



BANK NEGARA MALAYSIA
CENTRAL BANK OF MALAYSIA

Financial Stability
Review
First Half

2022

FSR



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CENTRAL BANK OF MALAYSIA

Preface

This Financial Stability Review – First Half 2022 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 30 June 2022, unless otherwise stated.

The Financial Stability Review - First Half 2022 is available in Portable Document Format (PDF) at www.bnm.gov.my

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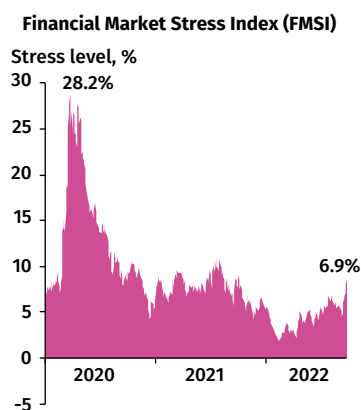
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Key Highlights on Financial Stability Review – First Half 2022

Conditions in the domestic financial markets remained orderly despite significant volatility in global markets

While elevated, financial market stress is well below the peak in 2020



Liquidity conditions in the bond and foreign exchange (FX) markets remain healthy

Investors' interest in corporate bonds remains high
46.5 basis points*
 Average spread between 10-year AAA bonds & 10-year MGS (2015-2019 average: 55.4 basis points)

Healthy demand for new government bond issuances
2.3 times*
 Average bid-to-cover ratio of new government bond issuances (2015-2019 average: 2.3 times)

Orderly conditions in the bond and FX markets
RM 2.8 billion* Average daily trading volume in the government bond secondary market (2015-2019 average: RM3.1 billion)
USD13.3 billion* Average daily trading volume in the domestic FX market (2021 average: USD11.2 billion)

*Data as at 23 September 2022.

Financial institutions are able to manage the impact from volatile market conditions

Banks have sufficient foreign currency liquid assets

2.6 times^
 Ratio of foreign currency liquid assets to external debt-at-risk (2017-2019: 2.6 times)

Foreign currency exposures remain manageable

4.5%^
 Foreign exchange net open position as a share of total capital (2015-2019: 5.7%)

^Data as at June 2022.

Financial institutions remained well-positioned to support economic recovery

Banks maintained healthy capital and liquidity buffers to support financial intermediation



Total Capital Ratio
 (Dec '21: 19.2%)



Excess Capital Buffers
 (Dec '21: RM135.4 billion)



Liquidity Coverage Ratio
 (Dec '21: 153%)

Insurers and takaful operators remained well-capitalised above regulatory minimum



Capital Adequacy Ratio
 (Dec '21: 222%)



Excess Capital Buffers
 (Dec '21: RM36.8 billion)

Banks have strong provisioning buffers to absorb any increases in credit losses, while earnings continued to improve



Gross Impaired Loans Ratio
 (Dec '21: 1.7%)

1.8% **Total-Provisions-to-Total Loans**
 (Dec '21: 1.8%; 2015-2019 average: 1.4%)

117% **Loan Loss Coverage Ratio**
 (including regulatory reserve)
 (Dec '21: 123%; 2015-2019 average: 113%)



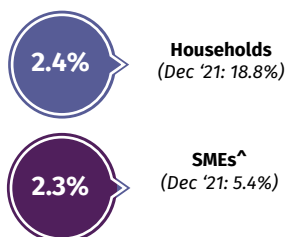
Return on Equity
 (Dec '21: 9.5%)

Data as at June 2022 unless stated otherwise.

Households and businesses continued to recover since the pandemic, but risks linger in some segments

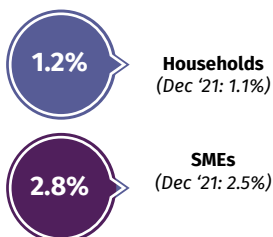
The share of loans under repayment assistance (RA) continues to decline

Debt under RA
(as % of total banking system and development financial institutions loans)



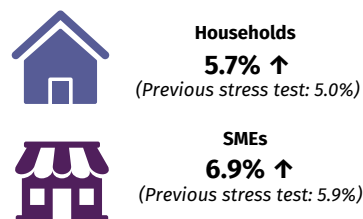
Uptick in impairment due to a small fraction of borrowers who remained vulnerable after exiting RA

Impairment Ratio
(as % of total banking system loans to households and SMEs, respectively)



Banks are able to withstand increases in impairment under simulated severe macroeconomic and financial shocks

Simulated Impaired Loans Ratio* under Stress Test with Additional Shocks by end-2023



Parameters of the Additional Shocks**

- USD/MYR** ▶ Worse than levels seen during the Asian Financial Crisis
- US Federal Funds Rates** ▶ Largest 12-month increase in four decades
- MGS Yields** ▶ Highest level in the past two decades

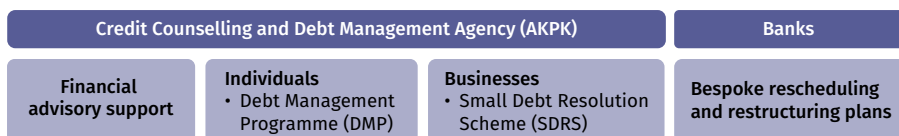
Data as at June 2022 unless stated otherwise.

[^] SMEs continued to account for 94% of firms benefitting from repayment assistance.

* As % of total banking system loans to households and SMEs, respectively.

** Increasing the severity of shock parameters applied to the macro stress test published in the BNM Financial Stability Review for Second Half 2021.

Financial advice and assistance continue to be available for borrowers who are affected in the current environment



Box Article: 2021 Financial Capability and Inclusion Demand Side (FCI) Survey

The pandemic has led to an overall improvement in financial knowledge, but has made it more challenging for some

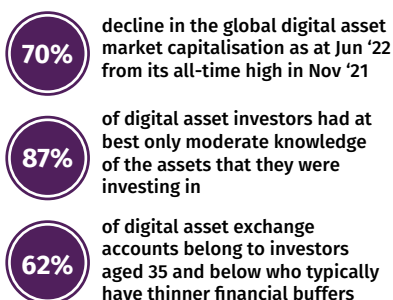
<p>The Malaysia Financial Literacy and Capability index improved to 59 (2018: 57) indicating that individuals are more financially aware following the pandemic</p>	<p>Digital financial literacy remains low despite wider adoption of digital products. 37% of individuals share their passwords and/or personal identification number with close friends</p>
<p>Salaried workers tend to feel more confident in their income stream, leading to a tendency to over-commit to debt</p>	<p>Withdrawals from retirement savings have led to more individuals (2021: 27% of respondents; 2018: 16%) being worried about their long-term resilience</p>
<p>Short-term financial resilience improved slightly, due to the various assistance and support measures</p>	<p>1 in 3 individuals indicated no interest in learning about insurance/takaful products</p>

Box Article: The State of Play of Digital Assets in Malaysia and Linkages to Financial Stability

Financial stability risks associated with the current adoption of digital assets in Malaysia remain low

- Low level of digital asset adoption compared to traditional assets
- Small deposit outflows from banks into digital assets
- Exposure of banks are limited to facilitating low-risk client services

Price volatility and proliferation of unregistered service providers pose heightened risks to investors



The Bank remains vigilant in monitoring market and regulatory developments

- On-going surveillance of domestic and global digital asset developments
- Collaborative arrangements with other agencies to facilitate information sharing and manage potential regulatory arbitrage
- Refinements to regulatory framework to be guided by developments in international standards
- Regional cooperation to strengthen surveillance and oversight arrangements

Overview



Overview

Global financial market conditions tightened in the first half of 2022 amid concerns over global economic growth, rising inflation and volatile commodity prices. Financial market volatility has continued to be fuelled by a quicker-than-anticipated normalisation of monetary policy in major economies to control inflation, as well as the prospects of a longer war in Ukraine and ongoing risks of global economic disruptions brought on by COVID-19 restrictions in some parts of the world. Domestically, market stress levels have remained elevated since the second quarter of 2022, reflecting a global risk-off sentiment in response to rising global bond yields. Despite continued heightened volatility in the domestic financial markets, market conditions have remained orderly with the smooth intermediation of two-way flows in the bond and equity markets. The US dollar has strengthened significantly and remained at a two-decade high, due to aggressive policy rate hikes in the US and flight to perceived safe US dollar assets. Continued liquidity in the onshore foreign exchange market is enabling orderly adjustments to external developments. This, in turn, will support businesses and market participants in managing their foreign exchange exposures.

Businesses continued to show improvement in their financial performance in the first half of 2022 in line with the full resumption of economic activities and reopening of international borders. Measures of financial performance at the aggregate level have recovered above pre-pandemic levels, with the median interest coverage ratio and operating margin at 7.1 times and 7.3%, respectively. However, recovery remains uneven and has been slower in certain economic sub-sectors. Reflecting this, the overall share of firms-at-risk has been stable, but it remains elevated in the hotels and restaurants, construction, and real estate sectors. Overall

business loan impairments remain low at 1.1% of total banking system loans, with leading indicators also pointing to manageable risks that will be well within the capacity of banks to absorb. Of note, the share of business loans with higher credit risk has continued to decline to 14.4% of total business loans in line with the gradual improvement in business conditions. The share of small and medium enterprise (SME) loans under repayment assistance meanwhile has halved to 13.1% of total SME loans (or 2.3% of total loans from the banking system and development financial institutions). SMEs that have exited the repayment assistance programme have largely been able to resume their loan repayments. SMEs falling behind in repayments account for less than 1% of total SME loans. Corporate default risk indicators have also continued to improve. While businesses are expected to face continuing headwinds in the period ahead – including from effects of tightening global financial conditions and exchange rate developments – additional business defaults are expected to remain manageable under simulated severe stress scenarios. Importantly, various targeted debt management programmes with the support of banks remain available for SMEs that continue to experience temporary financial challenges.

Household resilience has continued to be supported by improving economic and labour market conditions. The ratio of household debt-to-GDP has reverted closer to pre-pandemic levels at 84.5% as banks continue to maintain prudent lending standards amid a sustained recovery in household lending. This is helping to preserve healthy loan servicing buffers among households and their ability to manage the impact of higher borrowing and other costs. The median debt-to-income (DTI) ratio for overall households has increased only marginally to 1.5 times over the period of the pandemic despite income shocks and large-scale repayment assistance extended by banks. Other measures of debt servicing capacity, including for housing debt, also remain stable.

The share of household debt under repayment assistance has declined significantly from 18.8% in December 2021 to 2.4% as at June 2022, along with a lower share of household debt reported by banks to be of higher risk. Some segments of household borrowers that are more highly leveraged with low financial buffers could come under financial stress from rising costs of living and higher repayments on floating-rate loans. Borrowers who are still under an extended period of repayment assistance are also likely to present higher risks. Banks have set aside sufficient provisioning buffers against these risks and continue to extend appropriate support – including through the Credit Counseling and Debt Management Agency (Agensi Kaunseling dan Pengurusan Kredit, AKPK) – to household borrowers who still face financial challenges. Bankruptcy action continues to be the last resort for banks, after exhausting all other debt rehabilitation and recovery efforts. Under a stressed scenario incorporating additional borrowing costs and basic expenditure shocks, household impairments could rise a little more from previous stress tests conducted. However, most households would remain resilient as would the banking system.

Banking system profitability continued to recover in the first half of 2022 on the back of a pick-up in lending and lower credit costs. Strong liquidity positions of banks, as reflected in the Liquidity Coverage Ratio of 148.3% and Net Stable Funding Ratio of 118.5%, are also helping to keep funding costs low. This is sustaining net interest margins despite prospects of greater competition for higher-cost fixed deposits and repricing of deposits due to OPR hikes. Credit costs have fallen by 24 bps since December 2021, but remain above pre-pandemic levels as banks continue to be vigilant over the emergence of credit losses from borrowers who have been more severely affected by the pandemic. The share of loans under repayment assistance has correspondingly declined from pandemic-level highs to just 7.2% of total banking system loans. The ratio of impaired loans in the banking system also remains low at 1.8%. While higher interest rates and costs of living could see defaults rise further for some borrowers in the second half of 2022, the increase in overall impairments is expected to be modest given normalisation of economic activities and improving labour market conditions. Provisions by banks for potential credit losses are nevertheless

likely to remain elevated throughout the year as banks continue to observe repayment trends for borrowers who have exited the repayment assistance programmes before unwinding provisions. Importantly, banks' capital buffers remain strong, with the total capital ratio of the banking system at 18.0% as at end-June 2022 and excess capital buffers above the regulatory minimum amounting to RM122.9 billion.

Overall profitability for insurance and takaful funds declined in the first half of 2022 driven by weaker investment performance of life insurance and family takaful funds. In contrast, income from underwriting activity in the life and family takaful funds improved on the back of stronger new business growth which has seen premiums mostly recover to pre-pandemic levels. For the general insurance and takaful funds, operating results were adversely affected by the major flood events in the beginning of the year and higher motor claims as mobility returned to normal conditions. Despite their sizeable exposures to market risks from their bond and equity holdings, insurers and takaful operators (ITOs) remain resilient to the potential adverse impacts from heightened financial market volatility. The performance of ITOs going forward is also expected to reflect the continued normalisation of claims experience, rising medical and motor claim costs, and more frequent and severe physical events such as floods which could weigh on profitability. ITOs are expected to remain resilient against these risks, supported by strong capital positions. The aggregate capital adequacy ratio of ITOs stood at 224% with excess capital buffers above the regulatory minimum at RM35.8 billion as at June 2022. As part of ongoing efforts to preserve a sound capital framework for ITOs, the Bank has embarked on a multiphase review of the capital adequacy requirements for ITOs.

The strong buffers of banks and ITOs will continue to preserve the resilience of financial institutions against potential unexpected losses, enabling them to support households' and businesses' financing and protection needs as economic activities resume. This is further affirmed by the Bank's stress tests that have incorporated additional shocks from a further tightening in global and domestic financial conditions and ringgit depreciation. Post-shock aggregate capital ratios as at end-2023 remain comfortably above

regulatory minimum levels at 15.4% for banks and 209% for ITOs.

Ensuring operational and cyber resilience of financial institutions continues to be a high priority for the Bank and financial institutions. Financial institutions are directing significant resources to maintaining strong cyber defences and technology risk controls. Given the evolving nature of these risks, the Bank continues to work closely with the industry, key agencies and law enforcement authorities to address emerging threats and enhance the financial industry's capacity to recover from a

range of operational incidents. This includes ensuring the practical ability of financial institutions and payment system operators to effectively execute cyber incident response plans under simulated live tests. Financial institutions have also been required to implement additional countermeasures against online banking fraud. In parallel, the Bank is coordinating efforts with the industry, Royal Malaysia Police (RMP) and Malaysian Communications and Multimedia Commission (MCMC) to further improve fraud incident response and recovery efforts, as well as to educate the public on using digital financial services safely.

Key Developments in the First Half of 2022

9	Market Risk
12	Credit Risk
21	<i>Box Article: The Financial Capability and Inclusion Demand Side Survey 2021</i>
26	Operational Risk

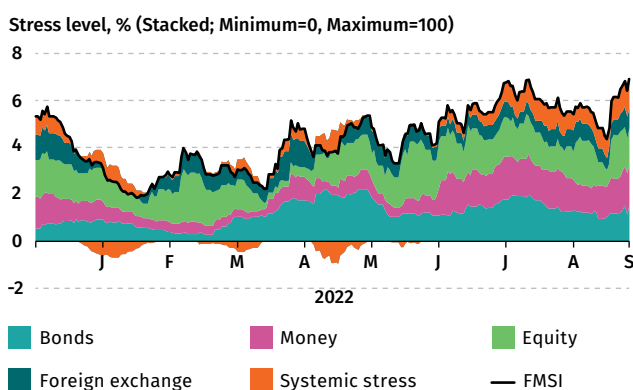
Key Developments in the First Half of 2022

MARKET RISK

Domestic financial market conditions remained orderly despite significant volatility in global markets

The Malaysian financial markets continue to be significantly influenced by global developments. Growing concerns over global growth, rising inflation and volatile commodity prices have led to a tightening in global financial market conditions. A quicker than anticipated monetary policy normalisation in major economies to rein in inflation, along with prospects of a much longer war in Ukraine as well as continuing risks of disruptions to economic activity due to COVID-19 restrictions in parts of the world, are adding to financial market volatility. Domestically, market stress levels have been elevated since the second quarter of 2022, reflecting a global risk-off sentiment in response to rising global bond yields. Stress levels, nonetheless, remain below the level observed at the onset of the COVID-19 pandemic between March and April 2020 (Chart 1.1).

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



Note: The FMSI reached a peak of 28.2% at the onset of the COVID-19 pandemic in March 2020.

Source: Bloomberg, Reuters and Bank Negara Malaysia estimates

The domestic equity market declined in tandem with regional peers, retracing gains recorded in the earlier part of the year (Chart 1.2). The FBM KLCI has shed 142.6 points year-to-date (YTD),¹ with the total market capitalisation of Bursa Malaysia down by 9.0%. Trading value and volume in the domestic equity market have declined to pre-pandemic levels. This was driven by the subdued investor sentiment in the equity market following recessionary fears in advanced economies and continued inflationary pressures.

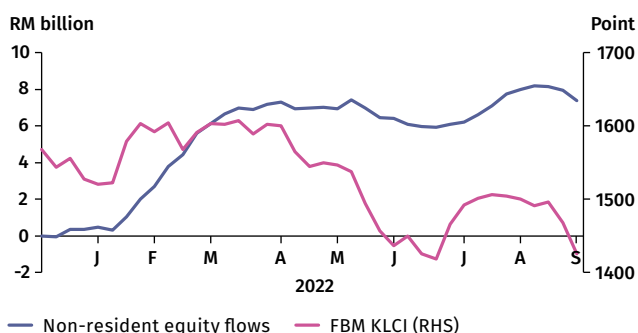
Domestic institutional investors remained net sellers of domestic equities in contrast to pre-pandemic flows (YTD: -RM9.7 billion; 2015-2019 average: +RM8.2 billion). This partly reflected profit-taking activities by domestic institutional investors amid buying interest by non-resident investors. Notwithstanding the global risk-off sentiment, non-residents recorded net inflows into the domestic equity market for the first time in four years (YTD: +RM7.4 billion). The bulk of these flows were recorded in the financial services and plantation sectors given improvements in the outlook for the banking sector following the Overnight Policy Rate (OPR) hikes since May, and higher crude palm oil prices.

Retail investors' trading activity has fallen sharply and now accounts for around 24% (2021: 35%; 2015-2019 average: 18.5%) of total value traded in the equity market. This was likely due to a combination of several factors, including rising deposit rates, heightened market volatility and a resumption of retail spending following the reopening of the economy. As at end-June 2022, just over 18% of household financial assets were in equity² (2019: 20%). The bulk of these investments are not funded by borrowings, thus shielding households from debt-related stress due to sharp equity price swings.

¹ Data as of 23 September 2022.

² Including non-fixed price unit trust funds mainly invested in equity.

