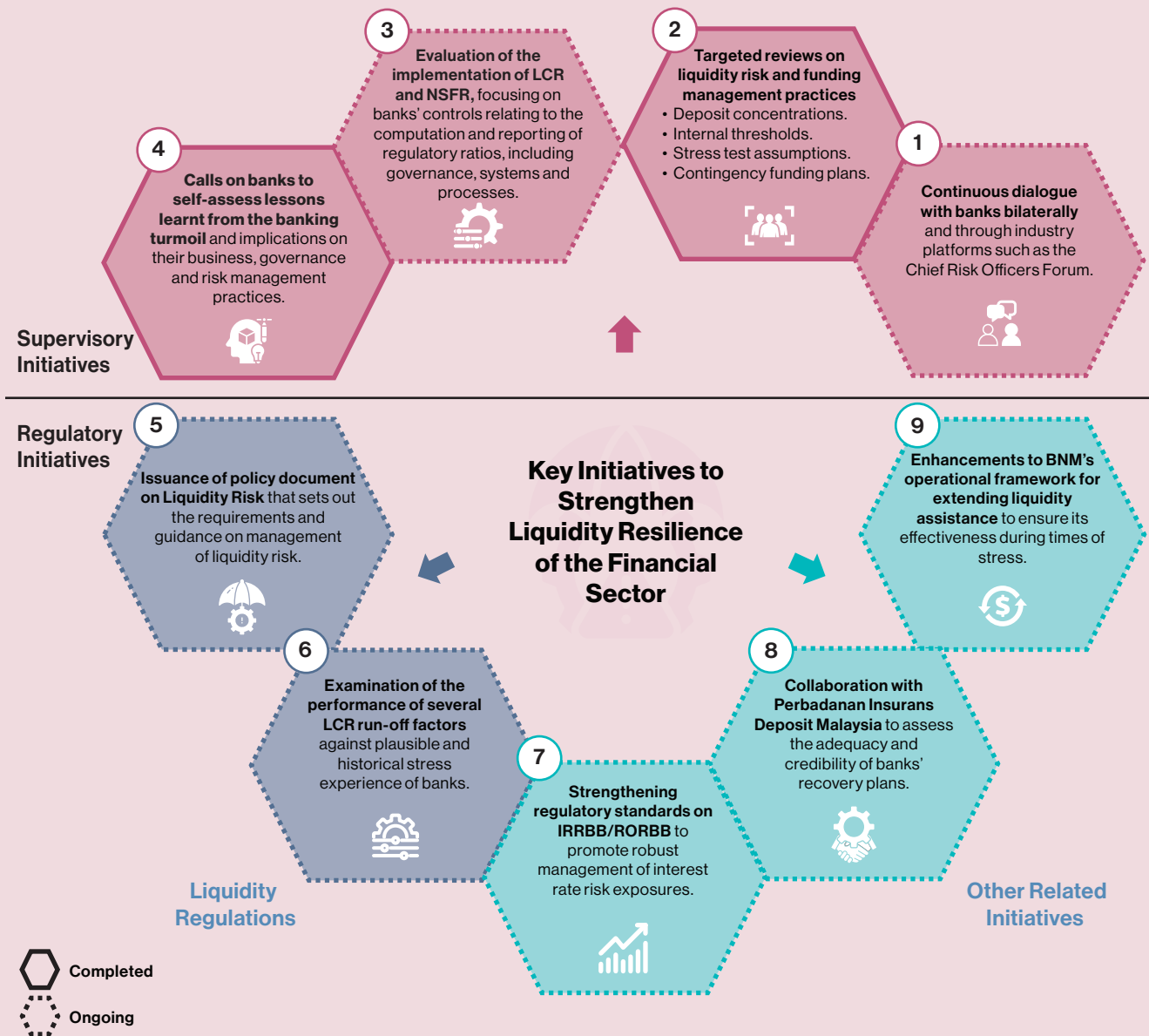
In addition, BNM also conducted a **thematic assessment of the implementation of the Liquidity Coverage Ratio (LCR)<sup>3</sup> and Net Stable Funding Ratio (NSFR)<sup>4</sup>** by banks, focusing on the effectiveness of controls, including governance, systems and processes, surrounding the computation and reporting of the ratios. While controls were generally found to be adequate and effective, the review identified some areas for improvement at individual banks. These include enhancing internal policies and procedures to ensure adequate oversight and periodic review of the computation and reporting processes.

Banks were also tasked to perform **self-assessments, reflecting on the lessons learnt from the banking turmoil** and implications on their business, governance and risk management practices. Following these reviews, banks have taken steps to further enhance and fine-tune aspects of their liquidity risk management practices. These have largely focused on enhancing the parameters used to monitor and model depositor concentrations; requiring internal monitoring thresholds to better account for liquidity risks associated with online channels; and testing of contingency funding plans.

<sup>3</sup> A quantitative requirement that seeks to ensure that banks hold sufficient high-quality liquid assets to withstand an acute liquidity stress scenario over a 30-day horizon.

<sup>4</sup> A minimum standard that requires banks to maintain a stable funding profile to support their assets and off-balance sheet activities.

Diagram 2: Key Initiatives to Strengthen Liquidity Resilience of the Financial Sector



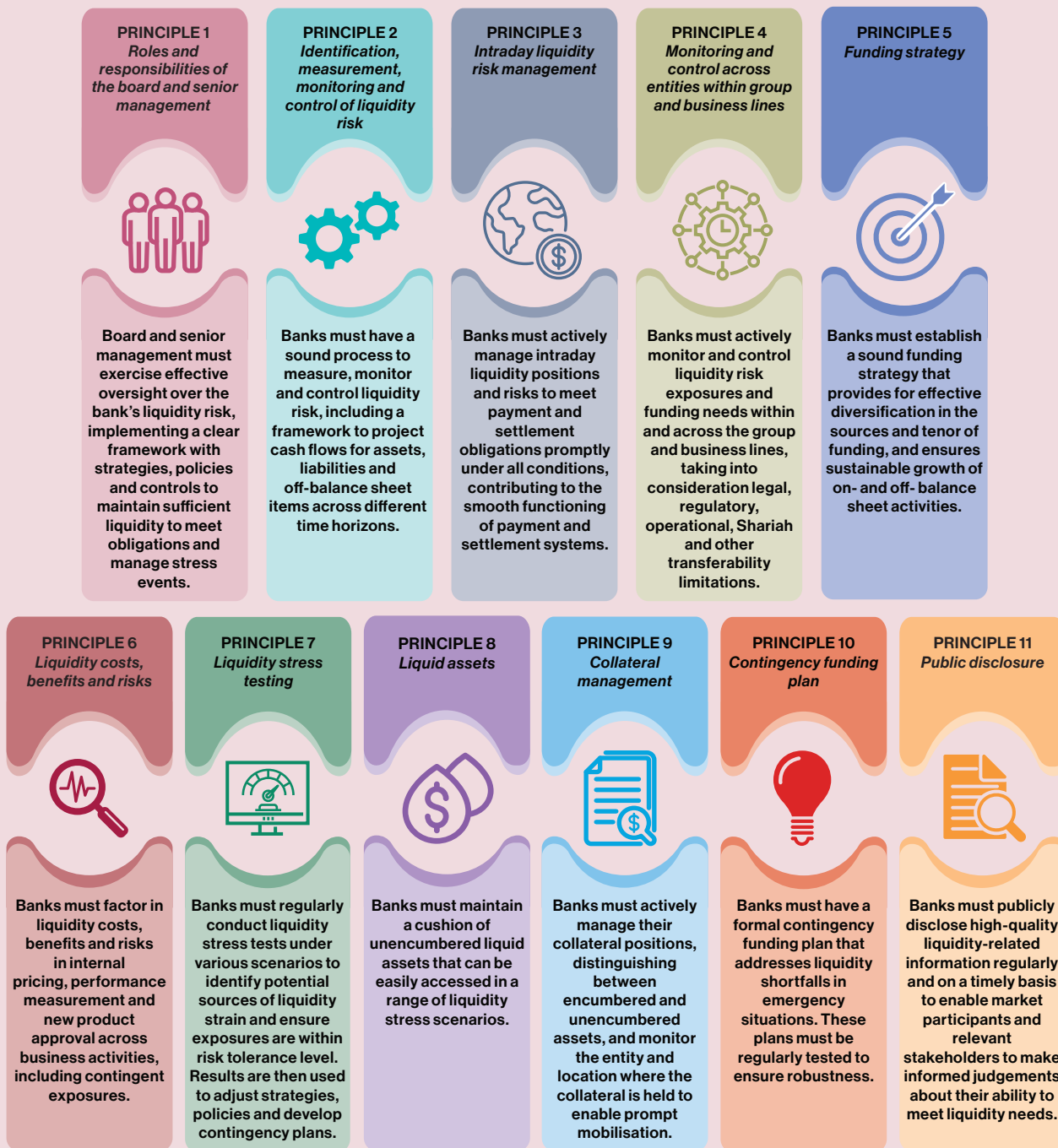
Source: Bank Negara Malaysia

In August, BNM issued an **exposure draft on Liquidity Risk** for public consultation. The exposure draft sets out standards on sound liquidity risk management practices for banks (summarised in Diagram 3), thus complementing the minimum regulatory liquidity requirements specified by the LCR and NSFR.

Expectations in the exposure draft are also consistent with principles<sup>5</sup> issued by the BCBS and Islamic Financial Services Board, and aligned with BNM's long-standing approach to the supervision of liquidity risks in the banking system. They aim to establish a common baseline for sound practices, while also incorporating lessons learnt from the recent banking turmoil. This includes specific expectations for banks to adequately assess and manage concentration risks, and to evaluate the quality of liquid assets from multiple dimensions. Banks are also expected to accord due focus to emerging risks such as those associated with online withdrawals and negative public sentiment on social media, considering the changing dynamics of withdrawal behaviour brought about by digital finance. BNM targets to finalise the requirements and issue the policy document in the second half of 2024.

<sup>5</sup> This refers to the *Principles for Sound Liquidity Risk Management and Supervision*, issued by the BCBS on 25 September 2008. More recently in 2019, the BCBS completed a review of the principles and found them to remain fit for purpose. <https://www.bis.org/publ/bcbs144.htm>

Diagram 3: Summary of Key Principles of Liquidity Risk Management



Source: Bank Negara Malaysia

Concurrently, as part of efforts to ensure the efficacy of BNM's minimum regulatory liquidity requirements, we conducted an **examination of the performance of LCR run-off factors** to determine whether their calibration is reflective of plausible and historical stress experiences of banks. The study revealed that for some banks, actual historic outflows observed under extreme scenarios for certain deposit types – such as that for SMEs – exceeded that of LCR prescribed run-off rates. Nonetheless, banks which experienced such outflows also reported high overall LCR ratios, typically ranging between 148% and 300%, thus providing sufficient buffers to withstand potential deposit outflows.

BNM is also **strengthening regulatory standards on IRRBB/rate of return risk in the banking book (RORBB)**, as part of its efforts to promote robust management of interest rate/rate of return risk exposures and more broadly, stronger asset-liability management (ALM) practices in banks. More specifically, BNM is working towards enhancing industry

practices in identifying and measuring the sensitivity of their assets and liabilities to interest rate/rate of return risk and consequently, taking actions to address any emerging vulnerabilities. This work is expected to draw on parallel efforts by the BCBS to update its calibration and methodology used to calculate the impact of interest rate shocks.

BNM's recent efforts on this front also include ongoing collaboration with Perbadanan Insurans Deposit Malaysia (PIDM) to strengthen capacity and preparedness in responding to crises. In 2024, BNM and PIDM will conduct a **review to assess the adequacy and credibility of recovery plans** prepared by banks to respond to liquidity stress. In parallel, BNM is also working on efforts to **enhance and clarify various aspects of its operational framework on liquidity assistance** to banks in the event of a liquidity crisis.<sup>6</sup>

### Addressing structural challenges in the management of liquidity risks by Islamic banks

Islamic banks face a number of structural challenges in managing liquidity risk. These challenges include that relating to the differences in the asset and liability profiles of Islamic banks compared to their conventional peers. In particular, Islamic banks tend to see higher concentrations in wholesale funding, given their traditional reliance on corporate deposits to support financing growth. The market depth of Shariah-compliant liquidity instruments also remains more limited given the shallower pool of market participants and Shariah-compliant money market products relative to conventional options.

BNM has been working closely with the banking industry over the years to address these challenges through a number of measures (summarised in Diagram 4). As part of these efforts, BNM is also undertaking a holistic review of the role and operation of investment accounts with the industry to address the funding imbalances observed in Islamic banks.

**Diagram 4: Key Initiatives Pursued to Address Challenges Faced by the Islamic Banking Industry**



Source: Bank Negara Malaysia

### References

Basel Committee on Banking Supervision. (2023). 'Report on the 2023 banking turmoil'. Retrieved from <https://www.bis.org/bcbs/publ/d555.htm>

Board of Governors of the Federal Reserve System. (2023). 'Review of the Federal Reserve's Supervision and Regulation of Silicon Valley Bank'. Retrieved from <https://www.federalreserve.gov/publications/review-of-the-federal-reserves-supervision-and-regulation-of-silicon-valley-bank.htm>

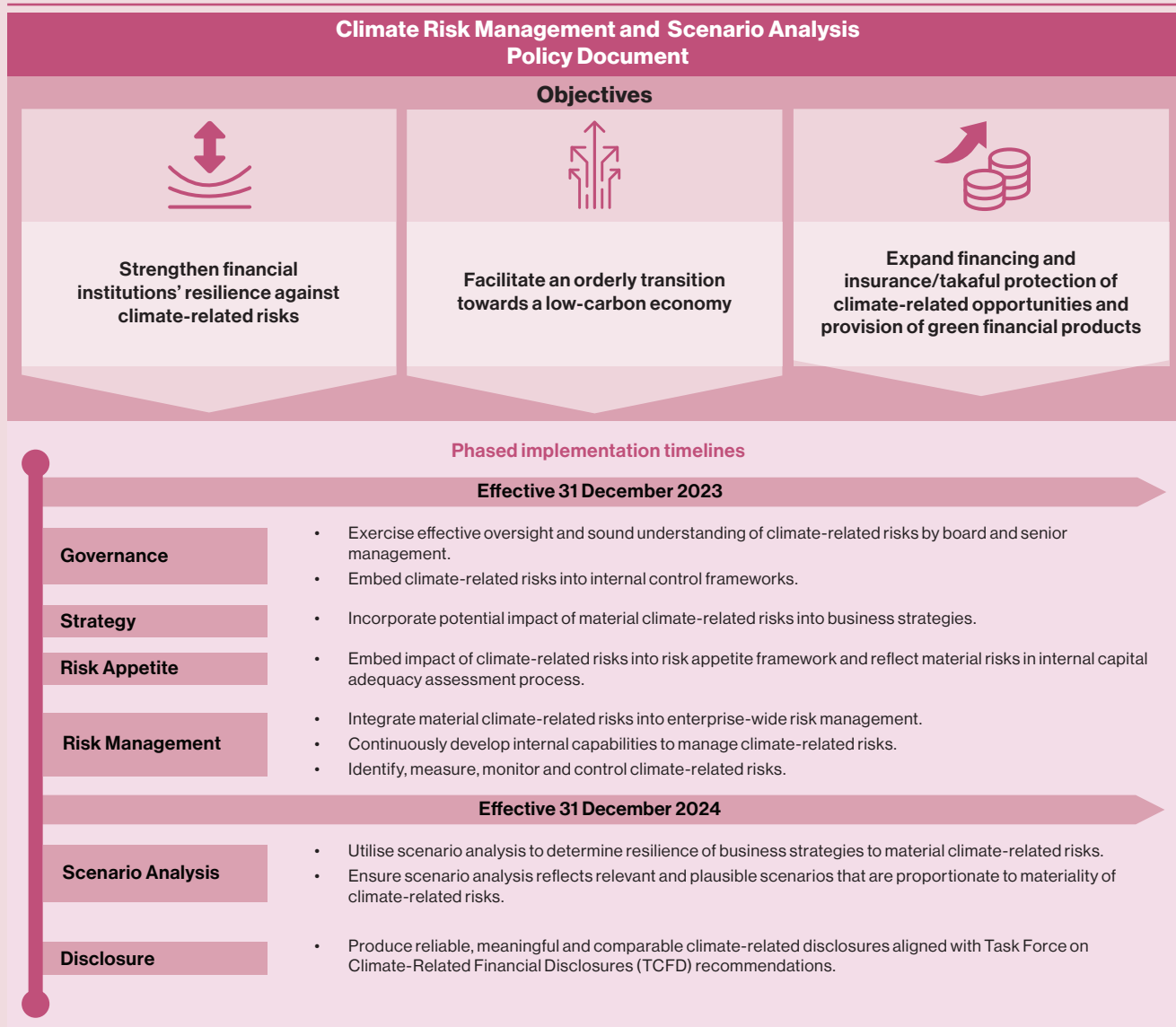
Silicon Valley Bank Financial Group. (2023). 'Q4 2022 Financial Highlights'. Retrieved from <https://ir.svb.com/financials/quarterly-results/default.aspx>

<sup>6</sup> Refer to the box article on 'The Bank's Liquidity Operations to Achieve its Mandate' in BNM Quarterly Bulletin Vol. 38 No.1 for further details. [https://www.bnm.gov.my/documents/20124/10644344/qb23q1\\_en\\_box1.pdf](https://www.bnm.gov.my/documents/20124/10644344/qb23q1_en_box1.pdf)

## Progress in Strengthening Climate Risk Management Practices

The Climate Risk Management and Scenario Analysis policy document (CRMSA PD)<sup>1</sup> sets out the principles and requirements for financial institutions to manage climate-related risks. An overview of the CRMSA PD is illustrated in Diagram 1.