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



Source: Bloomberg

Domestic institutional investors remained active in the government bond market

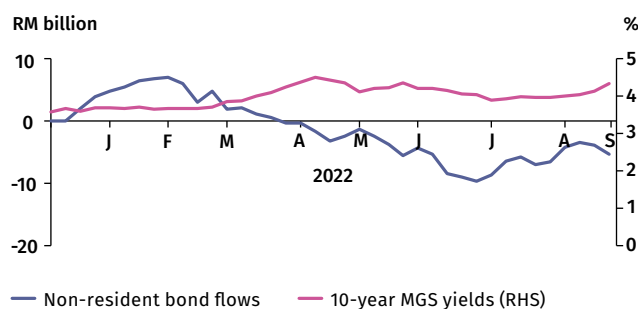
Non-resident portfolio flows in the domestic government bond³ market turned negative from the second quarter, partly reflecting safe-haven flows as concerns over slower global growth increased. This was further compounded by the narrower UST-MGS spread following aggressive rate hikes by the US Federal Reserve. The average yield differential between Malaysian Government Securities (MGS) and US Treasuries (UST) narrowed to 137 basis points (bps) YTD (2015-2019 average: 166 bps). Total net non-resident outflows amounted to RM5.3 billion YTD (Chart 1.3). Consequently, the share of non-resident holdings in the government bond market decreased to 23.0% YTD (December 2021: 25.4%; 2015-2019 average: 27%).

Domestic institutional investors, such as banks, non-bank financial institutions (NBFIs) and insurers and takaful operators (ITOs), remained active in the government bond market. Banks have been the largest net buyer of government bonds since the onset of the pandemic (YTD: RM24.2 billion; January-September 2021: RM24.9 billion). By end-2022, banks will revert to complying with the Statutory Reserve Requirement (SRR) without recognising holdings

³ Refers to both Malaysian government bonds and sukuk, unless otherwise stated.

of MGS and Malaysian Government Investment Issues. While this could see some changes in their demand for government bonds, it is not expected to result in disruptive adjustments in the funding markets given ample liquidity in the banking system. Issuances of Malaysian government bonds continued to record healthy bid-to-cover ratios, averaging 2.3 times (2015-2019 average: 2.3 times), while the average daily trading volume in the secondary market stood at RM2.8 billion (2015-2019 average: RM3.1 billion), reflecting continued orderly market conditions. Investor confidence in the Malaysian domestic bond market is expected to be sustained by the strong economic performance and stable sovereign rating outlook.⁴

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



Source: Bank Negara Malaysia and Bloomberg

The corporate bond market also continued to function smoothly, preserving relatively stable funding conditions for businesses. Credit spreads between 10-year AAA papers and 10-year MGS have been tighter than the pre-pandemic average, reflecting sustained investor interest in corporate bonds (YTD average: 46.5 bps; 2015-2019 average: 55.4 bps). Gross corporate bond issuances remained healthy, although issuances were below levels recorded in the same period in 2021 (January-July 2022: RM60.1 billion, January-July 2021: RM63.8 billion) as some issuers deferred fund raising activities given the elevated volatility observed in domestic bond yields. However, issuances are expected to recover gradually moving forward following further normalisation of economic activity.

⁴ Fitch (BBB+), Moody's (A3) and S&P (A-) carry a stable outlook on Malaysia. S&P has revised Malaysia's rating outlook to 'stable' from 'negative' in June 2022 while reaffirming the rating at 'A-', following two years of negative outlook that had been in place since June 2020 at the height of the COVID-19 pandemic.

The US dollar has strengthened significantly over the course of the year and has remained at a two-decade high since 26 April 2022. The combination of aggressive policy rate hikes in the US, flight to perceived safe US dollar assets following the military conflict in Ukraine and more moderate global growth outlook, had affected most major and emerging market currencies, including the ringgit. YTD, the ringgit has depreciated by 8.6% against the US dollar. This depreciation was in line with other major and regional currencies,⁵ which have weakened by between -4.8% and -19.1%, against the US dollar. Against other major trade partners, the ringgit has remained broadly stable as reflected in the marginal appreciation of 0.2% in the Nominal Effective Exchange Rate.⁶ Notwithstanding the depreciation in the ringgit against the US dollar, adjustments in the onshore foreign exchange (FX) market have remained orderly, with the 1-month USD/MYR implied volatility averaging at 4.2%, below recent historical averages (2021: 4.3%; 2015-2019 average: 6.5%). Trading volumes in the domestic FX market have also remained healthy, with the onshore trading volume averaging

USD13.3 billion daily (2021: USD11.2 billion). These conditions are expected to ensure that the domestic FX markets will continue to support businesses and market participants in managing their FX exposures.

The global cessation of the non-USD London Interbank Offered Rate (LIBOR) and 1-week and 2-month USD LIBOR settings on 31 December 2021 occurred without market disruption. Legacy LIBOR exposures for these settings have since transitioned to alternative rates,⁷ while 72% of legacy contracts have successfully incorporated fallback provisions as of June 2022. LIBOR exposures of the Malaysian banking industry continued to decline (June 2022: RM744 billion; December 2021: RM876 billion) as the industry makes further progress in transitioning to alternative risk-free rates (RFR). Malaysian banks have begun trading Secured Overnight Financing Rate derivatives since the end of 2021 and are ready to support a growing demand for RFR-referenced loans. The remaining USD LIBOR exposures are expected to transition smoothly by June 2023, with banks actively engaging clients to manage potential transition risks.

⁵ Japanese yen, Singapore dollar, Thai baht, Philippines peso, Indonesian rupiah and Vietnamese dong.

⁶ Refers to the weighted average of home country's currency against the currencies of major trading partners.

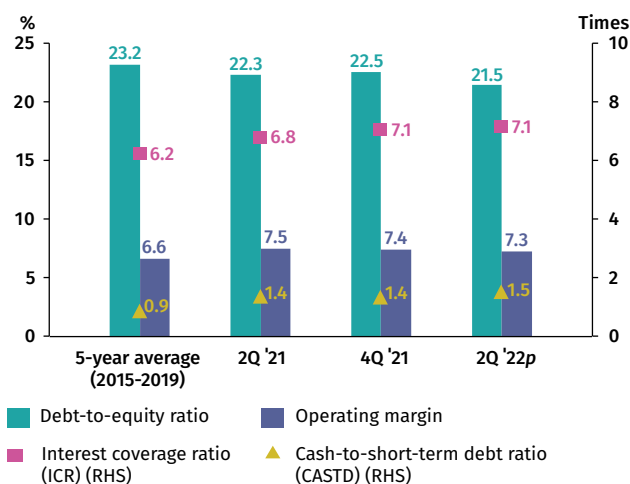
⁷ For example, risk-free rates and cost of funds.

CREDIT RISK

Business performance continued to recover, but conditions remain challenging in some sectors amid rising input costs and labour shortages

The first half of 2022 saw further recovery in the business operating environment, as Malaysia transitioned to endemicity. Businesses were allowed to operate at full capacity. Most firms, particularly those in the wholesale and retail trade sector, reported strong performance in 2Q 2022, supported by a surge in festive-related spending and COVID-19 support measures. The reopening of international borders since 1 April 2022 also facilitated the recovery in tourism-related sectors. Hotel occupancy rates recovered from its low of 11% in 2Q 2020 to 46.6% in 2Q 2022 (4Q 2021: 49.9%; 2019 average: 56.6%). The financial performance of businesses remained above pre-pandemic average, with the median interest coverage ratio (ICR)⁸ and operating margin at 7.1 times and 7.3% (4Q 2021: 7.1 times and 7.4%; 2015-2019 average: 6.2 times and 6.6%), respectively (Chart 1.4). Firms continued to hold precautionary liquid buffers to manage business uncertainty, with the aggregate cash-to-short-term debt ratio (CASTD)⁹ remaining high.

Chart 1.4: Business Sector – Key Financial Performance Indicators



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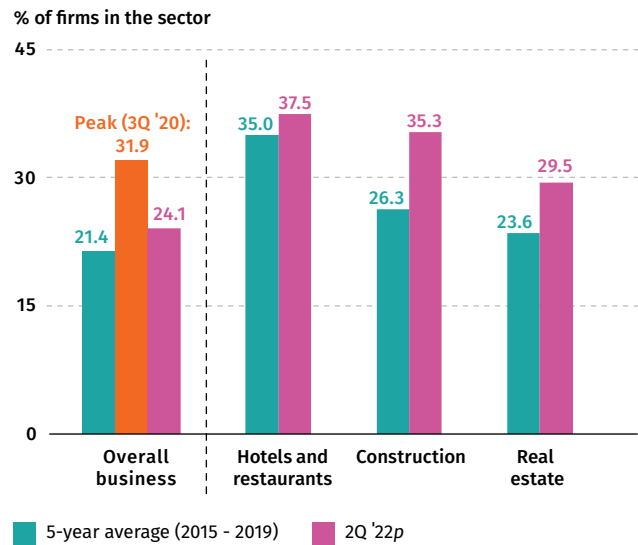
Note: Prudent thresholds for ICR and CASTD are two times and one time, respectively.

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

⁸ Prudent threshold for ICR is two times.

⁹ Prudent threshold for CASTD is one time.

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



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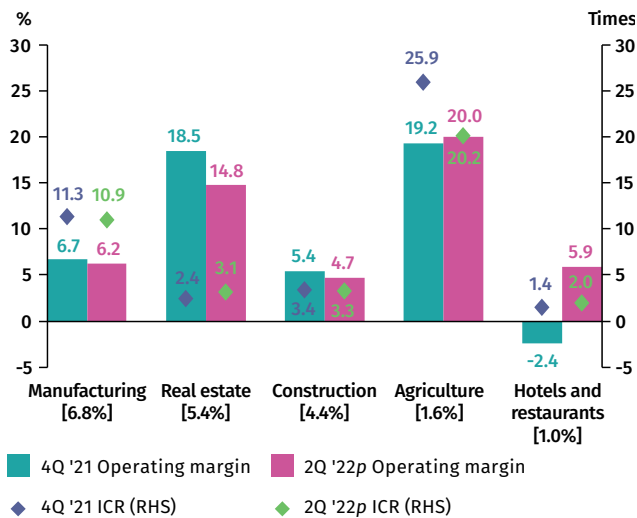
Source: S&P Capital IQ and Bank Negara Malaysia estimates

Improvements at the aggregate level, however, masked the uneven recovery in certain sectors. The overall share of firms-at-risk¹⁰ was stable (2Q 2022: 24.1%; 4Q 2021: 24.7%), although it remained above the pre-pandemic averages for the hotels and restaurants, construction, and real estate sectors (Chart 1.5). This reflects the persistent challenges faced by firms in these sectors. Engagements with firms indicated that key issues surrounding rising input costs and labour shortages have become more prevalent since the beginning of the year. Labour shortages have somewhat weighed on the revenue and financial standing of firms, particularly among smaller firms in the construction, palm oil and selected manufacturing sub-sectors (such as electrical and electronics, plastics, chemicals and chemical products). The implementation of the higher minimum wage in May 2022 has also added upward pressure on firms' operating costs. In the commercial real estate sector, pre-existing oversupply conditions and weak demand continued to weigh on occupancy and rental rates of office and retail space. Despite the challenges, the financial performance and debt servicing capacity for firms in these sectors have generally held up (Chart 1.6). This has been supported by financial buffers accumulated over the years and proactive inventory management strategies, especially among the larger firms. Nonetheless, banks continue to maintain a high level of vigilance over the loan performance of small and medium enterprises (SMEs) and large corporate exposures with weaker financials. This

¹⁰ Firms-at-risk are defined as listed non-financial corporates with ICR below the prudent threshold of two times.

includes intensified monitoring and engagements with borrowers, as well as proactive loan classification and provisioning practices to manage potential credit risks arising from such exposures.

Chart 1.6: Business Sector – Operating Margin and Debt-servicing Capacity Indicators for Selected Sectors



p Preliminary

Note: 1. Prudent threshold for ICR is two times.
2. [...] refers to loans to the sector as a share of total banking system loans.

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

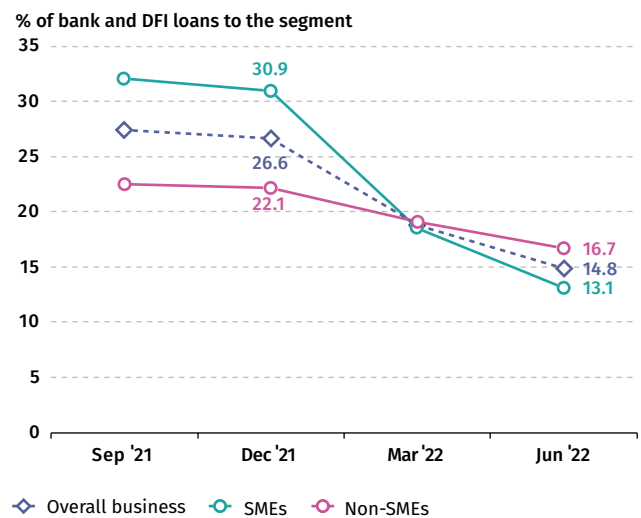
Most SMEs that have exited repayment assistance have resumed their loan repayments

Given their smaller cash buffers and thinner profit margins compared to larger firms, SMEs continued to account for the largest share (94%) of firms benefitting from repayment assistance.¹¹ Nevertheless, SME loans under repayment assistance have halved following the expiry of the PEMULIH programme. As of June 2022, 13.1% of total SME loans (or 2.3% of total loans from the banking system and development financial institutions (DFIs)) remained under repayment assistance (Chart 1.7). SMEs that exited the repayment assistance programme have mostly been able to resume their loan repayments. Only a small number of accounts (7% or equivalent to less than 1% of the total value of outstanding SME loans) that have exited repayment assistance since December 2021 have fallen behind in repayments. Of this, less than 2% have turned non-performing (0.3% of the total value of outstanding SME

¹¹ Refers to all types of repayment assistance for SMEs including banks' bespoke packages and rescheduling and restructuring (R&R).

loans), while the remaining accounts would generally be eligible for further repayment assistance through various debt management programmes that remain in place, including that offered by the Credit Counselling and Debt Management Agency (Agensi Kaunseling dan Pengurusan Kredit, AKPK) with the support of banks. As these programmes are more targeted, risks associated with banks propping up financially unviable borrowers are also low given the ability of banks to assess a borrower's financial condition. The Bank has also not observed the evergreening¹² of loans by banks that could increase future risks.

Chart 1.7: Business Sector – Share of R&R Loans by Segment



Source: Bank Negara Malaysia

Viable borrowers continue to have access to financing

Business loan growth has continued to recover in line with improving business prospects. Outstanding business loans¹³ in the first half of 2022 expanded by 5.5% (December 2021: 4.8%) on an annual basis, driven largely by sustained demand for working capital. Annual growth in loan disbursements remained significantly above the pre-pandemic average (1H 2022: 23.6%; 2021: 27.1%; 2015-2019 average: 2.5%), reflecting higher working capital needs amid stronger business activities and elevated

¹² Defined as rolling over borrowings to potentially non-viable firms rather than classifying loans as non-performing.

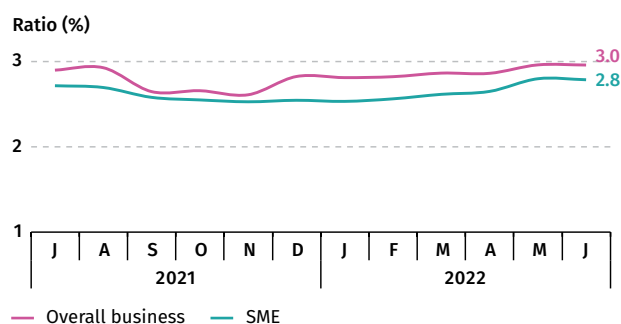
¹³ Refers to loans and financing from the banking system and DFIs. The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

cost pressures. Outstanding loans to SMEs also grew faster by 7.5% (December 2021: 4.9%), complemented by the continued availability of facilities under BNM's Fund for SMEs.¹⁴ Overall SME financing approval rates are recovering to pre-pandemic levels (June 2022: 80.2%; 2021: 78.7%; 2015-2019 average: 82.8%) as banks have greater visibility on the credit worthiness of SME borrowers with the transition to more targeted repayment assistance programmes. Meanwhile, larger corporates with strong financials continued to tap on the corporate bond market for funding. Corporate bond¹⁵ issuances nonetheless declined in the first half of 2022 (-7.6%; June 2021: +0.4%) due largely to volatile domestic bond yields. No significant increase in corporate external debt was noted relative to December 2021, as corporates remained cautious of developments in the external environment. On aggregate, the non-financial corporate debt-to-GDP ratio declined to 104.4% (December 2021: 109.7%) due mainly to the stronger GDP growth.

Business loan impairments edged up slightly but remained low at 1.1% (December 2021: 1.0%; 2015-2019 average: 1.0%) of total banking system loans, or 3.0% of total banking system loans to business (Chart 1.8). The uptick was driven mainly by borrowers in the construction, mining and quarrying, and wholesale and retail trade sectors. Unsurprisingly, SMEs faced more challenges in servicing their debt obligations given their smaller buffers. Leading indicators from banks, however, suggest that further overall business impairments should be relatively contained. The share of business loans with increased credit risk¹⁶ continued to decline (June 2022: 14.4%; December 2021: 16.2%; December 2019: 11.4%), in line with the gradual improvement in business conditions. Risks from non-financial corporate external debt also remain manageable, with the bulk (74%) of such exposures having medium- to long-term maturities of greater than 1 year. Additionally, an analysis of corporates

with large external borrowings¹⁷ indicates that most of them were either naturally or financially hedged. 15% of the top corporate external exposures may be more susceptible to exchange rate volatility. However, these borrowers have minimal domestic debt (less than 1% of domestic banking system loans and debt securities), and hence pose limited direct risk to domestic financial stability.

Chart 1.8: Business Sector – Gross Impaired Loans



Note: The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

Source: Bank Negara Malaysia

Businesses are expected to face continuing headwinds, particularly, from ongoing concerns over supply-side disruptions, higher input costs and tightening global financial conditions. Recognising these challenges, the Bank conducted a sensitivity analysis¹⁸ on the impact of tightening financial conditions and ringgit depreciation on business loans. Applying this sensitivity analysis to the Bank's earlier stress test, business impairments (including SMEs) could rise to 6.9% of business loans (or 2.5% of total banking system loans) by end-2023¹⁹ under a more extreme adverse scenario.²⁰ This remains within banks' own stress test expectations and buffer capacity to absorb losses, as indicated by the banking system's post-shock capital ratio of 15.4% as at end-2023. Corporate default risk indicators²¹ have also continued to improve, with the probability

¹⁴ About RM9.1 billion (from a total allocation of RM31.1 billion) remained available as at end-June 2022.

¹⁵ Refers to both bonds and sukuk, including short-term papers, unless otherwise stated. Excludes issuances by Cagamas, financial institutions and non-residents.

¹⁶ Classified as Stage 2 loans under the Malaysian Financial Reporting Standard 9 (MFRS 9).

¹⁷ Comprising around 90% of corporates' external borrowings, excluding intercompany loans and trade credit exposures.

¹⁸ This sensitivity analysis assumes further tightening of financial conditions, including a depreciation in the ringgit by up to 10% and an increase in average corporate bond yield by more than 200 basis points. Refer to the section on 'Financial Institution Soundness and Resilience – The Banking Sector' for further details.

¹⁹ Previous stress test: Up to 6.2% of business loan exposures (2.2% of total bank exposures) could be at risk of default by end-2023.

²⁰ Refer to the section on Assessing the Resilience of Financial Institutions in the BNM Financial Stability Review for Second Half 2021 for further details.