Diagram 1: CRMSA PD Objectives and Implementation Timelines



Source: Bank Negara Malaysia

As part of Bank Negara Malaysia's (BNM) ongoing supervisory approach, financial institutions update BNM regularly on their implementation plans in adopting the CRMSA PD.

This article reviews the progress reported by financial institutions in implementing the CRMSA PD requirements – including the range of practices observed, drivers of financial institutions with better progress and the initiatives put in place to strengthen the financial sector's resilience to climate-related risks.







<sup>1</sup> Issued on 30 November 2022.

## Steady progress in the implementation of CRMSA PD

Generally, we observed that all financial institutions<sup>2</sup> are making meaningful progress in adopting the requirements in the CRMSA PD and integrating climate-related risks into their existing practices. Diagram 2 provides an overview of the common practices observed, and practices that continue to evolve as financial institutions strengthen their capability to better manage climate-related risks.

**Diagram 2: Financial Institutions' Progress in Managing Climate-Related Risks**

### Financial institutions are showing steady progress in integrating climate-related risks into existing practices

	Common practices...	Evolving practices ...
<b>Governance</b> 	<ul style="list-style-type: none"> <li>Defined roles and responsibilities of board and senior management for overseeing climate risk management.</li> <li>Established reporting cadence to the board to facilitate monitoring of progress on climate risk initiatives.</li> </ul>	<ul style="list-style-type: none"> <li>Continuous capacity building to ensure effective oversight.</li> <li>Establish relevant metrics for meaningful escalation and reporting.</li> <li>Establish dedicated board/senior management committees to oversee and drive climate risk initiatives.</li> </ul>
<b>Strategy</b> 	<ul style="list-style-type: none"> <li>Qualitative Environmental, Social And Governance (ESG)/ sustainability strategies are embedded in business strategies.</li> </ul>	<ul style="list-style-type: none"> <li>Climate strategies to be driven more by data and quantitative assessments.</li> <li>Clearer localisation of group-level strategies.</li> </ul>
<b>Risk Appetite</b> 	<ul style="list-style-type: none"> <li>Developed qualitative risk appetite statements (RAS).</li> <li>Use of Climate Change and Principle-based Taxonomy (CCPT) classifications to inform risk limits.</li> <li>Short-term risk assessment undertaken among general ITOs to cap exposure to flood-related risks.</li> </ul>	<ul style="list-style-type: none"> <li>With greater access to data, RAS reflects more quantitative assessments, incorporates time horizons of climate risks and is more directly linked to capital management.</li> </ul>
<b>Risk Management</b> 	<ul style="list-style-type: none"> <li>Integrated climate-related risks into financial institutions' risk processes and ability to map transmission of these risks into existing risk types (i.e. credit, market, operational, legal, strategic and reputational).</li> <li>Developed internal climate data capabilities by improving data collection processes and leveraging data collated by external data providers.</li> </ul>	<ul style="list-style-type: none"> <li>Development of quantitative risk modelling methodologies.</li> <li>Develop transition plans at institutional and sectoral levels.</li> <li>Develop forward-looking metrics such as climate-adjusted probability of default/loss given default under various climate scenarios.</li> </ul>
<b>Scenario Analysis</b> 	<ul style="list-style-type: none"> <li>Inclusion of short-term climate scenarios to incorporate natural disaster events (e.g. flood).</li> </ul>	<ul style="list-style-type: none"> <li>Use of more granular scenario analysis to inform business and risk strategies.</li> </ul>
<b>Disclosure</b> 	<ul style="list-style-type: none"> <li>Advanced preparations to produce TCFD-aligned disclosures.</li> </ul>	<ul style="list-style-type: none"> <li>Further improve quality and coverage of climate disclosures to meet investors and stakeholders needs, especially around risk management, metrics and targets.</li> </ul>

Source: Bank Negara Malaysia

Across the six pillars of the CRMSA PD, financial institutions demonstrated the most progress in the area of governance. Almost all financial institutions have augmented existing governance structures and internal policies to enable better oversight of climate-related risks. Among larger financial institutions, dedicated board-level committees to oversee the financial institution's response to climate-related risks are common. In smaller financial institutions, this responsibility is assumed by existing committees, under expanded terms of reference. We also observed improved reporting mechanisms to update the board and senior management on climate-related risks. In some institutions, this is supported by responsibility for climate risk and strategy assigned to a dedicated member of senior management. Most institutions also have in place climate-related key performance indicators that are tracked and monitored.

<sup>2</sup> Banks (including commercial, Islamic and investment banks as well as developmental financial institutions), insurers and takaful operators (ITOs).

In the area of strategy, financial institutions are beginning to incorporate climate-related risk considerations into their existing sustainability frameworks,<sup>3</sup> processes and business strategies. Although most financial institutions are still developing their climate strategies, some have begun to introduce high-level green financing commitments and investment targets that are aligned with their risk appetites and business strategies. These are sometimes, though not always, accompanied by clear portfolio decarbonisation strategies and capital allocated to fund climate-aligned assets. More generally, financial institutions are taking concrete steps to increase engagement levels and the due diligence process with counterparties.

Data availability remains a key challenge identified by all financial institutions. Given the challenges posed by the lack of sufficiently granular and credible data, as well as relatively underdeveloped quantitative climate risk models, most financial institutions are building qualitative approaches to develop their risk appetite, risk management policies and practices, scenario analysis and disclosures. Some examples include:

- i. Utilising the Climate Change and Principle-based Taxonomy (CCPT) classifications to set risk tolerance thresholds and estimate exposures.
- ii. Incorporating better insights obtained through due diligence surveys conducted on counterparties to improve judgements on exposures to physical and transition risks.
- iii. Utilising conceptual assumptions underpinning climate risk models to sharpen initial assessments of how climate-related risks may impact their risk exposures, internal operations and business strategies.

Some common characteristics can be observed among financial institutions that have achieved better progress in implementing the CRMSA PD:

- i. Evidence of a strong tone from the top, with the board of directors and senior management playing a pivotal role. An appointed board member or member of senior management provides active sponsorship of the financial institution's climate response. This includes actively steering the direction to align resources, frameworks and incentives which in turn, accelerates efforts taken to implement climate-related strategies across the organisation.
- ii. Better access to skilled resources to help build internal capabilities. Leading financial institutions actively work with experts within or outside their financial group, and are deeply engaged in collaborative platforms<sup>4</sup> to tap multi-disciplinary insights and keep abreast of sectoral, national and global developments.
- iii. High commitment of financial and non-financial resources. This includes making meaningful investments in systems to capture granular climate-related data, a comprehensive and thoughtful approach to strategic pivots and a sustained focus on structured training to elevate staff capability.

### Regulatory authorities' initiatives to support implementation

Domestically, the Joint Committee on Climate Change (JC3),<sup>5</sup> co-led by BNM and Securities Commission Malaysia (SC), continues to play an important role in supporting efforts by financial institutions to strengthen their climate risk management practices and expand financial solutions for climate transition and adaptation activities. In helping to bridge critical data gaps, the JC3 will continue to expand the Climate Data Catalogue<sup>6</sup> to capture more granular data sources, while working with data partners to improve the quality, accessibility and usability of available data. The JC3 has also recently established the physical and transition risk working groups to develop relevant guidance and tools to assist with the construction of physical and transition risk assessment methodologies and models. In February this year, BNM issued the Methodology Paper on Climate Risk Stress Testing (CRST) with inputs from the industry including JC3 members, to guide financial institutions in using stress testing to better understand risks coming from climate change. A stronger focus on transition plans and planning will also be pursued in 2024 to promote critical alignment between financial institutions' climate strategies and targets, national policies, macroeconomic risk impacts and developments in the supervisory and prudential framework.

<sup>3</sup> These include Environmental, Social and Governance (ESG) frameworks and policies.

<sup>4</sup> Including platforms such as the JC3 and United Nations Environment Programme Finance Initiative.

<sup>5</sup> The JC3 is a platform established in September 2019 to pursue collaborative actions for building climate resilience within the Malaysia financial sector. The JC3 is co-chaired by BNM and SC, and the members include Bursa Malaysia and 21 financial institutions.

<sup>6</sup> Climate Data Catalogue was issued in end-2022 by the JC3 to serve as a source of reference on climate and environmental data for the financial sector.

On the international front, the Financial Stability Board (FSB) continues to promote a globally consistent supervisory and regulatory response to climate change.<sup>7</sup> Similarly, the Basel Committee on Banking Supervision (BCBS) is undertaking a holistic approach to address climate-related risks across all three pillars of regulation, supervision and disclosure.<sup>8</sup> The International Association of Insurance Supervisors (IAIS) has also included climate change as a key theme within the IAIS Strategic Plan, focusing on sharpening risk assessments and developing supervisory capacity.<sup>9</sup>

## The path forward

Building on the ongoing progress in implementing the CRMSA PD by financial institutions, the near-term regulatory and supervisory priorities will focus on:

- i. Addressing fragmented approaches to managing climate-related risks that are still being observed in some financial institutions. We expect financial institutions to ensure implementation of their climate risk management frameworks are well integrated across all functions. Financial institutions' risk reporting systems should reflect this in order to enable integrated monitoring and escalation of climate-related risks within the organisation.
- ii. Ensuring financial institutions develop credible transition plans. It is crucial for financial institutions to align their business and risk strategies with their climate commitments, the transition plans of their customers and national aspirations. Financial institutions will be expected to demonstrate how they operationalise climate targets in their business and risk strategies. An aggregate view of transition plans will also be important to identify potential disproportionate impacts of climate-related measures on vulnerable groups, such as low-income communities, hard-to-abate sectors, and small and medium enterprises. This in turn will enable mitigating actions to ensure an orderly transition of the economy.
- iii. Ensuring financial institutions produce climate disclosures that meet the needs of investors and stakeholders. Disclosures that are accurate and adhere to international standards are important to manage greenwashing risk. The Advisory Committee on Sustainability Reporting (ACSR)<sup>10</sup> is conducting a public consultation<sup>11</sup> on the proposed implementation of the sustainability disclosure standards issued by the International Sustainability Standards Board (ISSB) in Malaysia. Consistent with that, we expect financial institutions to continue to make progress towards producing climate disclosures that are fully aligned with the Task Force on Climate-Related Financial Disclosures (TCFD) recommendations and the sustainability disclosure standards issued by the ISSB.

<sup>7</sup> Supervisory and regulatory approaches to climate-related risks: Final report. (2022). Financial Stability Board.

<sup>8</sup> Basel Committee Work Programme and Strategic Priorities for 2023/24. (2022). Basel Committee on Banking Supervision.

<sup>9</sup> Climate risk. International Association of Insurance Supervisors. Retrieved March 1, 2024 from <https://www.iaisweb.org/activities-topics/climate-risk/>

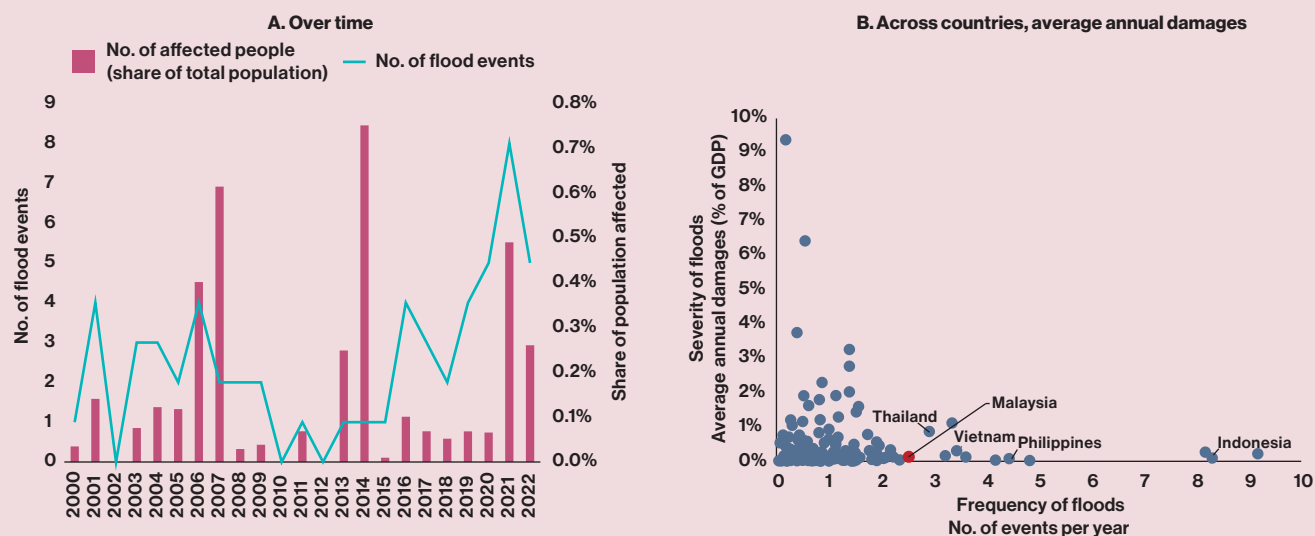
<sup>10</sup> The ACSR, chaired by the SC and formed with the endorsement of the Ministry of Finance, comprises representatives from BNM, Bursa Malaysia Berhad, Companies Commission of Malaysia, Audit Oversight Board and Financial Reporting Foundation.

<sup>11</sup> The public consultation period is from 15 February 2024 to 21 March 2024. The consultation paper seeks feedback on the scope and timing for implementation, the transition reliefs required and issues related to assurance for sustainability disclosures.

## Floods and Finance: Building Resilience of Malaysian Businesses

Since 2000, floods have been the cause for 85% of all natural disasters in the country.<sup>1</sup> The frequency of these events has also increased since 2020. Eight large floods were recorded in 2021 alone compared to the predicted average of two flood events a year (Chart 1A). The severity of these floods may be relatively modest on a global scale. But for Malaysia, flood events have the largest economic impact and affect the highest number of people among all natural disasters (Chart 1B). Economic losses from floods amounted to 0.13% of annual gross domestic product (GDP) on average, and displaced 935,000 Malaysians, both temporarily and permanently, between 2008 and 2022.<sup>2</sup>

Chart 1: Frequency and Severity of Floods in Malaysia



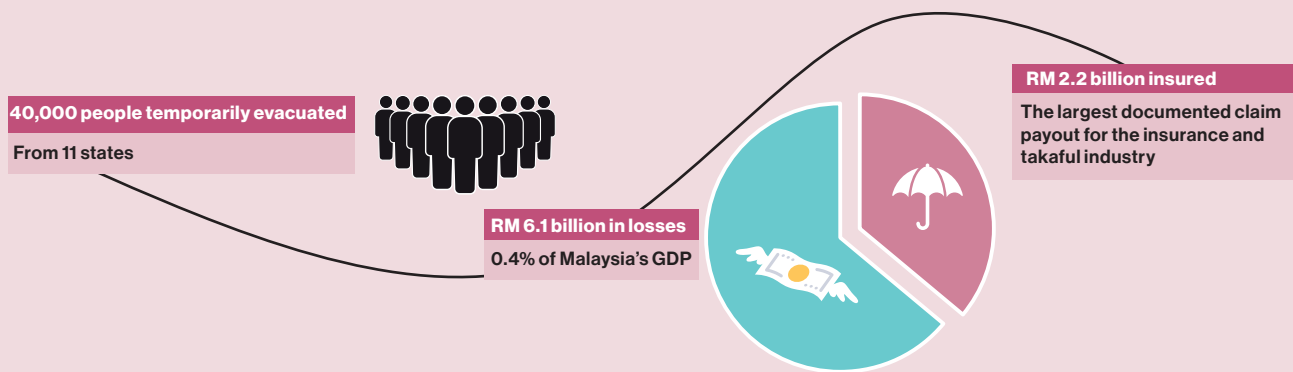
Source: EM-DAT Database, downloaded in May 2023

The catastrophic floods experienced in December 2021 highlight the potential for unabated climate change to have more significant impacts on the Malaysian economy and financial sector going forward (Diagram 1). The non-linearity of climate-related risks further underscore the importance of intensifying ongoing actions to improve flood risk management and mitigate potential consequences to Malaysia. Against this backdrop, the World Bank and Bank Negara Malaysia have worked together to analyse how adversely businesses can be impacted by floods, exposures of the financial sector and its role in supporting businesses to manage flood risks. The study also identified several key policy priorities to develop an enabling ecosystem for effective flood management. Key findings are published in the joint report entitled 'Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia' (the Report).

<sup>1</sup> Source: EM-DAT database, International Disaster Database

<sup>2</sup> Source: Internal Displacement Monitoring Centre (IDMC) database

Diagram 1: Impact of 2021 Floods



Note: Losses cover those from public assets and infrastructure, living quarters, vehicles, manufacturing, business premises and agriculture.