²¹ As tracked by the Bloomberg Default Risk indicator which measures the probability of default over a one-year horizon for the sample of Bursa-listed firms. The indicator is based on the Merton distance-to-default measure, along with additional economically and statistically relevant factors.

of default for the median firm declining further in 2Q 2022 (0.17%; 4Q 2021: 0.22%; 2015-2019 average: 0.15%). Existing credit guarantee schemes²² and ongoing repayment assistance programmes from banks will continue to support viable borrowers. Debt resolution mechanisms²³ such as Small Debt Resolution Scheme (SDRS)²⁴ and Corporate Debt Restructuring Committee (CDRC) provide out-of-court restructuring options for distressed but viable firms, although the number of cases handled through these mechanisms remains modest. This is partly due to banks' improved capacity, since the Asian Financial Crisis, in managing and resolving multi-lender debt. Additionally, banks have substantially enhanced their operational capacity to support tailored repayment assistance for their borrowers, drawing upon their experience during the pandemic.

While debt resolution efforts continue to be predominantly driven by individual banks

themselves, a strong debt resolution framework can play an important role under conditions of broader stress to mitigate an insolvency cliff and provide vital support to distressed but viable firms. Key to such a framework is the provision of out-of-court and court-sanctioned corporate rescue mechanisms that can:

- i. Assist balance sheet and cashflow restoration and avert the premature failure of viable borrowers;
- ii. Improve the speed and value of debt recovery; and
- iii. Mitigate potential losses to financial institutions, which could otherwise adversely affect economic growth and recovery prospects.

It is therefore critical to expedite legislative enhancements to the Companies Act 2016²⁵ and enhance efforts to simplify the winding-up process for smaller businesses.

²² Credit guarantees by Credit Guarantee Corporation Malaysia Berhad and Syarikat Jaminan Pembiayaan Perniagaan Berhad.

²³ 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.

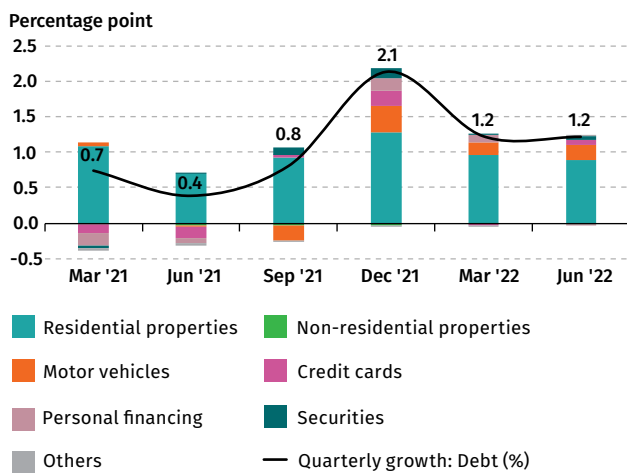
²⁴ SDRS has assisted more than 1,500 SMEs with RM2.4 billion of financing under R&R since 2003.

²⁵ The Companies Commission of Malaysia had issued a consultative document on the Companies (Amendment) Bill 2020, which will widen the coverage of firms that will benefit from these rescue mechanisms while embedding sufficient safeguards against potential abuse.

Improving income and employment conditions are supporting continued household resilience, but risks linger in some segments

Household lending has continued to recover from disruptions brought on by the pandemic. In annual terms, household debt²⁶ expanded at a faster pace (5.5%; December 2021: 4.1%) in the first half of 2022. Quarter-on-quarter trends also point to a sustained recovery (Chart 1.9). Loans for the purchase of residential property and vehicles were the key drivers of household debt growth, in line with improvements in income and employment conditions (Chart 1.10). Policy measures by the Government²⁷ have further encouraged home and vehicle purchases as economic activities resumed and Malaysia transitioned towards endemicity. The ratio of household debt-to-GDP has reverted closer to pre-pandemic levels at 84.5% (December 2021: 89.1%; 2019: 82.8%), consistent with observations of lending standards remaining generally prudent,

Chart 1.9: Household Sector – Quarterly Growth of Debt

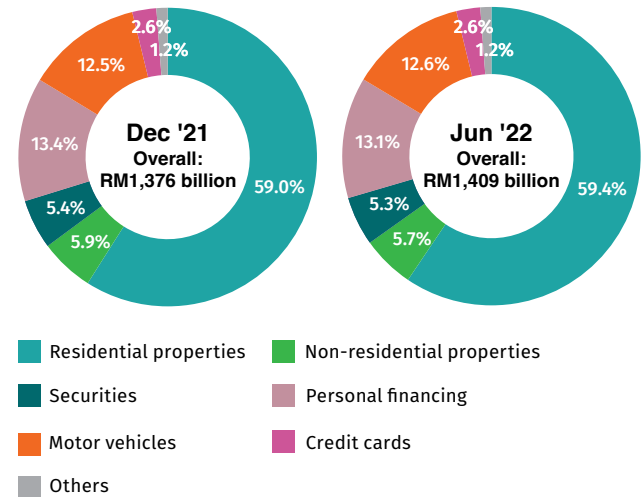


Note: The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

Source: Bank Negara Malaysia

especially among banks (Chart 1.11). Consequently, household debt grew at a more modest pace relative to the strong nominal GDP growth recorded in the first half of 2022.

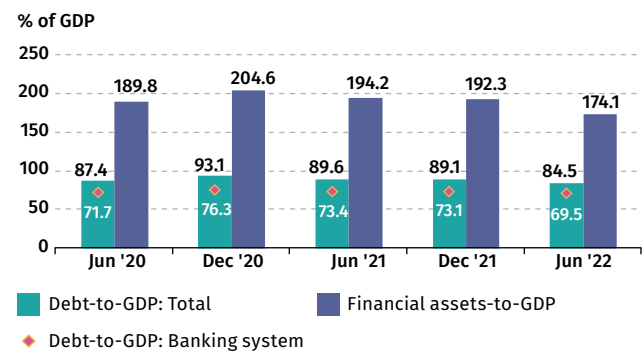
Chart 1.10: Household Sector – Composition of Debt by Purpose



Note: 1. The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.
2. Figures may not add up due to rounding.

Source: Bank Negara Malaysia

Chart 1.11: Household Sector – Key Ratios



Note: The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

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

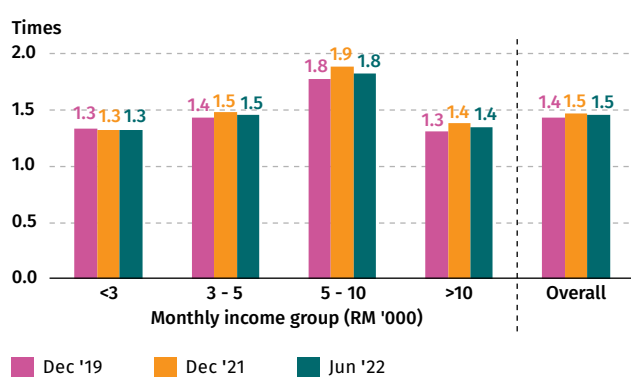
²⁶ Extended by both banks and non-bank financial institutions.

²⁷ These include stamp duty exemptions announced in Budget 2021 for first-time home buyers of properties up to RM500,000 from 1 January 2021 to 31 December 2025, and the extension of the sales and vehicle tax exemption for the purchase of motor vehicles to June 2022.

Key Developments in the First Half of 2022

Banks continued to support lending to households in the first half of 2022 (outstanding loan growth: 5.8%; December 2021: 4.3%). The median debt-to-income (DTI) ratio²⁸ for overall households has increased only marginally over the period of the pandemic despite income shocks and large-scale repayment assistance extended by banks (June 2022: 1.5 times; December 2019: 1.4 times). This was consistently observed across all income groups (Chart 1.12) and corroborates supervisory observations of bank lending standards that remain sound as well as more cautious borrowing behaviour during the pandemic. Other measures of debt servicing capacity also remained prudent. The median debt service ratios (DSRs) of newly approved and outstanding household loans stood at 43% and 35%, respectively, preserving healthy buffers to support loan servicing. The share of more-risky borrowers with a DSR above 60% has been stable at 24% of total household borrowers (or 32.6% of total banking system loans). Most (67%) of this debt is associated with borrowers earning more than RM5,000 monthly, with a low impairment ratio²⁹ (1.3%; December 2021: 1.2%). Banks are, however, vigilant over potential longer-term scarring effects from the pandemic that could see impairments edge higher. This may arise from more structural changes in the job market, or uneven growth prospects in certain economic sectors. The Bank's stress tests affirm that the banking system would be resilient against a scenario in which existing household financial buffers are progressively run down, thus limiting financial stability risks.³⁰

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



Source: Bank Negara Malaysia

²⁸ The DTI is a measure of the overall leverage of a borrower. It is calculated for each borrower by taking the ratio of all outstanding debt held by the borrower to their gross annual income. The DTI ratio is a new indicator computed using granular borrower-level data, replacing the previous household leverage ratio which was based on a survey to banks.

²⁹ Impairment ratio based on Stage 3 loans under MFRS 9.

³⁰ Refer to the section on Assessing the Resilience of Financial Institutions in the BNM Financial Stability Review for Second Half 2021 for further details.

The Bank also remains vigilant to emerging sources of credit risks, including developments relating to buy-now-pay-later (BNPL) schemes. While BNPL schemes have experienced rapid growth, household exposures to the largest BNPL lenders for which data is available are currently still small relative to total household lending (less than 0.1%). At present, BNPL schemes are mainly offered by non-bank providers, although a few banks more recently are also making such schemes available to their customers – either directly or in partnership with major BNPL lenders. Banks that engage in BNPL activities are expected to conduct loan affordability assessments in accordance with existing responsible lending requirements. This is to discourage consumers, particularly those from more vulnerable households, from making purchases on borrowed money that they cannot afford to repay. Outside the banking system, BNPL providers are currently not subject to formal regulation. This is being addressed as part of broader reforms to the regulatory framework for consumer credit providers with the proposed enactment of a Consumer Credit Act slated to be tabled in Parliament in 2023. Under the proposed Act, non-bank credit providers, including BNPL providers, will be subject to appropriate regulatory requirements to strengthen the protection afforded to credit consumers. This includes responsible lending standards and requirements on the fair treatment of consumers, consistent with that currently applicable to banks.

Credit risks associated with housing debt (which accounts for close to 60% of household debt) are assessed to be manageable. The median loan-to-value (LTV) ratio of outstanding housing loans has remained stable at 65.3% (December 2021: 65.2%). This provides comfortable buffers for banks and borrowers against a correction in house prices, although risks of this materialising have receded with the recovery in housing market activity (see Information Box on 'Developments in the Residential Property Market'). Owner-occupiers³¹ who have stronger incentives to service their loans (compared to household investors) continued to drive housing debt growth, accounting for more than two-thirds of the increase in housing debt. As in previous periods, more than half (58%) of

³¹ Proxied by individual borrowers with one housing loan.

newly approved housing loan accounts were extended to first-time home buyers, the bulk of which have higher financing margins (above 90% of the property value at the point of loan origination). Reflecting calls for banks to support home ownership goals, many of these borrowers also tend to earn lower incomes which could increase losses for banks and permanently affect future financial access of the affected borrowers in the event of defaults. Prudent loan affordability evaluations by banks, as well as mortgage guarantees,³² continue to substantially mitigate these risks. Some banks have further strengthened loan affordability assessments to take into account prospects of rising interest rates. As a result, the median DSR associated with newly approved housing loans trended lower, below the level observed before the pandemic (51%; 2015-2019 average: 54.8%). This will further augment debt servicing buffers.

Despite the historically low interest rate environment, investments in the housing market which are funded by bank borrowings have not increased significantly. Growth in banks' housing loan exposures to owner-occupiers continued to outpace that of household investors³³ (8.0% and 5.6%; December 2021: 7.5% and 5.8%, respectively). Compared to owner-occupiers, household investors generally present higher credit risks as they are more likely to default if their mortgages experience negative equity or when their rental income is affected. There has been limited evidence of this, owing mainly to banks' lending standards. Household investors are largely borrowers earning more than RM5,000 per month who are more able to withstand income shocks. Banks also remain prudent when lending to this borrower segment by applying lower LTV ratios compared to owner-occupiers. More than half (53%) of loans to household investors have LTV ratios below 90% (compared to 36% of loans to owner-occupiers). These factors continue to underpin the sound quality of household investors' loan exposures. Most of the exposures to household investors continue to be largely performing, with only 1.2% of such exposures reported to be in a negative equity position.

Quality of household borrowings remain intact amid gradual unwinding of repayment assistance and normalisation of OPR

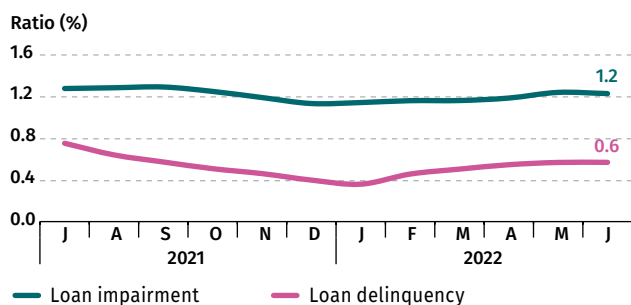
The share of household debt under repayment assistance declined significantly in the first half of 2022 to 2.4% (December 2021: 18.8%) of outstanding banking system and development financial institutions (DFIs) loans. The majority of borrowers exiting repayment assistance have resumed loan repayments without much difficulty amid improving labour and economic conditions. The share of household loans classified by banks as exhibiting higher credit risk (Stage 2 loans) correspondingly declined further to 7.9% (December 2021: 8.5%). The share of Stage 2 loans is expected to continue to improve over the course of the year as more borrowers that have exited repayment assistance programmes complete a minimum "observation" period of loan servicing (typically 6 months, with a few banks observing longer periods of 12 to 24 months) before banks reclassify the loans to Stage 1 (low credit risk). Only a small portion of borrowers continued to face challenges in repaying their loans, leading to marginal increases in the impairment and delinquency³⁴ ratios to 1.2% and 0.6%, respectively (Chart 1.13). The increase has been in line with expectations for the year and mainly reflects the unwinding of repayment assistance as well as the uneven economic recovery. While some borrowers may also face additional pressures from increases in borrowing costs and rising costs of living, this is not expected to materially affect the impairment outlook given available debt servicing buffers. Borrowers who are still under repayment assistance, the bulk of whom have been under an extended period of assistance, are however likely to present higher risks. Banks have set aside sufficient provisions, including through management overlays, for these loans. Most banks are expected to maintain conservative staging and provisioning practices for the rest of the year as they continue to monitor repayment trends for borrowers who have exited repayment assistance programmes (refer to the section on 'Financial Institution Soundness and Resilience – The Banking Sector' for more details).

³² Schemes offered by Skim Rumah Pertamaku by Cagamas Berhad and Syarikat Jaminan Kredit Perumahan Berhad (SJKP).

³³ Household investor refers to an individual borrower with more than one housing loan.

³⁴ Delinquency ratio based on loans with 2 months-in-arrears.

Chart 1.13: Household Sector – Loan Impairment and Delinquency Ratios in the Banking System



Note: The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

Source: Bank Negara Malaysia

Household financial assets grew at a slower pace (0.2%; December 2021: 2.4%) due mainly to the weaker equity market performance and sizable drawdowns of retirement savings under the EPF special withdrawal facility introduced in April 2022 (Chart 1.14). As noted earlier, some household borrowers who are more highly leveraged and have limited financial buffers could come under financial stress, particularly in the current environment of rising cost of living pressures. Based on a conservative simulation of additional borrowing cost and basic expenditure shocks applied to the stress test conducted by the Bank in early 2022,³⁵ up to 5.7% of household loan exposures in the banking system (or 3.4% of total banking system loans) could be at risk of default by the end of 2023.³⁶ As expected, the bulk (65%) of borrowers-at-risk³⁷ continued to be from borrowers earning below RM5,000 per month given their relatively lower financial buffers to withstand severe and prolonged shocks. Nonetheless, the small additional increase in household impairments when compared to the previous stress test suggests that most borrowers are resilient to higher borrowing costs and essential expenditures. Borrowers earning below RM5,000 per month are also less affected by increases in the OPR given that more than half (56%) of their loans³⁸ are fixed-rate loans such as car loans, for which loan repayments do not change with OPR movements (Chart 1.15). Higher rates would also increase returns on household savings, thereby enhancing their financial buffers.

³⁵ Refer to the section on Assessing the Resilience of Financial Institutions in the BNM Financial Stability Review for Second Half 2021 for further details.

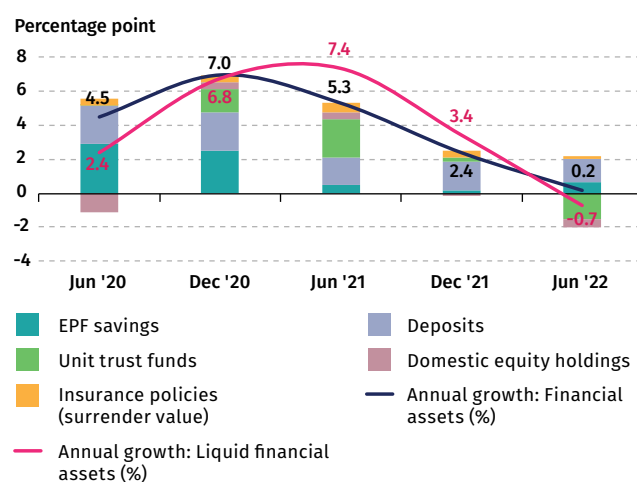
³⁶ Previous stress test: Up to 5.0% of household loan exposures (2.9% of total bank exposures) could be at risk of default by end-2023.

³⁷ Defined as borrowers at risk of depleting their cash or deposit buffers. Refer to the Information Box on 'Forecasting Households' Time to Default' in the BNM Financial Stability Review for First Half 2020 for further details.

³⁸ By number of loan accounts.

Banks continue to extend support to borrowers who still face financial challenges due to the uneven recovery and rising costs of living. In the first half of 2022, enrolments into the Debt Management Programme (DMP) offered by the Credit Counselling and Debt Management Agency (AKPK) in cooperation with banks have increased compared to the same period in 2021 (15,034; 1H 2021: 12,852) but remains lower than that observed before the pandemic (1H 2019: 23,641) as borrowers have mostly been able to deal directly with their banks to avail of repayment assistance plans offered by banks that are customised to their financial circumstances (Chart 1.16). In addition, as of July 2022, 7,302 individuals with total loan exposures of RM3.4 billion have enrolled into the Financial Management and Resilience Programme (Program Pengurusan dan Ketahanan Kewangan, URUS).³⁹ Bankruptcy action continues to be the last resort for banks, after exhausting all other debt rehabilitation and recovery efforts.

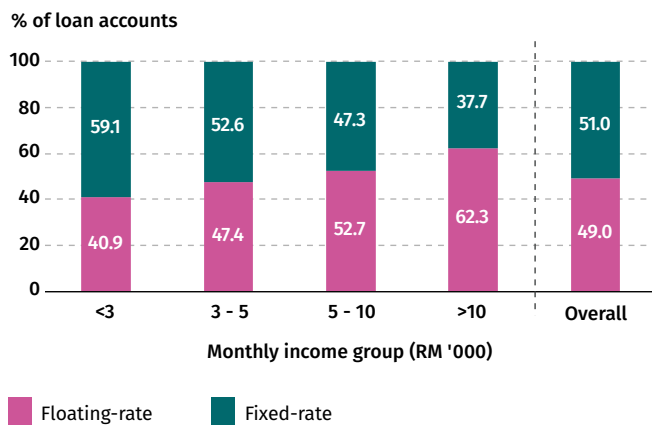
Chart 1.14: Household Sector – Annual Growth of Financial Assets



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

³⁹ URUS was established to help eligible Bottom 50 (B50) borrower group alleviate financial difficulties caused by the COVID-19 pandemic and provide comprehensive support for long-term financial resilience. Application for URUS was open from 15 November 2021 until 31 March 2022. For eligible B50 borrowers who had signed up for the banks' flood relief assistance, application for URUS would expire upon the expiry of borrowers' flood relief assistance or until 31 July 2022.

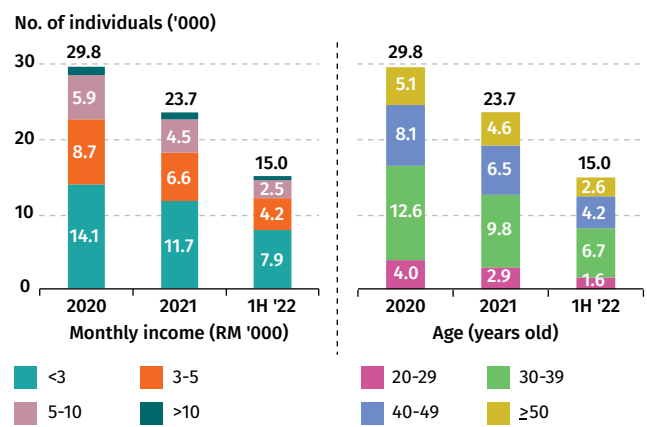
Chart 1.15: Household Sector – Share of Fixed-rate and Floating-rate Loan Accounts by Income Group



Note: Excludes credit cards.

Source: Bank Negara Malaysia

Chart 1.16: Household Sector – Debt Management Programme Approved by AKPK



Note: Data for 1H 2022 refers to year-to-date approvals as at end-June 2022.

Source: Credit Counselling and Debt Management Agency (AKPK)

Developments in the Residential Property Market

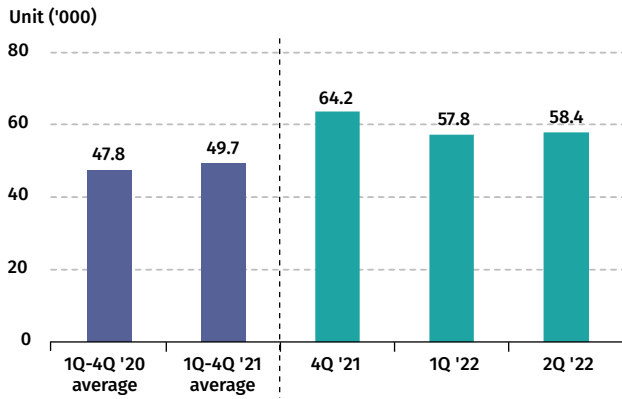
Housing market transactions picked up significantly in the fourth quarter of 2021 following the resumption of economic activities and the expiring Home Ownership Campaign, before normalising in the first half of 2022 (Chart 1.17). The trend continued to be largely driven by the mass-market segment. Units priced below RM500,000 accounted for 80% of total transactions in the first half of 2022. Consequently, the growth in house prices have remained below its long-term average (1Q 2022: 2.4%; 2015-2019 average: 5.3%). Industry observers expect market activity to continue to be supported around the pre-pandemic levels, with moderate growth in house prices. While higher inflation and borrowing rates could partially weigh on the recovery momentum, overall market activity will benefit from the gradual recovery in income and business activities as well as various support measures. These include the recently announced extension of stamp duty exemption for properties priced RM500,000 and below and 50% stamp duty discount on properties priced above RM500,000 to RM1 million.

Notwithstanding the improvements, downside risks still linger, largely stemming from the continued demand-supply imbalances. The number of unsold housing units declined but remains elevated (1Q 2022: 175,065; 2021: 183,918; 2015-2021 average: 142,317).⁴⁰ The bulk (65%) of these units have remained unsold for more than 3 years (Chart 1.18), mainly due to house prices that are well above the affordability levels of most households, especially in key states. Beyond affordability, limited connectivity to public transportation and low demand for high-rise properties in certain locations also contributed to the oversupply. Meanwhile, new supply in the affordable segment in the first half of 2022 has been underwhelming. The share of newly launched residential properties priced at RM500,000 and below trended lower (65.4%; 2021: 67.3%; 2020: 72.5%), despite strong demand from households.

In line with market activity, both demand and supply of credit to purchase residential properties improved. Loan applications across all price segments were higher in the first half of 2022 (Chart 1.19). Owner-occupiers continued to drive demand, making up 57.8% (2H 2021: 57.6%) of approved housing loans in the first half of 2022. The overall approval rates have also recovered to pre-pandemic levels, with banks continuing to observe prudent loan affordability assessments.

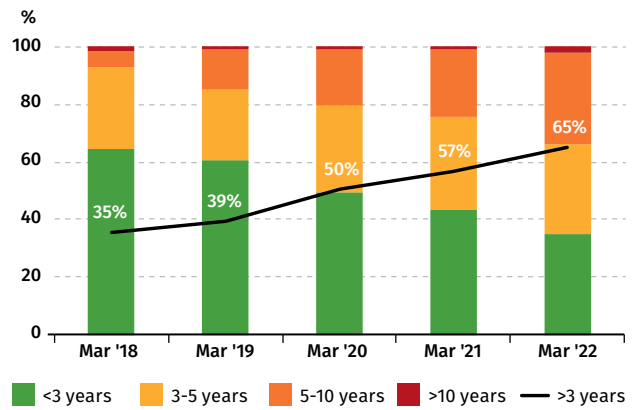
⁴⁰ The figure includes both overhang and unsold under construction (35.2% and 64.8% of total unsold units, respectively) for residential, serviced apartments and small office, home office (SOHO)/small office, virtual office (SOVO) units.

Chart 1.17: Property Market – Housing Transaction Volume



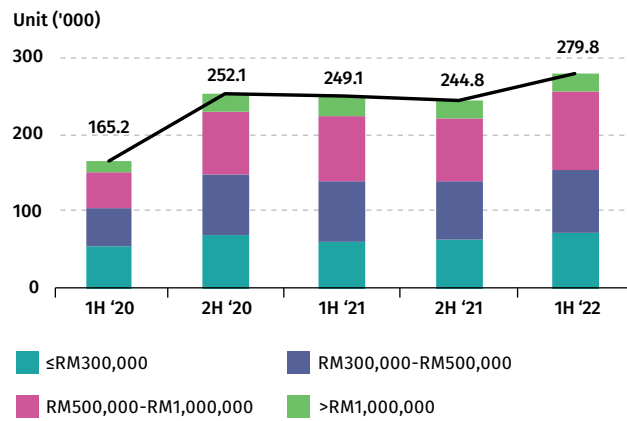
Sumber: Pusat Maklumat Harta Tanah Negara (NAPIC)

Chart 1.18: Property Market – Composition of Unsold Housing Units by Unsold Duration



Source: National Property Information Centre (NAPIC)

Chart 1.19: Property Market – Volume of Housing Loan Applications by Price Segment



Source: Bank Negara Malaysia

The Financial Capability and Inclusion Demand Side Survey 2021

The Financial Capability and Inclusion Demand Side (FCI) Survey is a triennial¹ cross-sectional survey commissioned by the Bank. It assesses the level of financial capability of Malaysians based on measures of financial knowledge, behaviour and attitude which are used to construct a composite Malaysia Financial Literacy and Capability (MYFLIC) Index. The most recent survey was conducted in 4Q 2021, capturing the effects of the COVID-19 pandemic which provide additional insights on the financial state of Malaysian households and factors influencing the levels of financial capability as the country begins to recover from the impact of the pandemic. Selected key insights are highlighted in Diagram 1.

Diagram 1: Snapshot of FCI Survey 2021



Compared to 2018, Malaysians are now more confident with their financial knowledge, due to heightened awareness on financial decisions and assistance during the pandemic



Despite the wider adoption of digital financial services and products, digital financial literacy remains low. More than a third of the respondents shared their bank account passwords or details with close friends



Financial challenges from the pandemic have had a positive influence on longer-term financial planning behaviour, with more Malaysians placing importance on retirement planning and personal financial risk management



Short-term financial resilience improved slightly, potentially due to financial assistance during the pandemic. 47% (2018: 52%) of respondents face difficulties raising RM1,000 during an emergency



Despite greater awareness of insurance/takaful observed during the pandemic, interest in learning remains low with 1 in 3 respondents indicating no interest in learning about the subject



Withdrawals from retirement savings during the pandemic have severely affected confidence in long-term resilience. 27% (2018: 16%) of respondents are extremely or very worried about the adequacy of their savings for old age

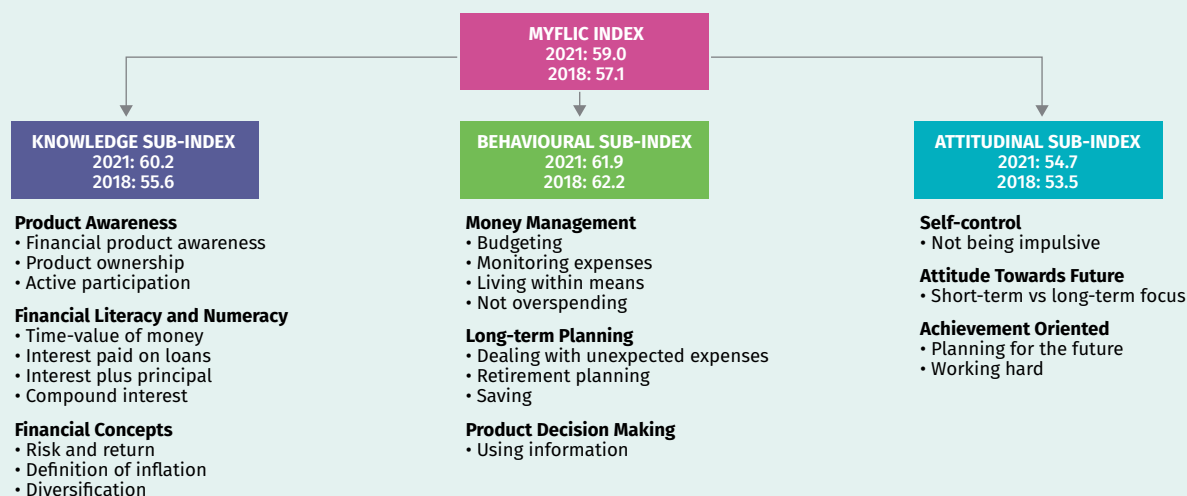
Source: Bank Negara Malaysia

Based on the 2021 survey, the MYFLIC index improved by 1.9 points to 59.0 (2018: 57.1), reflecting a significant increase in the financial knowledge score, and a better score on financial attitude (Diagram 2).

The increase in financial literacy and numeracy contributed most to the financial knowledge sub-index, particularly around the subject of interest and its effect on loan payments (2021: 72; 2018: 62). The implementation of various loan repayment assistance measures during the pandemic and related communications have been a key factor contributing to higher awareness and understanding of financial concepts. Malaysians also appear to have a higher understanding of financial concepts related to investments, namely around risks and returns (2021: 86; 2018: 77) and inflation (2021: 81; 2018: 75). However, this contrasts sharply with evidence of individuals actually applying these concepts effectively in practice. For instance, most (86%) respondents claim to understand that high returns would also mean high risks. However, more than half (53%) of respondents view an annual return of between 20% and 30% as low to medium returns associated with low to medium risks. In addition, only 43% can relate to the effect of inflation on their purchasing power.

¹ Previous versions were fielded in 2015 and 2018.

Diagram 2: Malaysia Financial Literacy and Capability (MYFLIC) Index 2021



Note: Main sample

- 3,007 responses collected based on the demographic structure of Malaysian population in 2010 census stratified in accordance with six criteria, namely geographical, urban/rural, ethnicities, age, gender and income level.
- Malaysians aged 15 years and above.
- Face-to-face and door-to-door, Computer Aided Personal Interviewing.

Source: Bank Negara Malaysia

The financial attitude sub-index scored marginally higher. This is consistent with the improvements in the level of financial knowledge, but also likely reflects greater uncertainty faced by Malaysians over their financial outlook due to the economic effects of the pandemic. In this respect, Malaysians are becoming more cautious, and are more inclined to save and set long-term financial goals to better prepare for future shocks. While this is a positive development, Malaysia’s financial attitude score remains substantially below global averages.² In particular, majority of Malaysians do not plan for their future before spending the money they received.

Of note, financial behaviours (as represented by the behavioural sub-index) have deteriorated despite improvements in financial knowledge and attitude. This is unsurprising given the erosion of financial buffers during this period which has made managing day-to-day expenses and saving for the future more difficult. In addition, the substantial drawdown of retirement savings under special withdrawal schemes introduced by the Government to help households through the pandemic has also reduced the level of confidence in long-term retirement planning. Key observations from the three components of the MYFLIC Index are provided in Table 1.

Table 1: Key Observations on Financial Literacy and Capability Among Malaysians

Financial Knowledge	<p>Measures basic knowledge on financial concepts and ability to apply numerical skills in financial situations</p> <ul style="list-style-type: none"> ↑ 81% understood the concept of inflation (2018: 75%). However, only 43% could relate the impact of rising prices to their purchasing power (2018: 38%) ↑ 72% understood that interest/profit needs to be paid on loans (2018: 62%) ↑ 86% are aware that an investment with a high return is likely to carry high risk (2018: 77%)
Financial Behaviour	<p>Measures the actions of consumers that shape financial situations and well-being</p> <ul style="list-style-type: none"> ↑ 47% claimed to have difficulty to raise RM1,000 in the event of emergency (2018: 52%) ↓ 54% do not face challenges in monitoring their expenses (2018: 67%) ↓ 69% are able to save for a rainy day (2018: 71%)
Financial Attitude	<p>Measures the attitudes of consumers that influence financial decisions and actions</p> <ul style="list-style-type: none"> ↓ 64% display self-control and discipline in managing their finances (2018: 67%) ↑ 51% focus on the future compared to “live for today” attitude (2018: 46%) ↑ 43% disagreed that money is there to be spent (2018: 39%), suggesting that more Malaysians prefer to plan before spending

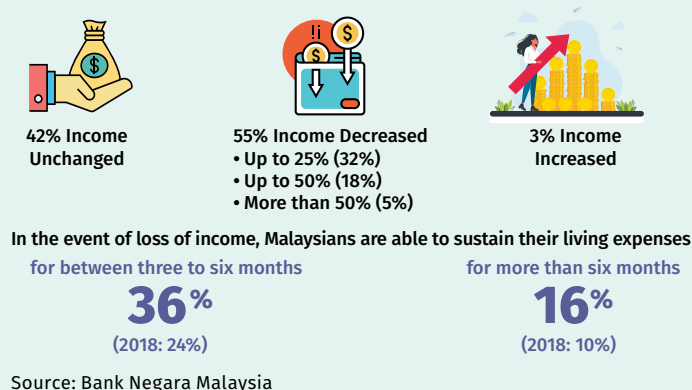
↑ Improvement ↓ Decline

Source: Bank Negara Malaysia

² Based on Organisation for Economic Co-operation and Development (OECD)/International Network for Financial Education (INFE)’s International Survey of Adult Financial Literacy (OECD/INFE Survey) 2020, financial attitude average score for OECD countries stood at 62, while overall average was 60.

About one in four respondents experienced large reductions (of above 25%) in income during the pandemic period. Notwithstanding this, more respondents claimed to be able to sustain living expenses for up to six months after losing their income. The higher short-term resilience could have been partly supported by the extensive financial assistance provided during the pandemic, such as loan repayment assistance, EPF special withdrawal schemes and cash transfers. However, this may be at the cost of long-term financial well-being, where significantly more Malaysians indicated that they are 'extremely/very worried' about being able to cover expenses in old age (2021: 27%; 2018: 16%).

Diagram 3: Household Income Affected During the Pandemic



Personal financial risk management

53% of Malaysians claim that they are able to raise emergency funds for unexpected expenses, an improvement from 47% in 2018. The level of awareness on insurance and takaful also improved markedly to 77% (2018: 64%). Of note, many more Malaysians (2021: 12%; 2018: 3%) were aware of insurance/takaful products offered under Perlindungan Tenang.³ The implementation of the Perlindungan Tenang Voucher initiative during the year contributed to higher awareness, as reflected by subscriptions for Perlindungan Tenang products which increased significantly to 1.6 million policies in 2021 (2020: 62,500 policies). The take up of life insurance/takaful protection correspondingly improved (2021: 23%; 2018: 17%), although it remains low with majority of respondents remaining uninsured against death, disability or sickness.⁴ Affordability continues to be a key challenge for the lower income household segments who have little to spare after meeting essential expenses, even with the expansion of affordable product offerings under Perlindungan Tenang. More generally, insurance/takaful is not seen as an important tool to manage personal financial risks, with one in three Malaysians indicating that they have no interest to learn about insurance/takaful (Diagram 4). This points to the need for better information to be provided on insurance/takaful to improve knowledge and address misconceptions. Further efforts to address market gaps through products, underwriting and distribution models that target the needs of the unserved and underserved household segments will also be critical.

High indebtedness among Malaysians

Respondents who claimed to have too much debt⁵ (2021: 30%; 2018: 32%) were mainly salaried workers who felt more confident in their income stream, leading to a greater tendency to over-commit to debt. Among those who agreed that their debt levels were too high,⁶ only 15% indicated that they would approach their banks for help, while 57% prefer seeking help from family members and 27% from close friends. About one in four from this group were not comfortable seeking help from anyone. This points to additional effort needed to de-stigmatise avenues for individuals to obtain debt management advice and assistance in order to encourage early interventions and avert more permanent financial consequences.

³ Perlindungan Tenang is a national initiative to provide access to basic, simple and affordable insurance and takaful protection. The initiative aims to expand the availability and quality of insurance and takaful solutions to meet the needs of the unserved and underserved segments in promoting their financial and social resilience.

⁴ We note that the Financial Sector Blueprint 2022-2026 indicated that 42% of adults own at least one life insurance policy or family takaful certificate. However, the level indicated by FCI Survey 2021 responses is lower, as some suggested that they may be unaware that they own insurance/takaful protection e.g. Mortgage Reducing Term Assurance/Takaful.

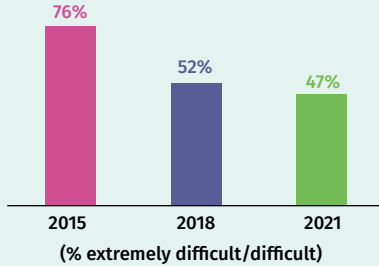
⁵ Respondents who 'Somewhat Agree', 'Agree' and 'Fully Agree' with the statement 'I have too much debt'.

⁶ Respondents who 'Agree' and 'Fully Agree' with the statement 'I have too much debt'.