Source: Department of Statistics Malaysia, Bank Negara Malaysia

## Overview of Malaysia's Flood Risk

Malaysia experiences two monsoon seasons: Southwest Monsoon (June through August) and Northeast Monsoon (November through February). The South and East Coasts of Peninsular Malaysia are particularly prone to frequent floods during the year-end monsoon season. Flash floods have become more common in major cities like Kuala Lumpur, Kuching and the state of Penang due to rapid urban expansion that leads to deforestation and insufficient drainage. Precipitation levels increased steadily between 1951 and 2020 and more than one climate model predicts further yearly increases by the end of the 21st century. Without adaptation efforts, this will expose Malaysia to increased flood risks. This means that historically 1-in-100-year floods could become as frequent as 1-in-50 or 1-in-25 years,<sup>3</sup> with more damaging impacts to be expected.

## Macroeconomic Impact of Flood Risk

In the Report, the macroeconomic impact of future floods was assessed using a two-stage input-output model. This can be equated to a simulation tool that links hazard data on floods with estimated economic impacts at the sectoral level. The model uses estimates of the share of assets at risk to floods in Malaysia for the year 2030, based on expected development patterns and potential climate change effects.<sup>4</sup> This is combined with flood risk projections to calculate expected losses on aggregate output and employment.<sup>5</sup> Malaysia is estimated to lose up to 4.1% of GDP or up to 4% of gross output<sup>6</sup> in 2030 based on the impact of a theoretical 1-in-20-year flood. This takes into account direct losses from floods such as damages to physical assets and infrastructure, and indirect losses such as loss of income from supply chain disruption and diversion of tourism, nation-wide. This also does not consider reconstruction and rebuilding activities post flood event which would likely result in a more moderate impact on GDP and gross output for the year. The agriculture sector in particular could be severely impacted by floods due to its wide geographical coverage. Manufacturing and services sectors would also record a huge impact due to their large size in the Malaysian economy (Chart 2). The estimated impact to gross output<sup>7</sup> (i.e. 4%) is applied to outstanding bank loans to show the segment of bank loans in each sector that would potentially be exposed in this flood scenario (Chart 3). Collectively, these represent very conservative estimates of the impact given the lack of granular level data especially on assets and bank exposures. BNM intends to refine its methodology for the computation of flood-related impacts to provide greater precision and granularity in future estimations.

<sup>3</sup> World Bank Climate Change Knowledge Portal.

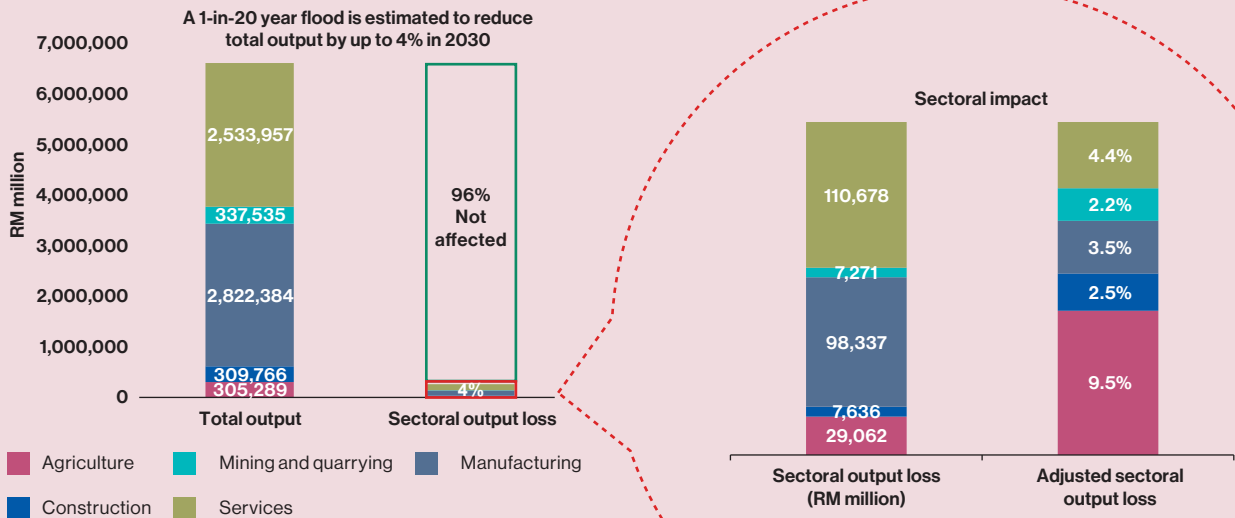
<sup>4</sup> The main source of data used is the Fathom database, a proprietary database of flood risk maps widely used for flood risk research.

<sup>5</sup> This model has been validated by comparing the results for several countries against different macro-economic models.

<sup>6</sup> Gross output is a measure of the total economic activity in the production of goods and services including raw materials, production process and distribution. E.g. where a furniture manufacturer buys wood for RM100, and adds value to it to produce a piece of furniture sold for RM300. GDP is the value of the final product sold (i.e. RM300), whereas gross output is the value of the final product sold plus intermediate consumption (wood as the raw material) (i.e. RM300 + RM100 = RM400).

<sup>7</sup> Gross output is used to take into account the impacts to supply chains, including nuances between sectors. For example, manufacturing has more intermediate demands that would count towards gross output but not GDP.

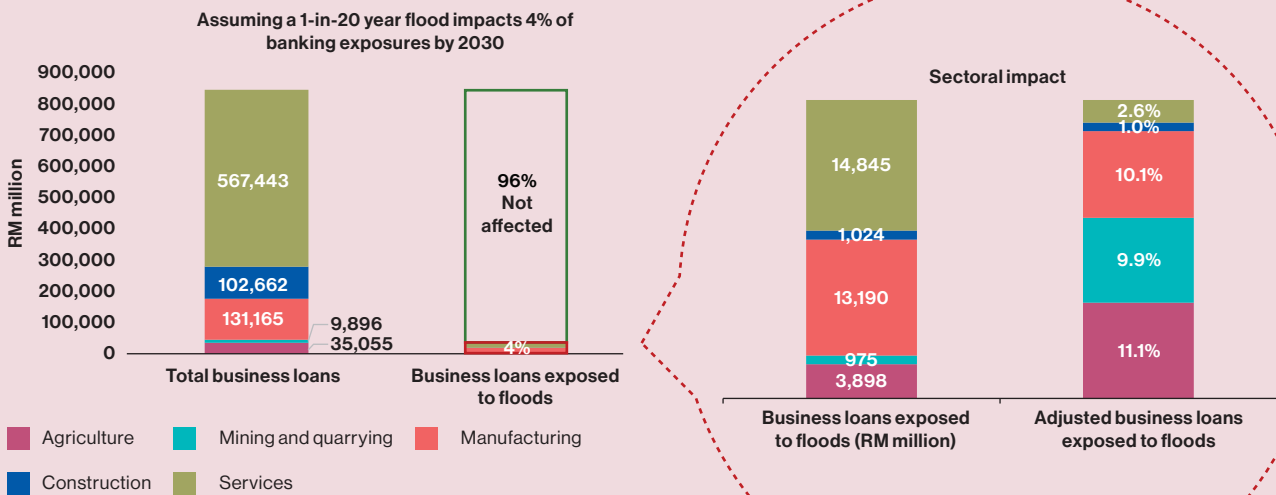
Chart 2: Losses in Output in a 1-in-20-Year Flood



Note: 1. **Adjusted sectoral output loss** refers to the proportion of output potentially lost in a 1-in-20 year flood, by sector.

Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

Chart 3: Banking Loan Exposures to Flood Risks in a 1-in-20-Year Flood

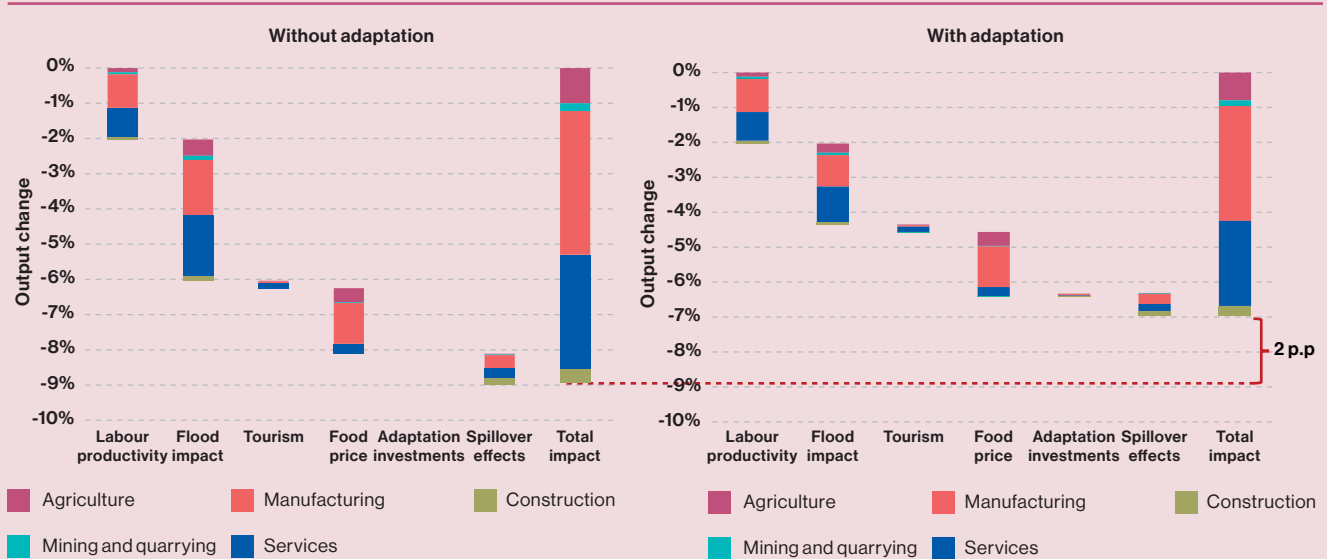


Note: 1. **Business loans exposed to floods** refers to the business loans potentially exposed to floods.  
 2. **Adjusted business loans exposed to floods** refers to the proportion of loans potentially impacted by floods, by sector.  
 3. Assuming static balance sheet as of December 2023.

Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

For comparison, the model was also run separately for a similar flood scenario where Malaysia undertakes additional climate adaptation measures between now and 2030. Such measures include improved land planning, enforced building standards, more flood resilient infrastructure and improvements to natural ecosystems that retain water. The results indicated that fully-implemented adaptation measures could reduce the economic impact of floods by more than 40% i.e. from loss of up to 4.1% of GDP (in the absence of adaptation efforts) to up to 2.3%. Such adaptation measures are estimated to cost up to 0.2% of annual GDP<sup>8</sup> (Chart 4).

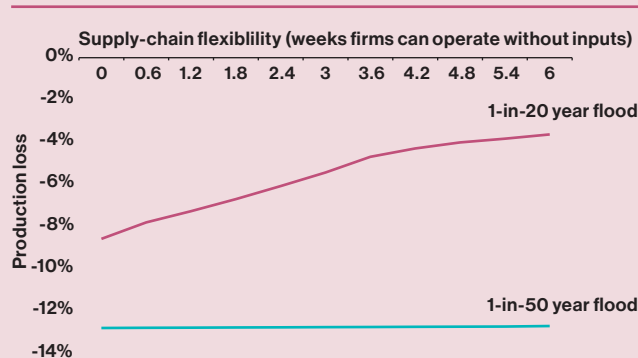
**Chart 4: Climate Change Impacts on Output**



Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

Further estimates show that actions by businesses themselves are essential to reducing the risk of flooding. Building supply chain resilience, such as diversifying input sources and holding inventory, can reduce expected losses of firms by over 50% in a 1-in-20-year flood. However, the offsetting role of supply chain flexibility is muted in the case of longer or more severe floods (Chart 5). The financial sector too is key in enhancing resilience by providing access to credit and protection as well as advisory services, to support adequate planning and speedy recovery of businesses.

**Chart 5: Impacts of Floods on Output with Supply Chain Flexibility**



Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

<sup>8</sup> The data used is estimated based on a regional and global dataset due to lack of information on the specific set of adaptation measures needed in Malaysia. The modelled scenario assumes that all adaptation measures would need to be fully implemented; therefore, estimates can be interpreted as an upper bound for potential benefits of adaptation measures.

### Businesses' financial resilience to floods

Based on a survey conducted amongst 1,500 Malaysian companies,<sup>9</sup> about a quarter were affected by floods in the past three years. While a greater proportion of large firms<sup>10</sup> were affected, small and medium enterprises (SMEs) are likely to incur more damage and disruptions, in particular with respect to indirect impacts of floods.<sup>11</sup> Across sectors, businesses operating in the agriculture and manufacturing (particularly automotive, machinery, and equipment) sectors and utility companies, were significantly affected. The latter indicates potential indirect impacts due to disruptions in infrastructure services. Affected firms attributed their losses mainly to a lack of awareness and understanding of flood risks (in particular, among smaller businesses) and inaction to strengthen preparedness to respond to such risk.

There is a range of coping strategies businesses can take to mitigate their vulnerabilities and ensure robust business performance, reduce losses, speed up recovery, and smooth expenses over time. Such strategies include adaptation measures that reduce the impact of floods (e.g. flood walls) and insurance<sup>12</sup> coverage. Our research looked into the factors affecting adoption of these strategies among businesses. The survey showed that businesses that considered floods as a recurring risk were more likely to take measures to strengthen resilience (Chart 6a,6b). Further, regressions indicate that once individual risk exposures are controlled for, the sector or location of businesses does not make them any more likely to take measures, including obtaining insurance. While SMEs and large businesses face common challenges in implementing adaptation strategies, the challenges are generally greater for SMEs due in large part to capacity constraints (Diagram 2). SMEs are less likely to have protection cover or supply chain resilience strategies compared to large businesses.

**Chart 6a: Flood Risk Awareness and Adoption of Disaster Preparedness Strategies**



Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

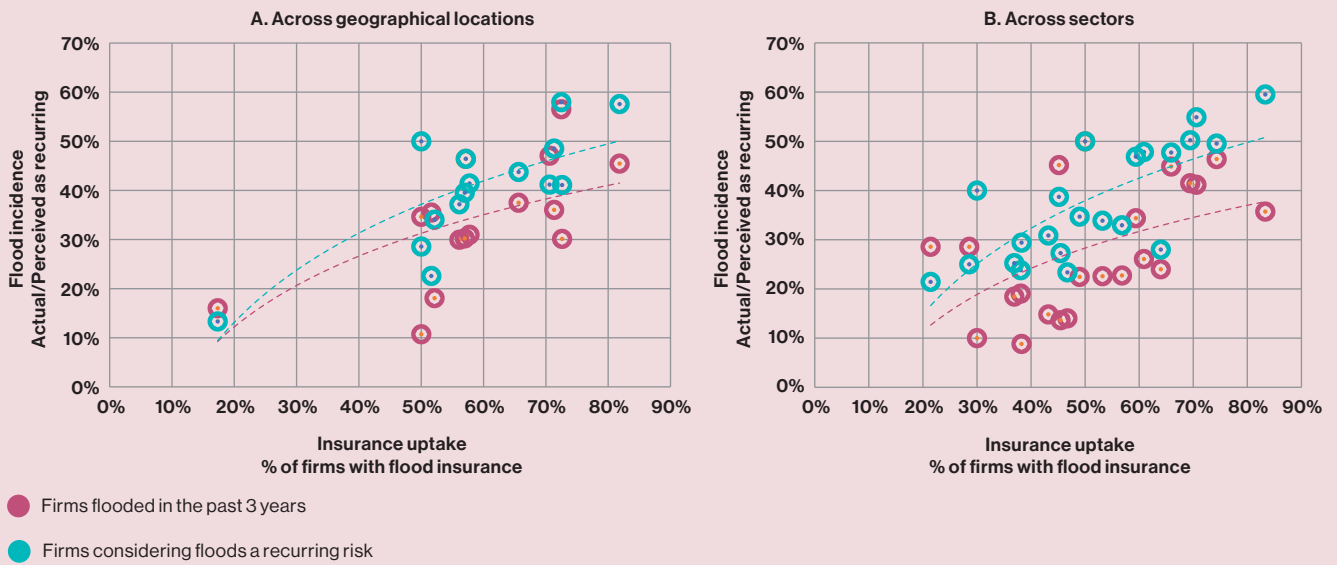
<sup>9</sup> The survey was conducted in the first half of 2023, and results are representative of Malaysian companies in terms of firm size, business sector and geographic regions.

<sup>10</sup> Defined as businesses with revenues above RM50 million.

<sup>11</sup> This includes impacts to customers, employees, supply chains and financial transactions.