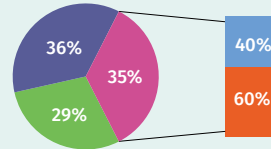
Diagram 4: Dealing with Unexpected Expenses



47% of Malaysians have difficulty to raise RM1,000 as emergency funds



35% of Malaysians are not interested to learn about life insurance/takaful and its benefits. Majority among the group are not able to raise RM1,000 emergency funds too



40% Able to raise emergency funds

60% Difficult to raise emergency funds

- B40 income group
- View insurance/takaful protection as luxury

N = 3,007

Interested to learn more | Already know about it | Not interested to learn

Source: Bank Negara Malaysia

Retirement planning

Malaysians are becoming more worried about being able to cover expenses in old age, leading to positive behavioural improvements observed in the planning for old age (Diagram 5). 47% of respondents cited EPF savings as the source of funds to cover their expenses in old age, making it the most common strategy for retirement planning. However, among older respondents (above 50 years old), greater reliance is being placed on other sources of income (specifically their children and family members) during retirement. This will add to financial commitments of families with dependent parents and relatives going forward, with important implications on future household resilience if provisions are not factored into current financial planning.

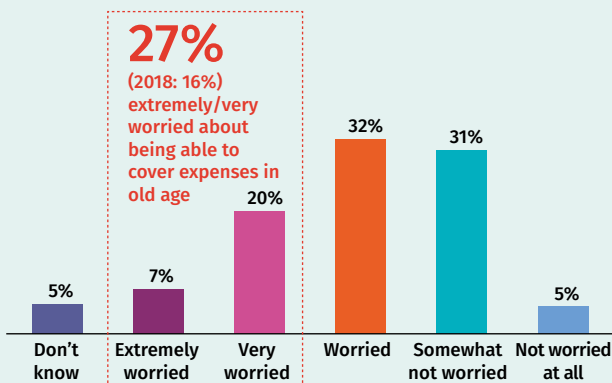
Diagram 5: Dealing with Retirement

As Malaysians draw closer to retirement (above 50 years old), they start to consider other options to fund their expenses during old age as they feel that the EPF retirement savings are insufficient



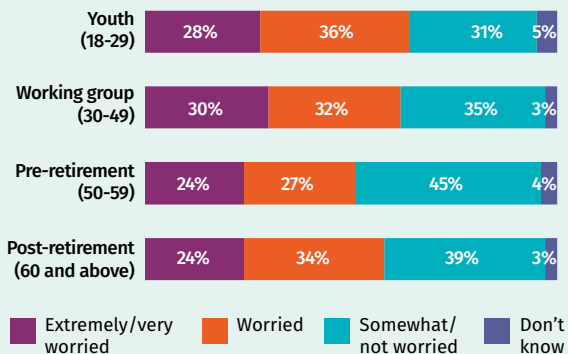
Strategies to Fund Household Expenses During Old Age

	All respondents	Respondents above 50 years old
Rely on EPF	47%	34%
Rely on children	14%	29%
Continue working	25%	25%
Financial support from family	16%	21%



Source: Bank Negara Malaysia

By age group



Digital financial literacy

Malaysians are fast adopting digitalisation, mainly used for in-store purchases, money transfers and online purchases. Despite the wider adoption of digital financial products and services,⁷ the survey found that the level of digital financial literacy is low and concerning (Diagram 6).⁸ More than a third of respondents (37%) are willing to share their passwords and/or personal identification number of bank accounts with close friends, which expose users to the risk of online fraud, including being used as a 'mule account' to facilitate fraud. In addition, 62% of respondents do not pay attention to the security of bank websites visited to perform online banking transactions. This could mislead them into providing their banking credentials such as their Internet banking username or password and credit card information through a fake website that enables scammers to use the information to commit fraud. Along with other ongoing measures by banks to ensure the security of online banking transactions, intensifying education and awareness efforts to improve the level of digital financial literacy - particularly around measures that one should take to prevent online banking fraud - will be critical to maintain confidence in the use of digital financial services.

Diagram 6: Knowledge Gaps on Digital Financial Literacy Among Malaysians



37% of Malaysians share passwords and/or PIN of bank accounts with close friends



Only 38% pay attention to the security of a website before making online transactions - https sites, safety logo or certificates



Only 11% regularly change password for online shopping and personal finance

Source: Bank Negara Malaysia

Conclusion

The significant income shocks and higher costs of living in the more recent period have brought financial matters into sharp focus among Malaysian households. This has led to improvements in financial knowledge and healthier financial attitudes. However, some households are presently challenged at the same time with financial realities (such as insufficient/volatile income and lower buffers) that may make it hard for them to change behaviours even if they have a desire to. The survey also points to potential effects from the support measures introduced during the pandemic and pre-existing conditions that if left unaddressed, could have longer term consequences for household resilience. Inadequate provisions for retirement and household attitudes towards debt management during stress could undermine future household resilience. The low level of digital financial literacy is a significant concern with the greater adoption of digital financial services. Individuals have a critical role in observing good cyber hygiene practices as a first line of defence against fraud and scams.

Findings from the FCI Survey 2021 provide valuable input to the implementation of the National Strategy for Financial Literacy 2019-2023.⁹ Gains observed in financial knowledge and attitudes present an important opportunity for the Financial Education Network (FEN) to further intensify initiatives that can help individuals plan for and make lasting behavioural changes. To this end, the Bank as a FEN member, along with other members, partners and stakeholders, will continue to provide effective tools and resources to help Malaysians take charge of their personal finances, including free online resources that are available at <https://www.fenetwork.my/>.

⁷ Based on usage for mobile banking, internet banking, payment card and mobile payment.

⁸ Follow-up survey on Digital Financial Literacy conducted following FCI Survey 2021, with 1,000 sample collected nationwide.

⁹ National Strategy for Financial Literacy 2019-2023 is a five-year plan developed by Financial Education Network to elevate the financial literacy and well-being of Malaysians.

OPERATIONAL RISK

Financial institutions remained operationally resilient despite challenges

Financial institutions remained operationally resilient, with no major system-wide operational disruptions in the first half of 2022. However, larger operational risk losses were reported by banks in the first half of 2022 (RM374.2 million; 1H 2021: RM118.1 million). This corresponded with higher incidents of isolated external fraud, processing errors and online banking fraud events that were confined to individual financial institutions. While operational risk incidents are inevitable, they can create wider systemic risks if they are associated with common vulnerabilities across many financial institutions. These include, for example, vulnerabilities due to linkages to critical market infrastructure or concentrations in particular service providers. On the one hand, the wider adoption of technology in almost every aspect of the operations of financial institutions is reducing operational risks associated with manual processes. However, it has also increased the interconnectedness of financial institutions, leading to heightened systemic risks. To mitigate such risks, the Bank has over the years required financial institutions to strengthen their response to evolving cyber threats, improve the management of dependencies on third parties and enhance their capacity to recover from a range of operational incidents.

Accordingly, financial institutions have continued to increase their preparedness to respond to

operational disruptions and cyber-attacks. Having enhanced their Business Continuity Plans (BCPs) and Disaster Recovery Plans (DRPs) to incorporate the experience from managing the impact of the pandemic on their operations, financial institutions are testing these plans under simulated crisis scenarios. Following advisories issued by the Bank, financial institutions have also enhanced their internal policies and processes to swiftly respond to, and recover from, ransomware and cyber supply chain attacks. In June 2022, the Bank published an exposure draft on cloud technology risk assessments as a supplement to the Risk Management in Technology (RMiT) standards issued by the Bank. This provides guidance to financial institutions on the implementation of strong cloud design and controls to mitigate information security and business disruption risks as more financial institutions leverage cloud services in their operations (Table 1).

Financial institutions continue to increase their investments in information technology (IT) risk management controls, in line with the stringent RMiT standards. Annual overall IT expenditure by the industry this year is expected to reach RM5.6 billion⁴⁰ (2021: RM3.9 billion; 3-year CAGR: 11.6%). Close to 10% of this (RM494 million) is expected to be spent on cyber security (2021: RM322 million; 3-year CAGR: 22.8%) to:

- implement new security controls and bolster cyber response and recovery systems to cater for the rapid digitalisation of business processes, remote working and wider attack surfaces;
- commission independent third-party cyber security assessments; and
- train staff in IT and key oversight and control functions to manage emerging cyber risks.

Table 1: Cloud Services Adoption by Financial Institutions

Sector	Number of Financial Institutions		Adoption Rate (%)	
	2020	2021	2020	2021
Banking institutions	19	22	46	54
Insurers and takaful operators	23	25	64	69
Large e-money issuers and payment system operators	4	4	40	40

Note: Adoption rate refers to the number of financial institutions that have adopted cloud services as a percentage of total number of financial institutions in each sector.

Source: Bank Negara Malaysia

⁴⁰ Total estimated IT expenses incurred by local banks, insurers and payment operators (excluding staff salaries).

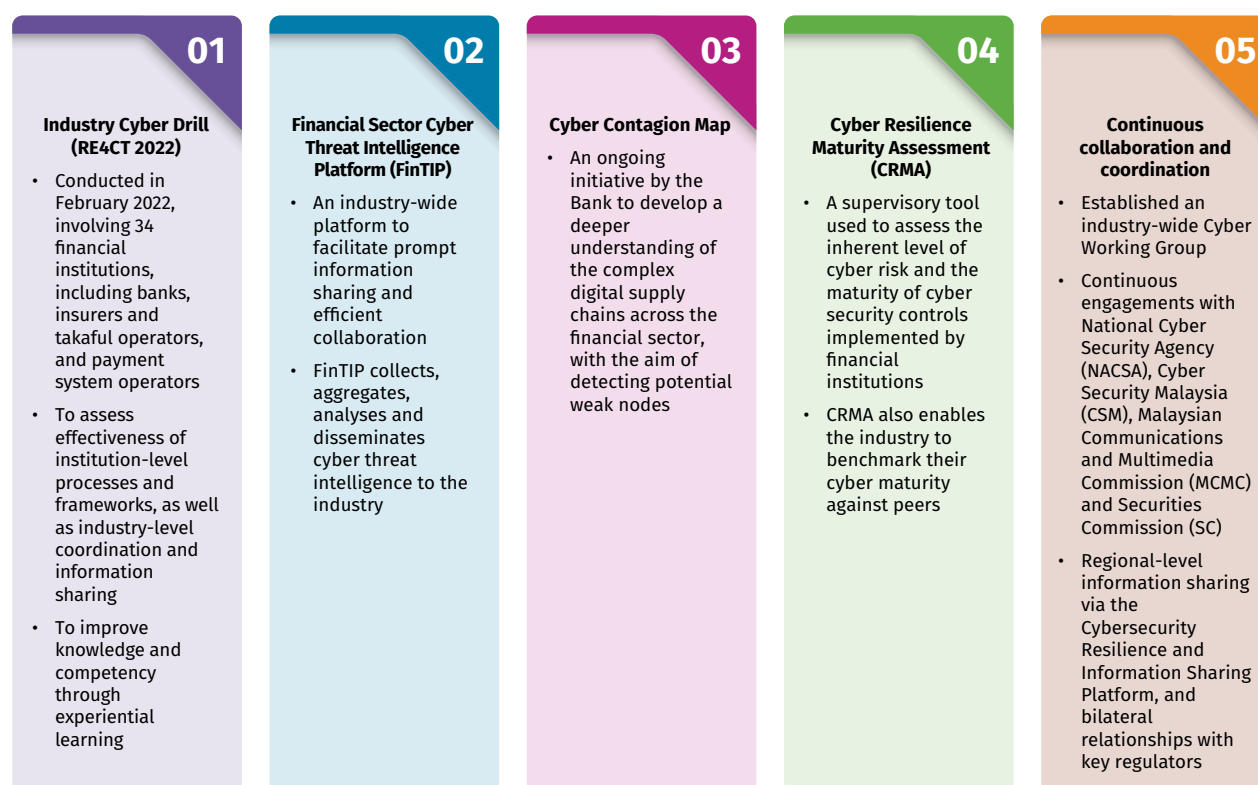
The industry has also increased its cyber security-focused IT workforce by 15% between 2020 and 2022. A steady increase has been observed across all three lines of defence i.e., cyber security operations, cyber risk management, and cyber security audit. However, financial institutions continue to report considerable challenges in sourcing and retaining talent, with 10% of established cyber security positions remaining unfilled as of June 2022. This will continue to pose some risks in terms of the capacity of individual institutions to maintain stability in their control environment. This could also lead to potentially higher concentration risks if more institutions rely on third-party services to augment their internal capacity.

The Bank continues to work closely with the industry and other domestic and international stakeholders to identify and mitigate emerging cyber and technology risks. A particular focus of the Bank's risk assessments has been the potential threats arising from the industry's reliance on third-party service providers (TPSPs) to deliver critical business functions and essential services. Despite identified concentrations to several TPSPs, risks of systemic disruptions resulting from third-party failures are assessed to

be relatively low. This is premised on the logical and structural separations of key infrastructure, appropriate risk management controls over third-party services, as well as credible contingency plans and workaround solutions established by financial institutions in the event of a failure of a TPSP.

Financial institutions have so far also remained operationally resilient despite the discovery of critical software vulnerabilities that have been associated with foreign state actors. This has been critically supported by the ongoing cyber fortification efforts and proactive information sharing between the Bank and industry (Diagram 1). An industry-level cyber drill exercise coordinated by the Bank in February 2022 further indicated a high level of readiness in the industry to respond to a systemic cyber-attack. Notably, financial institutions demonstrated the ability to effectively execute their cyber incident response plans, with reasonably effective arrangements for internal and external coordination of information flows. Opportunities were also identified to further improve and enhance crisis communications. This included, in particular, coordinated communications at the industry level to address public concerns during a systemic cyber-attack.

Diagram 1: Efforts Taken by the Bank to Enhance Cyber Resilience in the Industry



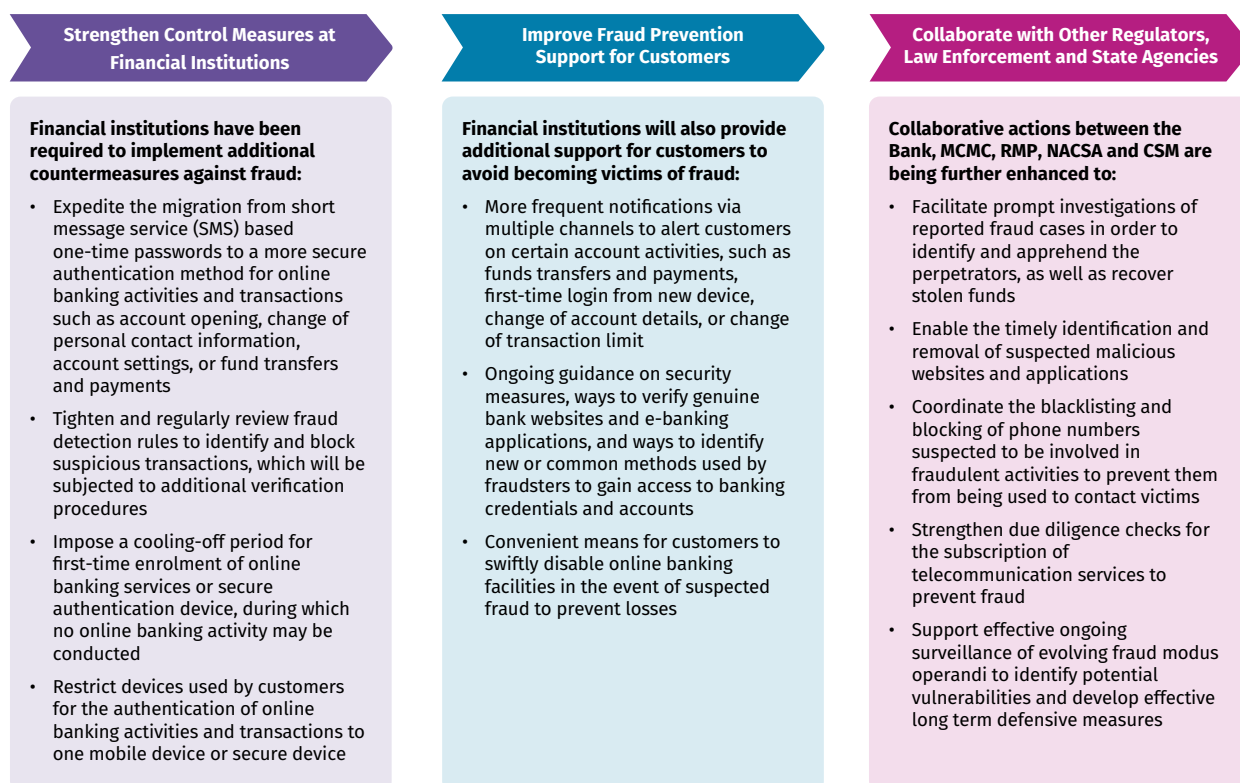
Source: Bank Negara Malaysia

Reports of online banking fraud have increased. In the first half of 2022, 9,735 cases of online banking fraud amounting to RM39.9 million were reported by customers of financial institutions, out of 1.85 billion online banking transactions⁴¹ conducted (or five cases per one million transactions; 1H 2021: three cases per one million transactions). While the proportion of fraudulent transactions remains small, online banking fraud is taken very seriously by the Bank as it has the potential to undermine public confidence and expose vulnerabilities that can be exploited to cause wider harm to users of financial services if left unaddressed. Aside from requiring financial institutions to implement additional countermeasures against online banking fraud, the Bank is also coordinating efforts with the industry, Royal Malaysia Police (RMP), and Malaysian Communications and Multimedia Commission (MCMC) to combat all kinds of financial fraud and scams, as well as to create greater public awareness on new fraud tactics (Diagram 2).

Payment and settlement systems remained operationally resilient

The Real-time Electronic Transfer of Funds and Securities System (RENTAS)⁴² and major retail payment systems (RPS) continued to maintain high system availability. An isolated operational disruption was experienced in January 2022 which affected the RENTAS SWIFT Alliance Access (SAA) channel. The incident was immediately and permanently resolved, limiting any impact on the smooth conduct of settlement transactions. There were no cyber incidents affecting RENTAS and major RPS in the first half of 2022. BCP arrangements that were put in place during the pandemic have been mostly maintained despite the transition to endemicity. This ensures that payment systems will continue to operate without disruptions in the event of any sporadic COVID-19 cases among critical staff. Such arrangements are also extended to critical TPSPs.

Diagram 2 : Initiatives Taken to Combat Online Banking Fraud



Note: MCMC refers to Malaysian Communications and Multimedia Commission, RMP refers to Royal Malaysia Police, NACSA refers to National Cyber Security Agency and CSM refers to Cyber Security Malaysia.

Source: Bank Negara Malaysia

⁴¹ Refers to number of internet banking and mobile banking financial transactions.

⁴² RENTAS is a real-time gross settlement system for interbank fund transfers, debt securities settlement and depository services for scripless debt securities.

Following an independent review conducted by external auditors on RENTAS and major RPS systems, the operators are in the process of implementing immediate and longer-term action plans to further enhance their cybersecurity capabilities. Proposed enhancements to the TPSP framework for RENTAS and major RPS systems in line with recommendations of the Committee on Payments and Market Infrastructures (CPMI)⁴³ will further reinforce a strong cybersecurity control environment within critical payment systems.

Credit transfers processed through the Retail Payments Platform (RPP) have continued to increase significantly, with an average annual growth rate of 254% and 211% in transaction volume and value, respectively, since its inception in December 2018. Plans are underway to include more real-time retail payment services on the RPP in addition to the DuitNow Transfer and DuitNow QR. The RPP has also successfully rolled out payment linkages with the

retail payment systems in Thailand and Indonesia to facilitate instant cross-border payments between the countries.

Given its increasing systemic importance as a critical payment infrastructure for real-time credit transfers in Malaysia, the Bank is taking additional measures to mitigate risks and protect the integrity of the RPP. The Bank would be formalising the designation of the RPP as a designated payment system under the Financial Services Act 2013 and Islamic Financial Services Act 2013. This will provide additional powers to the Bank to issue directives to participants of the RPP, and if necessary, assume control of the operations of RPP to ensure its ongoing stability and reliability. In addition, PayNet, as the operator of the RPP, is working with financial institutions to operationalise an enhanced collateralisation mechanism for deferred net settlements which will serve to reduce credit and settlement risks for real-time retail payment transactions.

⁴³ Annex F of the Principles for Financial Market Infrastructures published by CPMI outlines five oversight expectations for critical service providers i.e., risk identification and management, information security, reliability and resilience, technology planning and communication with users.

Financial Institution Soundness and Resilience

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Financial Institution Soundness and Resilience

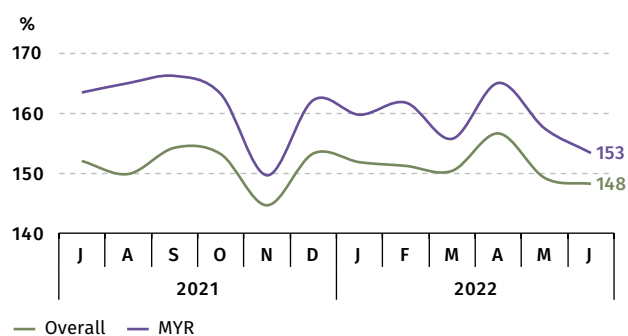
THE BANKING SECTOR

Banks maintained strong funding and liquidity positions despite volatile market conditions

The funding position of the banking system remained strong in the first half of 2022, with a healthy aggregate Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR) of 148.3% and 118.5% respectively (Charts 2.1 and 2.2). This continues to support lending activities, while ensuring that banks remain resilient to funding shocks both over the short- and longer-term horizon. Banking system deposits recorded steady growth (6.6%; 2015-2019 average: 4.4%), mainly driven by business deposits in line with the recovery in economic activities (Chart 2.3). Individuals and businesses continue to hold precautionary buffers as reflected in the elevated share of current and savings accounts (CASA) deposits at 37.3% (2015-2019 average: 29.4%) of total deposits (Chart 2.4). This, coupled with muted competition for deposits amid ample liquidity in the banking system, has kept a lid on the increase in banks' cost of funds (+15 bps) following the OPR hike in May (Chart 2.5). Funding costs for banks could continue to move higher in an environment of rising interest rates and as depositor preferences shift towards longer term fixed-rate deposits that provide better returns. While some banks have lately been more active in offering higher deposit rates to lock in more longer-term deposits, competition in the deposit market has not picked up significantly to date given the strong liquidity positions of individual banks.

The expiry of the SRR flexibilities¹ at the end of the year is not expected to materially affect the liquidity of the banking system, given the strong liquidity buffers. Most banks have sufficient excess liquidity placed with the Bank and in the interbank lending market to replace the MGS holdings that are currently allowed to be used by banks to comply with the SRR. The availability of repo facilities with the Bank will provide additional support for banks in managing their liquidity. These conditions will continue to ensure that the funding market remains orderly. Based on a sensitivity analysis by the Bank which incorporates the impact of significant outflows and bond yield shocks,² the LCR and NSFR for the banking system remained resilient at 141.3% and 115.5%, respectively.

Chart 2.1: Banking System – Liquidity Coverage Ratio



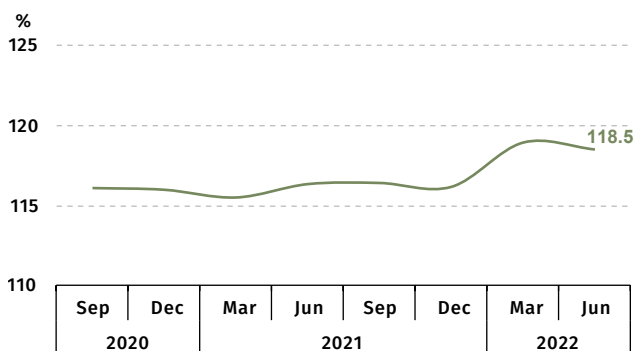
Note: 1. MYR LCR is calculated based on HQLA and expected net cash outflows denominated in ringgit.
2. Overall LCR is calculated based on HQLA and expected net cash outflows denominated in all currencies.

Source: Bank Negara Malaysia

¹ Most of the regulatory flexibilities introduced during the height of the pandemic in 2020 and 2021 have expired, except for the SRR flexibility and ongoing transitional arrangements for regulatory capital treatment of accounting provisions. The expiry of these broad-ranging measures did not result in any disruption to financial intermediation. Refer to the Box Article on 'Measures to Mitigate the Impact of the COVID-19 Pandemic and Preserve Financial Stability' in the BNM Financial Stability Review for First Half 2020 for more details on relief measures introduced.

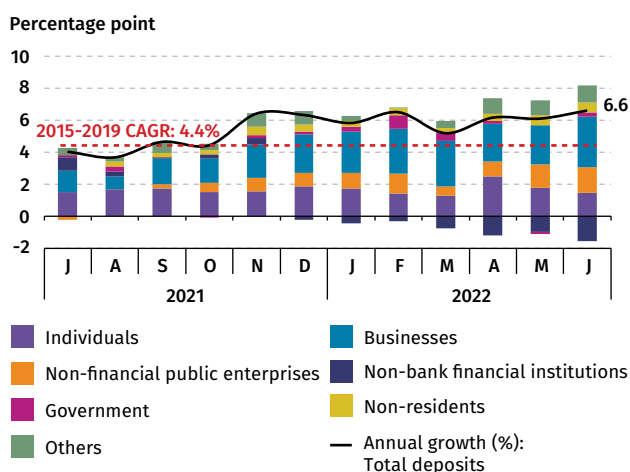
² Non-resident outflows are assumed to be comparable to levels seen during the 2016 US elections, with 10-year MGS yields exceeding the highest level in the last two decades.

Chart 2.2: Banking System – Net Stable Funding Ratio



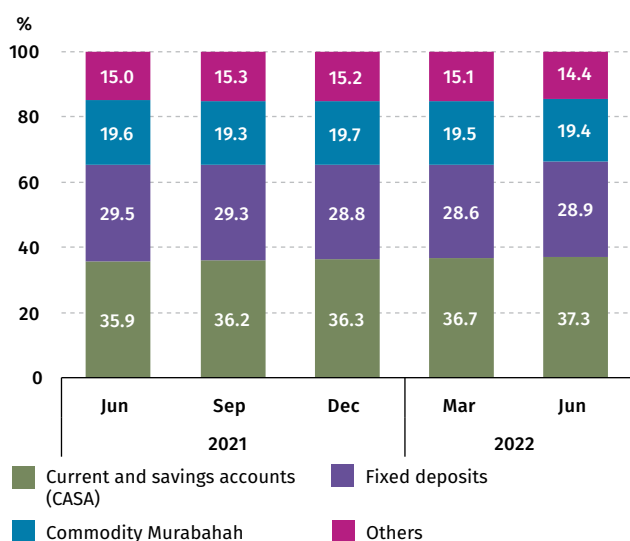
Source: Bank Negara Malaysia

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



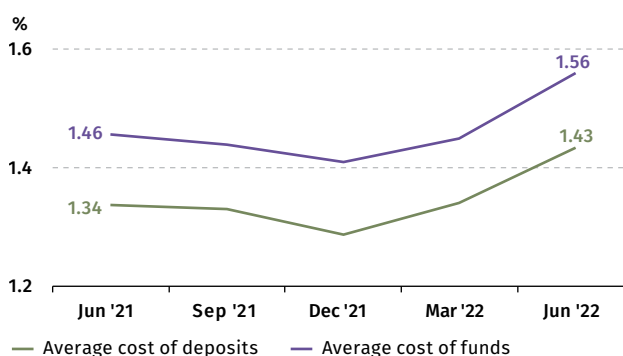
Source: Bank Negara Malaysia

Chart 2.4: Banking System – Composition of Deposits by Type



Source: Bank Negara Malaysia

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



Source: Bank Negara Malaysia

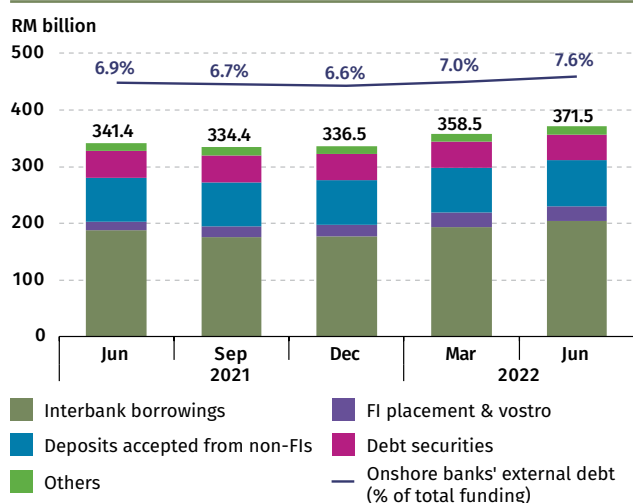
Risks from banks' external debt exposures remained manageable

Banks' external debt exposures increased in the first half of 2022 (RM371.5 billion; December 2021: RM336.5 billion) amidst higher customer demand for foreign currency (FCY) in line with robust trade activity (Chart 2.6). The increase in banks' external debt was largely driven by some domestic banking groups' (DBGs) FCY borrowings in international interbank markets. This was mainly used to bridge temporary FCY liquidity gaps from maturing corporate deposits. Notwithstanding this, intragroup borrowings continue to make up the bulk (about 70%) of the total FCY interbank funding, thus limiting rollover risks faced by banks. The exchange rate valuation effects following the strengthening of the US dollar, particularly during the second quarter, also contributed approximately 30% of the increase in external debt measured in ringgit in the first half of 2022.

Risks emanating from such exposures remained well-contained. Banks continued to maintain sizeable FCY liquid assets, sufficient to cover up to 2.6 times (December 2021: 3.5 times; 2017-2019 average: 2.6 times) of FCY external debt-at-risk³ (DAR) (Chart 2.7). In addition, banks also have access to committed funding lines which may be drawn on during stress periods. The overall FCY mismatches, as measured by the overall foreign exchange net open position (FX NOP) remained low at 4.5% of total capital (December 2021: 4%). This reflects conservative risk appetite settings observed among banks amid increased market volatility during the period (Chart 2.8).

³ 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.

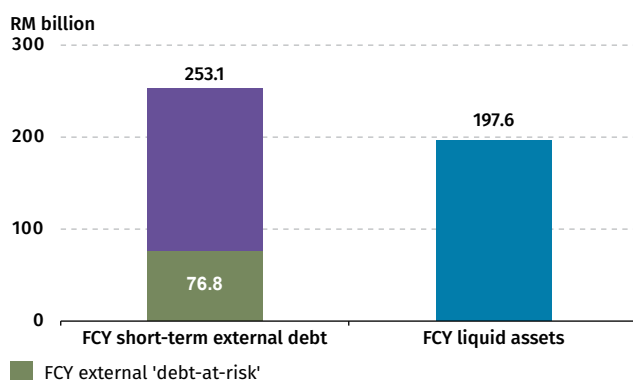
Chart 2.6: Banks' External Debt – by Instrument



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

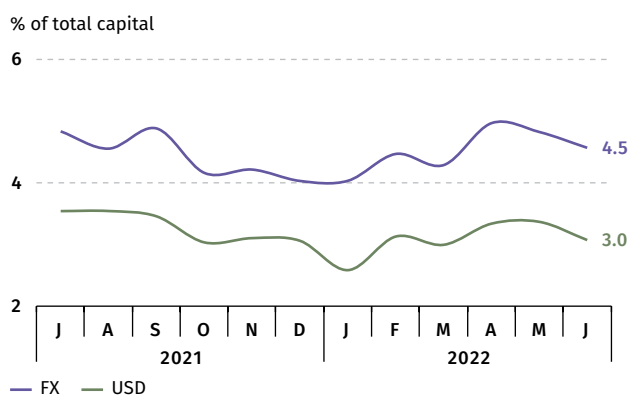
Chart 2.7: Banking System – FCY External 'Debt-at-Risk' and Liquid Assets



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

Source: Bank Negara Malaysia

Chart 2.8: Banking System – FX and USD Net Open Positions



Source: Bank Negara Malaysia

Banks continue to remain cautious as downside risks remain

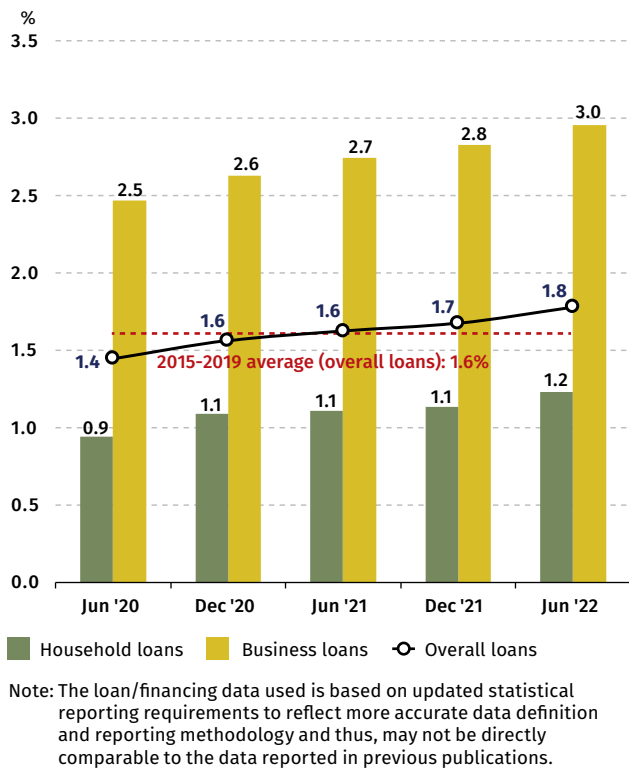
Banking system gross and net impaired loans ratios edged up to 1.8%⁴ and 1.1% of total loans, respectively, as at end-June 2022 (Chart 2.9). The increase was driven by a small number of vulnerable household and SME borrowers who were unable to resume loan repayments after exiting repayment assistance programmes and defaults of specific corporate borrowers. The vast majority of borrowers who exited repayment assistance programmes, however, have resumed loan servicing, resulting in lower Stage 2 loans (Chart 2.10). The share of loans under repayment assistance⁵ has declined to just 7.2% of total banking system loans (December 2021: 26.1%). Total provisions correspondingly grew at a slower pace (Chart 2.11) in line with loan growth, with some banks partially releasing management overlay provisions that had been built up for specific borrowers based on actual evidence of good repayment behaviour. Consequently, annualised credit costs fell to 18 bps, the lowest since the COVID-19 pandemic (Chart 2.12). However, they remain above pre-pandemic levels as banks continue to remain vigilant over the crystallisation of credit losses from borrowers that have been more affected by the pandemic.

While higher interest rates and costs of living could see defaults rise further for some borrowers in the second half of 2022, the increase in overall impairments is expected to be modest given improving economic growth prospects and labour market conditions. Banks continue to tailor bespoke R&R plans for viable borrowers that may still be in need of assistance, thus helping to avert premature defaults. Banks' conservative loan classification and provisioning practices in response to the pandemic have also resulted in a significant provisions build-up to date (1.8% of total loans; 2015-2019 average: 1.4%), thus providing prudent buffers against future credit losses. Overall provisions are likely to remain elevated through 2022 as banks generally observe at least 6 months of sustained repayment conduct for retail and SME borrowers that have exited repayment assistance, before unwinding provisions.

⁴ The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

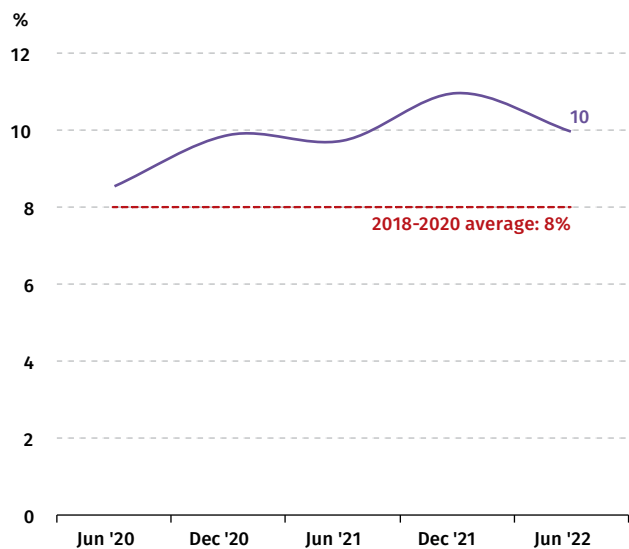
⁵ Refers to all types of repayment assistance for households and SMEs, including moratorium, banks' bespoke packages, R&R and URUS/FIRST programmes.