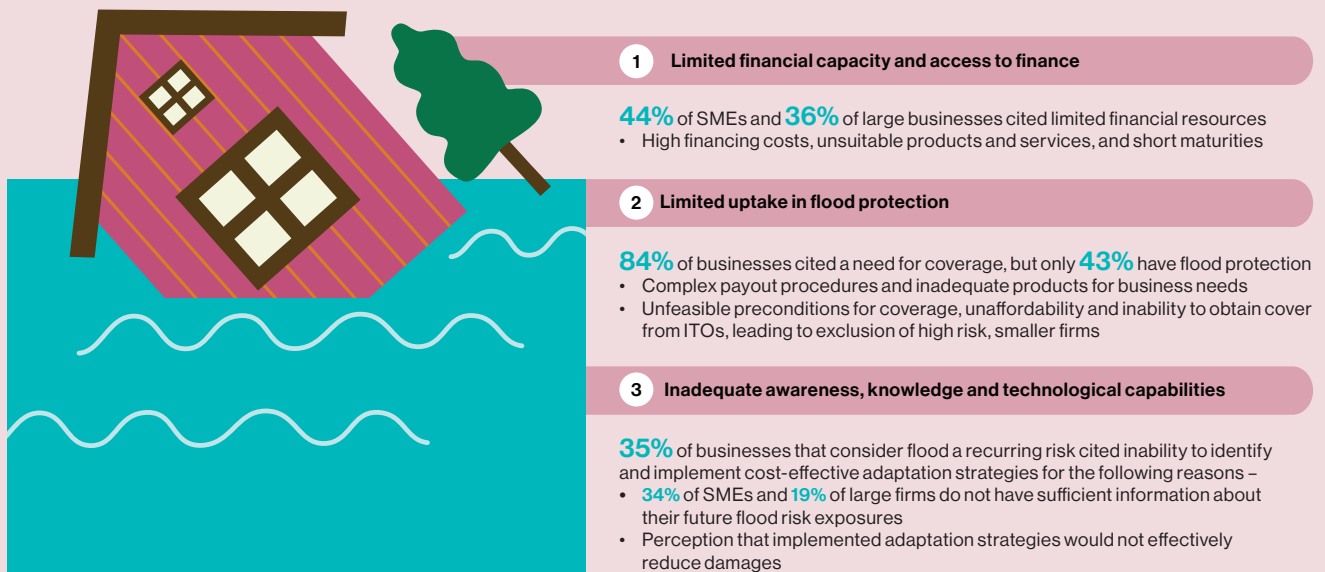
<sup>12</sup> The term insurance in this article refers to both insurance and takaful protection.

Chart 6b: Flood Insurance Uptake



Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

Diagram 2: Challenges for Businesses in Developing Adaptation Strategies



Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

### Adaptation finance solutions by the financial sector

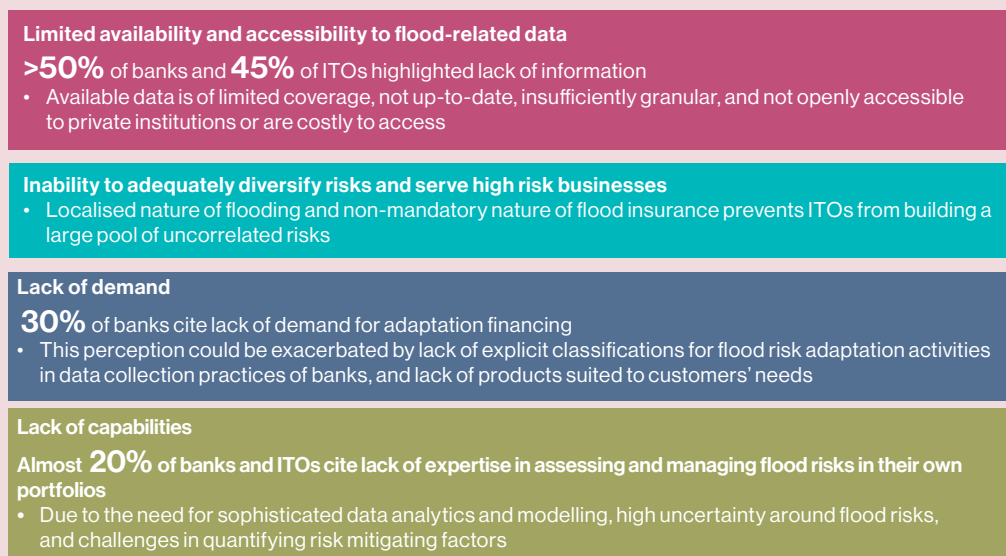
Globally, adaptation finance solutions remain under-developed for a range of reasons. Investments in flood resilience are often unattractive due to high upfront costs aside from longer payback periods and uncertain returns. Flood resilience projects also may not offer clear revenue streams or source of income for investors. In Malaysia, there is a limited project pipeline as resilience actions are not prioritised by businesses themselves. This is particularly the case for SMEs, which typically have high entry and exit rates. Inadequate action can also stem from the high uncertainty about the effectiveness of potential climate adaptation strategies. Additionally, limited information about government investment and initiatives in flood adaptation can hinder effective coordination between public and private sectors.

In Malaysia, adaptation finance largely exists in the form of revolving credit lines and term financing, bond and sukuk financing for natural disaster prevention measures and insurance/takaful coverage. Around 80% of surveyed banks offer such financing, with scope for further expansion in offerings. 60% of banks have started to assess flood risks of business clients. While the integration of such risk considerations into credit risk assessments remains in early stages, banks are increasingly engaging higher risk customers on flood cover or adaptation measures to mitigate exposures to flood risks as part of financing terms. Monitoring and reporting flood risks within banks are also in early stages. About 30% of banks are currently reporting these risks in internal or external assessments. The full implementation of BNM’s Climate Risk Management and Scenario Analysis (CRMSA) and the industry-wide climate risk stress testing are expected to enhance flood risk management and capacity within banks. This in turn is expected to expand opportunities to enhance financing solutions, but it could also increase challenges for businesses if financing needs for adaptation activities are not adequately supported.

Emergency financing following a flood event is typically offered by the Government but is limited to households. Businesses are thus reliant on the financial sector for financing for recovery and reconstruction efforts as well as debt servicing assistance in the aftermath of a flood event. At present, this largely takes the form of temporary moratorium on financing instalments. In the context of the 2021 flood, BNM stepped in to provide emergency funding with the Disaster Relief Facility (DRF). The DRF offers RM500 million in financing facility to micro and small and medium enterprises (MSME) affected by floods.

Flood insurance/takaful in Malaysia is typically offered as a non-mandatory ‘add-on’ peril to fire and motor protection products and is largely location-dependent. 80% of insurers and takaful operators (ITOs) currently consider flood risks when assessing business clients. Banks and ITOs highlight similar challenges in providing financing and protection to businesses (Diagram 3).

**Diagram 3: Challenges Faced by Banks and ITOs in Providing Flood Financing and Protection**

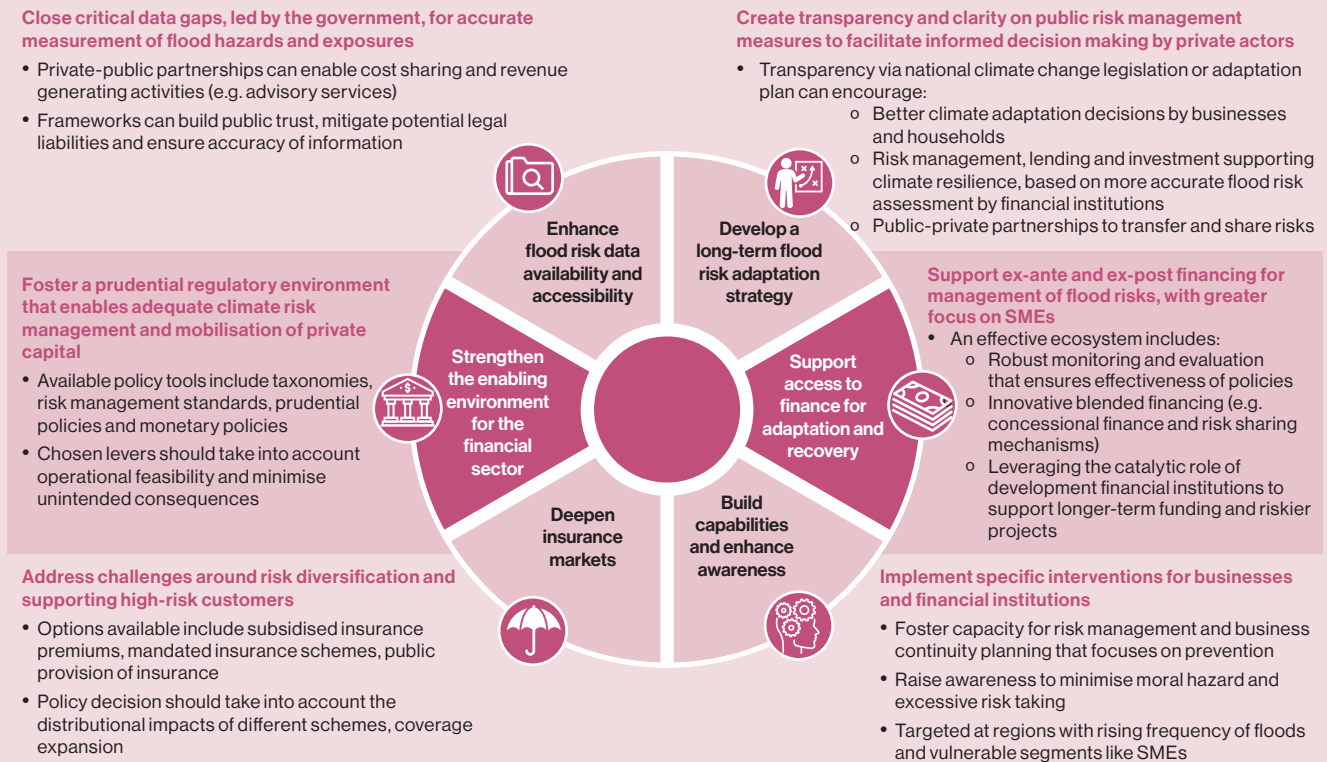


Source: World Bank and Bank Negara Malaysia, Managing Flood Risks: Leveraging Finance for Business Resilience in Malaysia

### Public policies to support the management of flood risks

The Government plays a crucial role in developing comprehensive climate adaptation policies that enable and align incentives for businesses to adopt more resilient practices, and for the private sector to play a bigger role in financing adaptation activities. This in turn is vital to encourage the flow of private capital towards adaptation progress. The Report identifies six key policy priorities to ensure a facilitative ecosystem for effective flood management in Malaysia (Diagram 4).