Chart 2.9: Banking System – Gross Impaired Loans Ratio



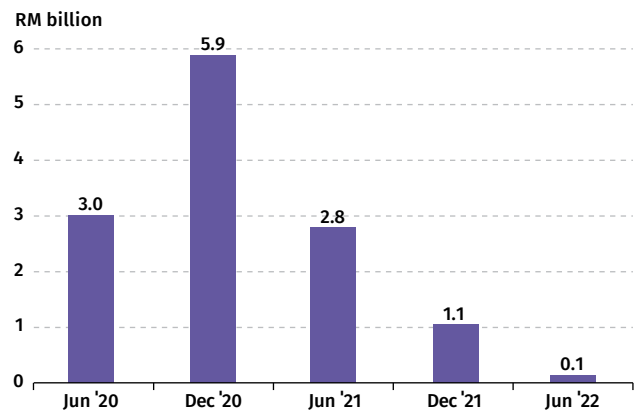
Source: Bank Negara Malaysia

Chart 2.10: Banking System – Stage 2 Loans Ratio



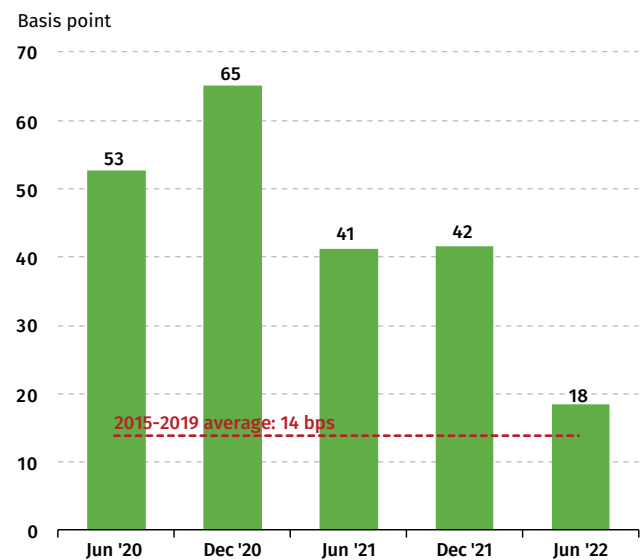
Source: Bank Negara Malaysia

Chart 2.11: Banking System – Half-yearly Change in Provisions



Source: Bank Negara Malaysia

Chart 2.12: Banking System – Annualised Credit Cost Ratio



Source: Bank Negara Malaysia

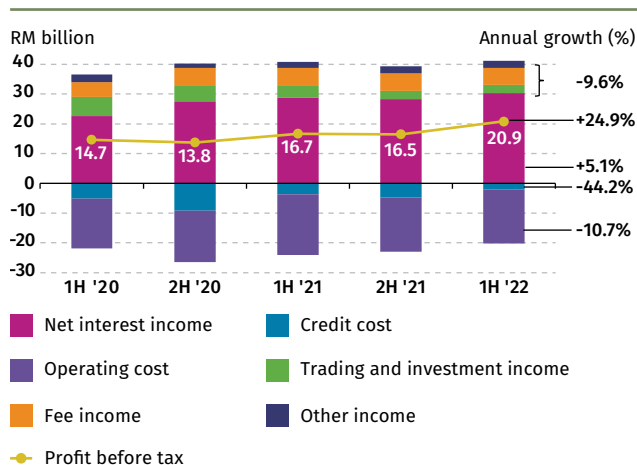
Sustained earnings recovery but downside risks remain

Banking system profitability continued to recover in the first half of 2022 (Chart 2.13). This was supported by lower credit costs as well as improving loan growth and low funding costs which helped sustain net interest margins (2.1%; December 2021: 2.1%). Returns on assets and equity of the banking system

rose to 1.3% and 11.8% (December 2021: 1.1% and 9.5%), respectively. Market valuations of listed banks, as measured by the price-to-book (P/B) and price-to-earnings (P/E) ratios, however, have trended slightly lower (Chart 2.14). This reflected the weaker overall sentiment in the domestic equity market despite a more favourable outlook for the performance of banks. Looking ahead, some downside risks remain for the performance of banks. Increased competition

from existing players as well as emergence of new products and players (e.g., digital banks, e-wallets and BNPL lenders) in the market, may dampen potential upsides to banks' profits. Continued monetary policy tightening in major economies and heightened global bond market volatility could also have spillover effects to Malaysia's bond markets. This in turn could weigh on banks' trading and investment income (June 2022: 6.9% of banking system's total income).

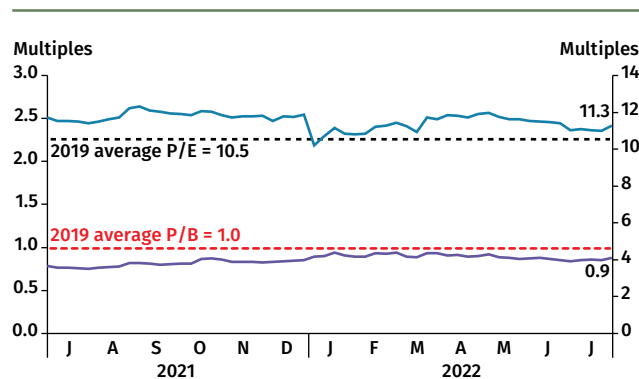
Chart 2.13: Banking System – Income, Cost and Profit before Tax



Note: 1. Annual growth computed based on figures for 1H 2021 and 1H 2022.
2. Figures may not add up due to rounding.

Source: Bank Negara Malaysia

Chart 2.14: 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

Despite a Significant Decline in Profitability During the Pandemic, Banks Continued to Support the Economic Recovery

Introduction

Banks' profitability matters for financial stability. Well-capitalised banks with healthy levels of profitability can insulate the real economy from financial downturns while loss-making banks amplify and worsen negative shocks to the economy. Capital buffers allow banks to absorb unexpected losses and sustain financial intermediation during periods of economic uncertainty. These buffers are primarily replenished through retained earnings, which are mainly driven by profits. Banks with a track record of healthy profitability will also find it easier to raise fresh capital and funding from financial markets. Conversely, banks experiencing falling profitability may struggle to replenish capital buffers, affecting their willingness and capacity to lend. Some may instead choose to adopt riskier strategies to boost profits, increasing the risks to financial stability.

A profitable banking system also sustains a broader ecosystem. In Malaysia, large non-bank financial institutions¹ (NBFIs) are substantial shareholders in the banking sector (NBFIs' holdings of bank shares, as % of listed equity of banks: 37.8%). Stable banking system profitability translates into steadier dividend pay-outs, which ultimately benefit households that save with NBFIs.

This article reviews the performance of the banking sector during the COVID-19 pandemic and related observations on banks' risk-taking behaviour.

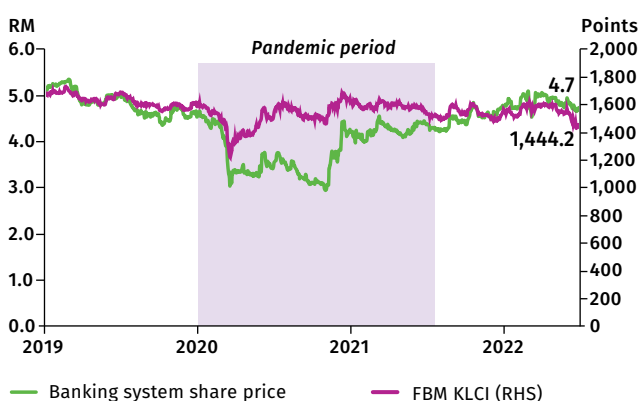
¹ Refers to entities undertaking investment activities through the management of public funds, collective investment schemes and retirement funds, that are not under the purview of the Bank.

Banks underwent significant stress during the pandemic

Malaysian banks entered the pandemic with strong capital buffers and healthy profitability. Nevertheless, all banks experienced a significant adverse impact on their profits at the onset of the pandemic as economic activity came to a halt. Market confidence in the banking sector, as reflected by the median share price of publicly listed banks also plunged to its lowest levels since the Global Financial Crisis due to the uncertain credit risk environment (Chart 1).

At the end of the first year of the pandemic, the return on equity (ROE) of the banking system fell to 8.3% in March 2021, a record low, from 12.2% at end of December 2019 (Chart 2). This decline in profitability was observed in all banks. The repeated lockdown of the economy affected banks' lending activity and hence reduced banks' net interest income significantly, which is a key source of earnings for banks. Of note, the contribution of net interest income to banks' gross income increased during the pandemic (net interest income as % of banking system income, June 2022: 73.6%; 2019: 71.4%), driven by falling non-interest income. As noted in our 2019 review,² a significant proportion of fee-based revenue is from the provision of ancillary services linked to loan disbursement. This dropped in line with reduced credit demand during the pandemic. At the same time, banks set aside more loan loss provisions to account for the uncertain credit risk environment during the implementation of loan moratorium, leading to further declines in banks' profitability. This was further compounded by modification losses³ associated with broad-based repayment assistance measures introduced to ease cash flows of households and SMEs during the earlier phases of the COVID-19 pandemic.

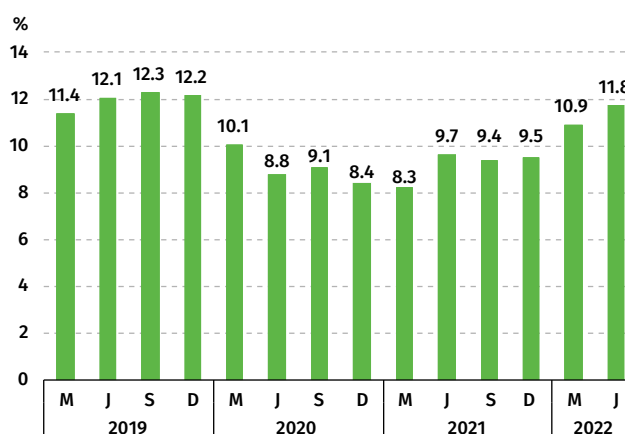
Chart 1: Banking System – Share Price of Publicly Listed Banks in Malaysia and FBM KLCI



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

Source: Bloomberg

Chart 2: Banking System – Quarterly Return on Equity



Source: Bank Negara Malaysia

Investor appetite for banking sector stocks also suffered significantly in 2020

Before the pandemic, the industry's median price-to-book (P/B)⁴ ratio of publicly listed banks was already on a gradually declining trend, driven by falling profitability and higher capital requirements. The uncertain credit risk outlook and the challenging operating environment during the pandemic exacerbated this long-term decline, commensurate with the sharp fall in banks' profitability ratios. Listed banks' median P/B ratio fell to its all-time low at 0.59 times in October 2020 before rebounding to 0.78 times by the end of 2020 (December 2019: 0.91 times) (Chart 3). More recently in 2022, the median P/B ratio moderated, reflecting increased investors' uncertainties over the impact of volatile markets on banks' trading income.

² Refer to the Information Box on 'Malaysian Banks' Profitability – Past Trends and Future Prospects' in the BNM Financial Stability Review for First Half 2019 for further details.

³ Modification losses refer to the one-off adjustment cost arising from the loan moratorium due to changes in the carrying amount and interest income post-modification. Based on MRFS 9, the gross carrying amount must be recalculated at the present value of the modified contractual cash flow, resulting in the recognition of modification losses.

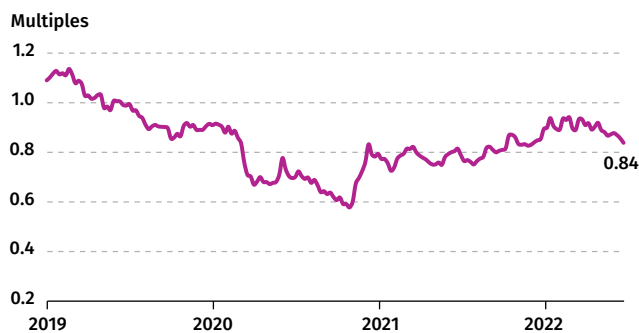
⁴ Price-to-book (P/B) ratio is a market measure of bank equity relative to book values and offers a measure of banks' franchise value. A P/B ratio greater than one signals investor confidence in a company's earnings capacity and that the market is willing to pay more per share than the value of the company's net assets. Conversely, a P/B ratio below one suggests investor concerns about shareholder value.

The lower median P/B ratio during the pandemic reflected investor concerns on banks’ earnings capacity and potential for unrecognised losses, given repeated repayment assistance measures along with a lack of visibility over asset quality. P/B ratios rose in 2021, as greater visibility started to emerge on banks’ credit risk exposures with the transition to more targeted repayment assistance. Prudent provisioning practices of banks together with various regulatory support measures provided further confidence in banks’ capacity to ‘weather the storm’.

Banks’ risk-taking behaviour remained relatively consistent throughout the pandemic

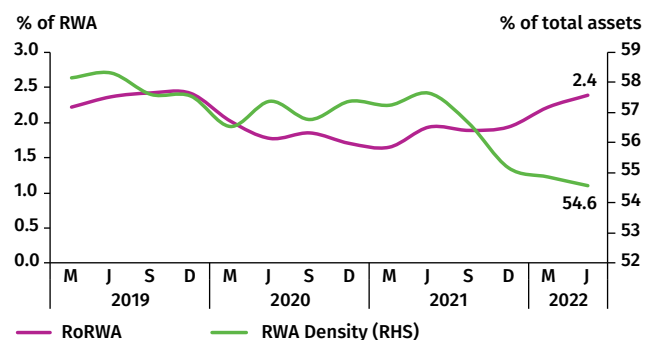
Despite the challenging operating conditions during the pandemic, banks did not dramatically change their risk-taking behaviour. Similar to ROE, banks’ return on risk-weighted assets (RoRWA)⁵ also declined throughout 2020, falling from the pre-pandemic level of 2.42% to 1.71% by the end of 2020 (Chart 4). RWA density,⁶ a proxy for absolute risk-taking levels, did not change significantly throughout 2020, although it did exhibit some increased volatility. This suggests that the lower earnings during the pandemic played a more decisive role in the decline of RoRWA rather than any significant changes in banks’ risk-taking behaviour. This is consistent with the countercyclical role that banks were able to play during the pandemic due to their strong buffers (further elaborated below). RWA density did, however, fall in the second half of 2021, driven by lower risk-weighted assets. In an environment of ample liquidity and low credit demand, banks placed excess funds in government securities which are prescribed a low-risk weight. At the same time, management judgments applied under existing regulatory capital and accounting standards helped to prevent undue stress on banks’ capital reserves.

Chart 3: Banking System – Median Price-to-Book Ratio of Publicly Listed Banks in Malaysia



Source: Bloomberg

Chart 4: Banking System – Return on Risk-Weighted Assets (RWA) and RWA Density



Source: Bank Negara Malaysia

The strong pre-crisis capital positions of banks was an important factor behind the relative stability observed in banks’ risk-taking behaviour during the challenging operating environment of the pandemic. Most banks entered the crisis with significant capital headroom above regulatory requirements. This enabled banks to take short-term hits to profitability, while still preserving their capacity to lend and support the economy once the economic recovery began, without compromising their long-term risk profiles. While banks were more cautious in lending to new borrowers, there was no broad-based pullback of credit lines to existing borrowers. During this period, most banks also lowered dividend distributions and implemented dividend reinvestment programmes to preserve capital buffers. The prudent management of risks by banks during the pandemic and improvement in the outlook for banks along with the broader economy are expected to shore up the long-term franchise values of banks. This is despite continued downside risks noted in this chapter. Importantly, the continued resilience of banks will preserve their countercyclical role during times of stress.

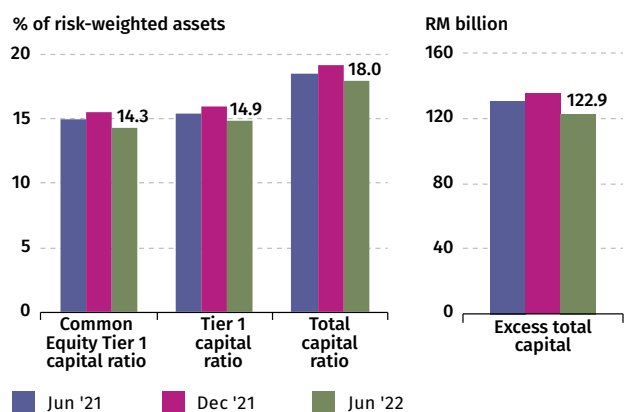
⁵ RoRWA, where the denominator is the risk-adjusted measure of total banking system assets, reveals the cost efficiency per unit of risk a bank is currently generating, where low values may signal higher risk-taking levels amongst banks through higher RWA.

⁶ Risk-weighted assets density is defined as the ratio of total RWA over total assets, as a proxy for banks’ absolute risk-taking levels. A higher density suggests higher risk-taking activity.

Banking system remained well-capitalised

Banks' capitalisation remained strong, with excess capital buffers of RM122.9 billion (Chart 2.15). These buffers continue to preserve the resilience of banks against any unexpected losses and their capacity to support lending activity as economic activities resume. The lower overall total capital ratio (18.0%; December 2021: 19.2%) was driven by the growth in risk-weighted assets in line with higher loan growth and revaluation losses from rising bond yields. Despite this, the strong capital buffers have enabled banks to sustain dividend payouts, which have also benefitted households that save with institutional funds that are shareholders of banks. The strong financial position of banks will also preserve their ability to raise capital from the market to support financial intermediation activities. Banks' active risk management strategies – such as the rebalancing of investment portfolios from fair value through other comprehensive income (FVOCI) to amortised cost (AC) and shift towards shorter-maturity FVOCI securities would help mitigate the impact of rising bond yields on banks' capital positions.

Chart 2.15: Banking System – Capitalisation



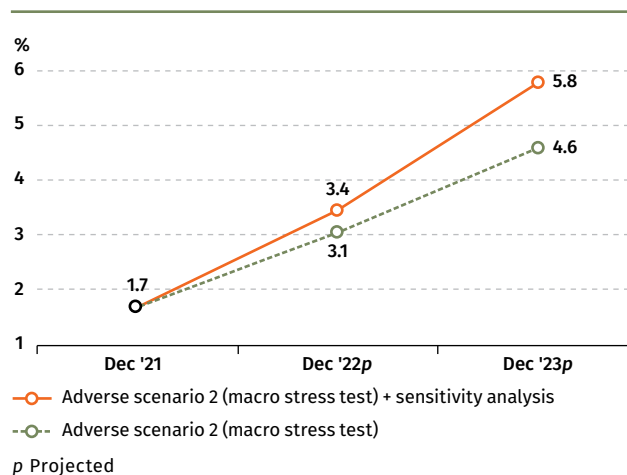
Note: Excess total capital refers to total capital above the regulatory minimum, which includes the capital conservation buffer requirement of 2.5% and bank-specific higher minimum requirements.

Source: Bank Negara Malaysia

Based on a sensitivity analysis conducted by the Bank, the banking system is expected to remain resilient against severe macroeconomic and financial shocks, including a further tightening in global and domestic financial conditions and ringgit depreciation. The Bank further stressed

selected parameters used in the Bank's earlier macro solvency stress test⁶ to capture downside risks under the prevailing environment. The stressed parameters include 10-year MGS yields exceeding the highest level in the last two decades, rising funding and borrowing costs following increases in policy rates, assuming the largest 12-month US Federal Funds Rate shock since the end of the US Great Inflation period in the early 1980s, as well as ringgit at levels worse than that seen during the Asian Financial Crisis. Under this simulated environment, overall impairments could rise to 5.8% of total banking system loans by end-2023 (Chart 2.16). The relatively modest incremental impairments of 1.2 ppt relative to the macro solvency stress test was mainly attributed to additional defaults by household borrowers (about 75% share of the additional impairments) with more limited financial buffers to cope with higher costs of living and borrowing costs, and SME borrowers from the construction, and hotels and restaurants sectors. Nonetheless, the banking system's capital ratios remained well above the regulatory minima post-shock at 15.4% as at end-2023 (Chart 2.17).

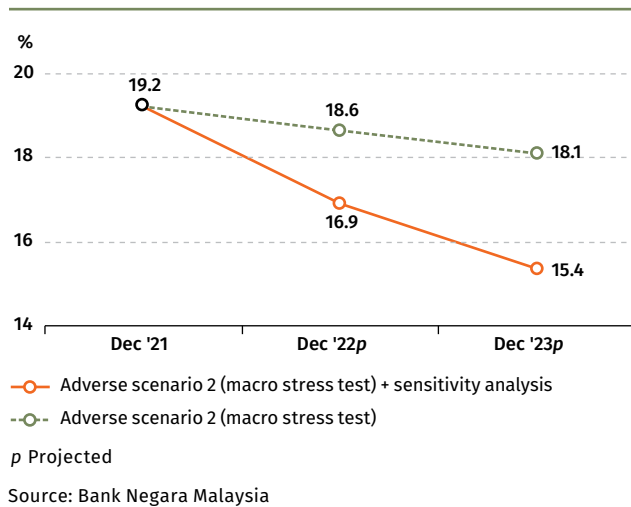
Chart 2.16: Sensitivity Analysis: Banking System – Impaired Loans Ratio



Source: Bank Negara Malaysia

⁶ Refer to the section on 'Assessing the Resilience of Financial Institutions' in the BNM Financial Stability Review for Second Half 2021 for further details.