**Diagram 4: Key Recommendations for an Enabling Ecosystem for Effective Flood Management**



Source: World Bank and Bank Negara Malaysia, Managing Flood Risk: Leveraging Finance for Business Resilience in Malaysia

## Moving forward

This study is a first attempt by BNM to assess the macroeconomic and financial stability impact of flood events. BNM will continue to refine our methodology and assessment of the financial sector and economy’s exposure to flood risks. This will also entail pursuing efforts together with the industry to address key challenges surfaced by the Report, such as data, capacity, products and solutions.

## References

EM-DAT (2008). EM-DAT: The International Disaster Database (Available at: <https://www.emdat.be>)

Evaluating the Impact of December 2021 Floods on the Insurance and Takaful Sector (2021). Bank Negara Malaysia (Available at: [https://www.bnm.gov.my/documents/20124/6459002/fsr21h2\\_en\\_wb2.pdf](https://www.bnm.gov.my/documents/20124/6459002/fsr21h2_en_wb2.pdf))



**Annex**





Table A.1

## Key Financial Soundness Indicators

	As at end				
	2H 2021	1H 2022	2H 2022	1H 2023	2H 2023p
	% (or otherwise stated)				
<b>Banking System</b>					
Total Capital Ratio	19.2	18.4	19.0	18.8	18.5
Tier 1 Capital Ratio	16.0	15.2	15.8	15.7	15.5
Common Equity Tier 1 Capital Ratio	15.5	14.7	15.2	15.1	14.9
Return on Assets <sup>1</sup>	1.1	1.3	1.4	1.3	1.2
Return on Equity <sup>1</sup>	9.5	11.8	12.3	11.6	11.2
Liquidity Coverage Ratio	153.3	148.2	151.5	154.7	160.9
Net Impaired Loans Ratio <sup>2</sup>	1.1	1.1	1.1	1.1	1.1
Capital Charge on Interest Rate Risk in the					
Trading Book to Capital Base	0.8	0.9	0.8	0.9	0.9
FX Net Open Position to Capital Base	3.8	4.1	3.4	3.7	3.9
Equity Holdings to Capital Base	1.3	1.3	1.2	1.2	1.4
<b>Insurance and Takaful Sector</b>					
Capital Adequacy Ratio	221.0	224.4	225.5	226.4	222.2
Life Insurance and Family Takaful					
Excess Income over Outgo (RM billion) <sup>3</sup>	2.2	-2.8	5.5	6.0	3.1
New Business Premium / Contribution (RM billion)	10.5	12.3	10.8	12.6	11.5
Capital Adequacy Ratio	210.7	217.3	216.4	217.5	211.2
General Insurance and General Takaful					
Operating Profit (RM billion)	1.3	1.0	2.1	1.3	1.9
Underwriting Profit (RM billion)	0.7	0.4	1.2	0.2	0.8
Gross Direct Premium / Contribution (RM billion)	10.8	12.1	12.1	13.3	13.2
Claims Ratio	56.5	63.8	52.0	60.7	56.7
Capital Adequacy Ratio	256.6	246.2	249.5	250.0	253.0
<b>Household (HH) Sector</b>					
HH Debt (RM billion)	1,376.4	1,409.1	1,451.4	1,481.8	1,534.1
HH Financial Assets (RM billion)	2,971.3	2,901.9	3,002.0	3,038.7	3,175.7
HH Debt-to-GDP Ratio	88.9	84.4	81.0	82.0	84.2
HH Financial Assets-to-Total HH Debt Ratio	215.9	205.9	206.8	205.1	207.0
HH Liquid Financial Assets-to-Total HH Debt Ratio	144.0	137.5	135.4	133.3	132.3
Impaired Loans Ratio of HH Sector (Bank Loans) <sup>2</sup>	1.1	1.3	1.2	1.3	1.2
Impaired Loans Ratio of HH Sector (Non-Bank Loans) <sup>4</sup>	1.0	1.1	1.1	1.3	1.2
<b>Business Sector</b>					
Return on Assets	2.5	2.8	2.6	2.4	2.1
Return on Equity	4.2	4.7	4.6	3.6	3.7
Debt-to-Equity Ratio	22.9	22.2	22.6	20.7	19.7
Interest Coverage Ratio (times)	7.3	8.2	7.1	5.6	5.7
Operating Margin	7.4	7.7	7.0	6.2	7.0
Impaired Loans Ratio of Business Sector <sup>2</sup>	2.8	3.0	2.8	2.8	2.7
<b>Development Financial Institutions<sup>5</sup></b>					
Lending to Targeted Sectors (% change)	3.6	3.0	1.3	2.4	5.9
Deposits Mobilised (% change)	1.4	2.3	3.9	1.8	-0.1
Impaired Loans Ratio	4.8	5.4	5.5	5.9	5.6
Return on Assets	1.1	1.0	1.1	1.2	1.3

<sup>1</sup> Banking system profits are aggregated at the entity level and adjusted for dividend income received from domestic banking subsidiaries.

<sup>2</sup> Based on Stage 3 loans under the Malaysian Financial Reporting Standard 9 (MFRS 9).

<sup>3</sup> Excess income over outgo excludes investment-linked unit funds to reflect the core performance of ITOs' profitability more accurately and thus, may not be directly comparable to the data reported in previous publications.

<sup>4</sup> Based on loans with 3 months or more in-arrears.

<sup>5</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 Bank Negara Malaysia estimates

Table A.2

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

	As at end				
	2H 2021	1H 2022	2H 2022	1H 2023	2H 2023 <sup>p</sup>
<b>Islamic Banking System</b>	RM million (or otherwise stated)				
Total Assets <sup>1</sup>	1,191,622.4	1,236,239.2	1,316,121.5	1,343,223.8	1,398,150.3
% of total assets of entire banking system <sup>1</sup>	35.5	35.5	36.3	36.2	36.6
Total Financing <sup>1</sup>	879,159.0	915,901.3	974,383.5	993,226.8	1,049,707.5
% of total loans / financing of entire banking system <sup>1</sup>	42.3	43.0	44.5	44.7	45.6
Total Deposits and Investment Accounts <sup>1</sup>	968,918.4	1,001,104.9	1,058,671.8	1,075,999.2	1,121,984.0
Total Deposits <sup>1</sup>	844,293.4	865,763.1	926,471.6	933,153.2	968,569.3
Total Investment Accounts <sup>1</sup>	124,625.0	135,341.8	132,200.2	142,845.9	153,414.7
% of total deposits and investment accounts of entire banking system <sup>1</sup>	39.8	40.2	41.6	41.6	42.0
	%				
Total Capital Ratio	19.2	18.3	18.9	18.2	18.0
Tier 1 Capital Ratio	15.5	14.5	15.5	14.8	14.8
Common Equity Tier 1 Capital Ratio	15.0	14.0	14.8	14.1	14.0
Return on Assets	1.1	1.2	1.3	1.0	1.0
Net Impaired Financing Ratio	0.9	1.0	1.0	1.1	1.1
<b>Takaful Sector</b>	RM million (or otherwise stated)				
Takaful Fund Assets	45,803.0	46,780.0	49,864.4	52,461.9	55,639.8
Family	40,258.9	41,182.8	43,645.1	45,969.0	48,477.3
General	5,544.1	5,597.2	6,219.4	6,492.9	7,162.5
% of insurance and takaful industry	12.6	13.2	13.4	13.7	14.0
Net Contribution Income	6,614.6	8,588.5	7,715.3	8,973.5	8,310.5
Family	5,093.2	6,886.3	5,853.9	7,053.3	6,218.9
General	1,521.5	1,702.1	1,861.4	1,920.2	2,091.6
% of insurance and takaful industry	19.4	24.3	21.6	24.7	22.1
Family Takaful					
New Business Contribution	3,817.5	5,439.9	4,618.9	5,225.6	4,364.7
General Takaful					
Gross Direct Contribution	1,966.4	2,229.5	2,407.2	2,679.0	2,764.4
Claims Ratio (%)	50.7	60.0	61.0	64.3	62.2

<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