Chart 2.17: Sensitivity Analysis: Banking System – Post-shock Total Capital Ratio



All domestic systemically important banks⁷ (D-SIBs) continued to maintain CET1 capital comfortably above the regulatory minimum, including the higher loss absorbency (HLA) requirements. Based on the Bank’s latest assessment using end-2021 data submissions, the list of banking groups designated as D-SIBs and their respective HLA requirements remain unchanged (Table 2.1).

Table 2.1: D-SIBs HLA Requirement

D-SIBs	HLA Requirement (% of risk-weighted assets)
Malayan Banking Berhad	1.0
CIMB Group Holdings Berhad	
Public Bank Berhad	0.5

Source: Bank Negara Malaysia

Recovery momentum observed across DBGs’ overseas operations in line with global economic recovery

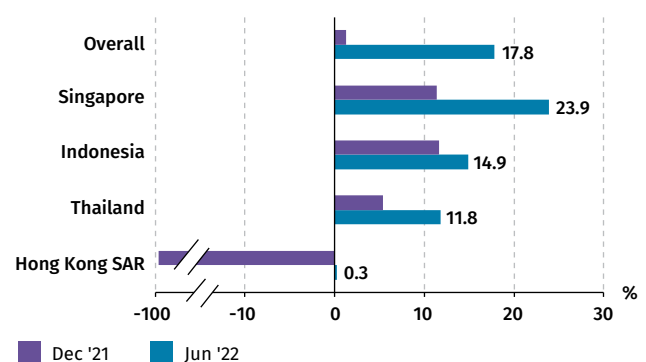
The performance of overseas operations of domestic banking groups⁸ (DBGs) improved amid improving economic activity in key markets. Overall annualised⁹

⁷ The D-SIBs assessment is conducted for banks with total consolidated assets equal to or more than RM30 billion.
⁸ Refers to DBGs’ overseas offices (branches and subsidiaries) operating outside of Malaysia and LIBFC. Cumulatively, DBGs have presence in 14 overseas jurisdictions, with major operations in Singapore, Indonesia, Thailand and Hong Kong SAR.
⁹ Annualised figures are weighted by the asset size of operations of each DBG in respective jurisdictions.

ROE and gross impaired loans ratio of DBGs’ overseas operations improved to 17.8% and 3.2%, respectively (Chart 2.18). This was mainly bolstered by operations in Singapore (Chart 2.19). The improving trends in profitability across most countries were attributed to higher net interest income amid improved loan growth (11.3%; December 2021: 7.9%) as well as lower provisions booked. Following the expiry of repayment assistance and flexibilities in most jurisdictions, the share of loans under the various repayment assistance measures fell from 4.5% in December 2021 to 2.9% of total overseas operations loans. Additionally, improved repayment performance of borrowers in jurisdictions where DBGs have more significant operations led to lower loan impairments in the first half of 2022.

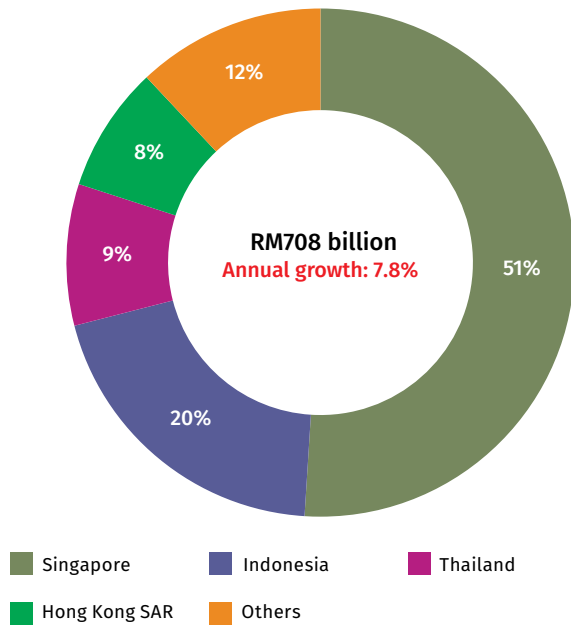
Liquidity and funding risks remained manageable as key overseas operations continue to be largely funded by stable customer deposits (Chart 2.20). Potential knock-on effects from overseas operations to group-wide resilience also remained limited. This is underpinned by the strong capital buffers maintained at DBGs’ overseas operations to absorb potential credit losses without leveraging parental support (Chart 2.21).

Chart 2.18: Banking System – Return on Equity of Overseas Operations by Jurisdiction



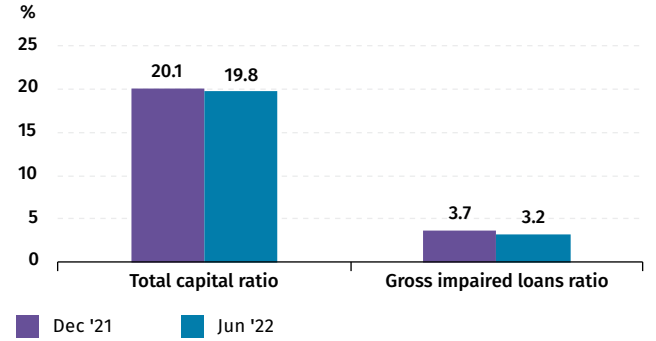
Note:
 1. Overall average ROE is weighted by the asset size of selected overseas operations.
 2. Average ROE is weighted by the asset size of each domestic banking groups’ overseas operations in respective jurisdictions.
 Source: Bank Negara Malaysia

Chart 2.19: Banking System – Asset Profile of Major Overseas Operations



Source: Bank Negara Malaysia

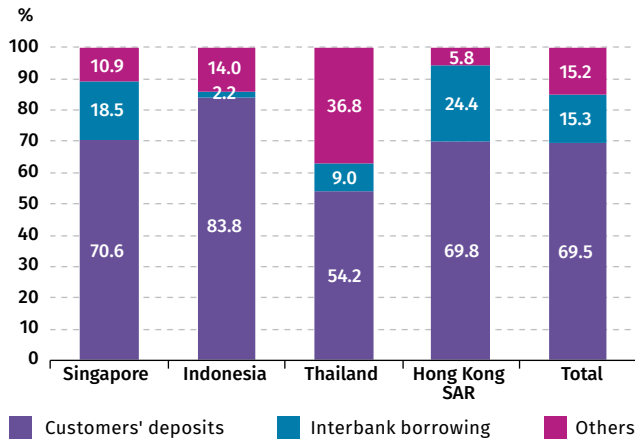
Chart 2.21: Banking System – Key Financial Indicators of Overseas Operations



Note: The average key financial indicators are weighted by the asset size of selected overseas operations.

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

Fortifying Financial System Resilience with The Recovery and Resolution Planning Framework

In the aftermath of the Global Financial Crisis (GFC), the G20's Financial Stability Board issued the paper on Key Attributes of Effective Resolution Regimes for Financial Institutions as the new international standard for effective resolution regimes. The objective of the standard is to ensure that national authorities are able to address the failure of financial institutions in an orderly manner, without exposing taxpayers to the risk of loss from solvency support, thus making the financial system more resilient to stress events which could undermine financial stability. With this in mind, Bank Negara Malaysia (the Bank) and Perbadanan Insurans Deposit Malaysia (PIDM) have joined efforts to develop a coherent Recovery and Resolution Planning (RRP) Framework for licensed banks and financial holding companies (hereafter referred to as financial institutions).

Recovery Planning

Recovery plans serve as a playbook for a financial institution to react in a timely manner to a range of stress events that could threaten its solvency and long-term viability. A recovery plan is developed and owned by the financial institution, and does not take into account any prospect of support or intervention by authorities. Most importantly, it must not consider recourse to taxpayers' support.

An effective and credible recovery plan builds on a deep analysis of the financial institution's operations and identifies a suite of options that could be pursued by the financial institution to restore its long-term viability under a range of stress scenarios (Diagram 1). A financial institution should have in place credible strategies for recovering from system-wide stress events, idiosyncratic stress events, or a combination of these.

Diagram 1: Key Components of a Recovery Plan



Source: Bank Negara Malaysia

In developing their recovery plans, financial institutions are guided by the Recovery Planning Policy Document issued by the Bank in July 2021, which serves to ensure sufficient rigour and quality are observed in recovery plans. The policy document reflects a proportionate approach to recovery planning in order to recognise the heterogeneity in the nature, size, and complexity of financial institutions. Accordingly, the level of detail and depth of analysis expected in recovery plans will correspond with the risk profile of the financial institution.

The Bank views recovery planning as part of good risk management to improve the resilience of financial institutions to financial stress episodes and strengthen their preparedness to respond to adverse shocks. Recovery planning is therefore required of all financial institutions and applied at the group level¹ to ensure that a comprehensive assessment of risks and interdependencies within the group is captured. This in turn provides the financial institution with an assessment of its overall recovery capacity and a broader range of recovery options available which may not otherwise be possible at the entity-level. Under a phased implementation approach to recovery planning, the larger and more complex financial institutions are required to complete their recovery plans by 1Q 2023, with the remaining financial institutions to follow in 2024.

A key benefit of recovery planning is helping financial institutions identify, in advance, impediments to recovery from severe stress events. Financial institutions that have worked on developing recovery plans, including banks in Malaysia that took part in the domestic pilot exercise in 2017/18, have found that common impediments include incompatible information systems that complicate the ability to aggregate and analyse exposures across entities and locations, poor coordination within and across entities, legal and operational complexities in untangling activities that are spread across different locations along the value chain, and market concentrations that could constrain the ability of financial institutions to de-risk their operations. By addressing these impediments early, a financial institution can react to stress events more swiftly, thus significantly improving its prospects of recovery from a stress event.

In the event a financial institution's recovery options are no longer feasible in restoring its long-term viability, the financial institution would enter into resolution.

Resolution Planning

As the resolution authority for financial institutions that are its member institutions² (MI), PIDM spearheads the development of the resolution planning framework in Malaysia to achieve prompt and orderly resolution of any failed member bank³ (Diagram 2). Resolution plans are developed by PIDM. Broadly, the resolution plan details out the implementation of the bank-specific preferred resolution strategy (PRS), identifies impediments to PIDM's resolution actions and develops remediation measures to address these impediments. More information on the resolution planning framework applicable to member banks in Malaysia can be found in PIDM's Exposure Draft on Resolution Planning Approach for Deposit-Taking Members issued on 1 August 2022.

Resolution planning aims for PIDM member banks to be transfer-ready and resolvable

The PRS for member banks aims to make them 'transfer-ready', whilst ensuring the continuity of critical functions performed and preserving the institution's franchise value. This means ensuring that non-viable member banks can first be resolved via the transfer of shares, businesses and/or its portfolio of assets and liabilities to a private sector purchaser or a temporary bridge institution.⁴ As an alternative or a complementary strategy, a failed member bank of PIDM or its remaining parts (bad assets) could be wound-up and liquidated. For smaller and less complex institutions, this option will be less likely to impact financial system stability and could therefore be the least costly option. In line with PIDM's mandate, the cost of resolution⁵ would also take into account the externalities of a MI's failure to the broader financial system and economy.

¹ This would entail recovery plans to be developed by bank holding company or financial holding company on a consolidated basis.

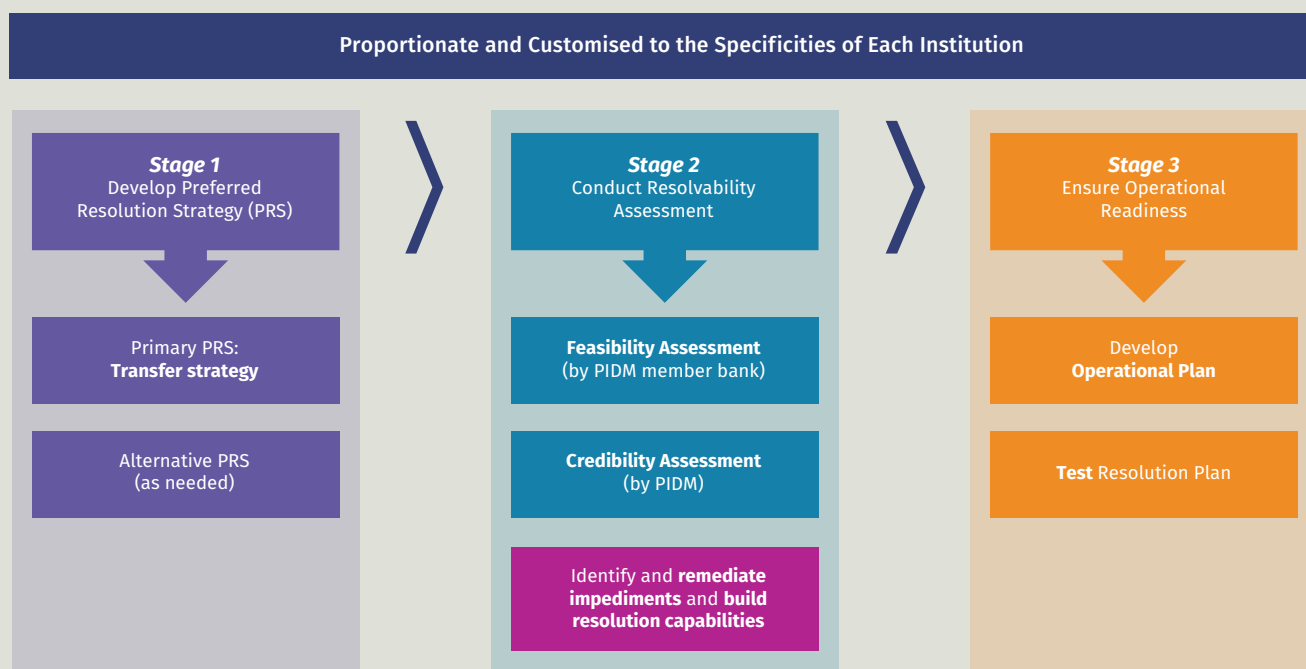
² Member Institution is a financial institution deemed to be a member institution of PIDM under PIDM Act 2011.

³ Member banks include all commercial banks licensed under the Financial Services Act 2013 and all Islamic banks licensed under the Islamic Financial Services Act 2013, including locally incorporated subsidiaries of foreign banks operating in Malaysia. The resolution planning framework currently excludes insurer members which will be developed at a later stage, where appropriate.

⁴ A bridge institution is a subsidiary of PIDM set up to assume the business, assets, affairs and liabilities, including critical functions, of a non-viable member bank so as to allow the functions of the bank to continue seamlessly, thus maintaining public confidence in the financial system.

⁵ Comprises assessment of both qualitative and quantitative costs.

Diagram 2: A Three-Stage Iterative Approach to Resolution Planning for Member Banks



Note: An Operational Plan is part of the Resolution Plan.

Source: Perbadanan Insurans Deposit Malaysia

As with recovery plans, an assessment of the feasibility and credibility of resolution plans and execution details will be carried out by MIs and PIDM, respectively, to identify potential impediments that may hinder the prompt and effective implementation of the PRS and develop mitigating measures. The purpose of this is to ensure that the formulated plans are workable in practice, covering areas such as operational continuity, data, management information systems (MIS) and valuations, continued access to financial market infrastructure, legal structures, and issues surrounding resolution funding, communications and governance.

As an outcome of the resolution planning process, PIDM may require member banks to take specific measures to improve their resolvability. This would be done in consultation with the Bank as the primary supervisory authority.

Coordination of Recovery Planning and Resolution Planning

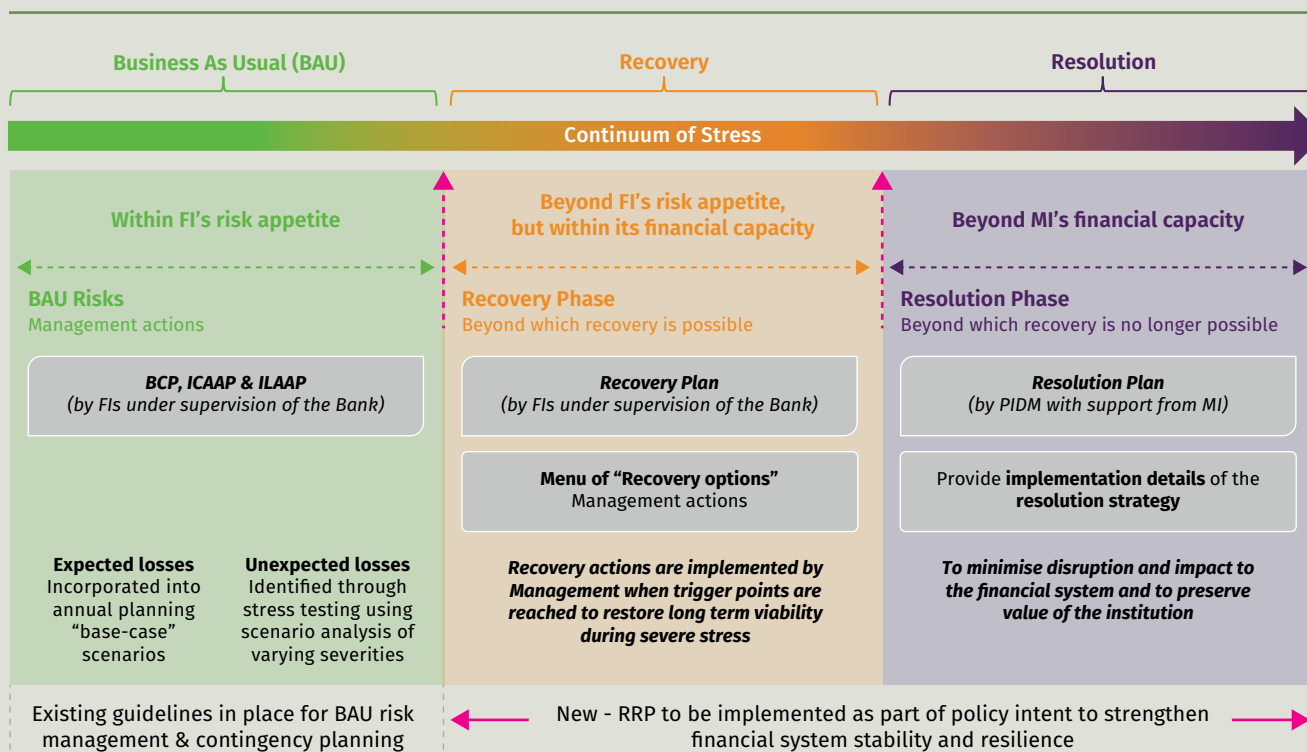
Recovery planning and resolution planning complement each other to ensure that a suite of crisis preparedness strategies is in place for financial institutions to weather significant stress from unexpected events and in turn, preserve financial stability. The Bank and PIDM coordinate closely in the development and implementation of the recovery and resolution planning framework, recognising that these are resource-intensive efforts. This has ensured streamlined policies that minimise regulatory burdens on the industry. For instance, PIDM leverages the strategic analysis performed by member banks for recovery planning to also inform the development of resolution plans. Resolution plans are also guided by the principle of proportionality based on consistent considerations of the nature, size and complexity of a member bank. In addition, resolution plans will be phased in to closely follow the implementation of recovery plans to benefit from coordinated engagements with banks as well as measures taken to address common impediments to both plans.

Such coordination between the Bank and PIDM also facilitates more seamless cross-border cooperation with home and host authorities in other jurisdictions where Malaysian financial institutions have significant overseas presence. The Bank and PIDM continue to work closely with counterparts in other jurisdictions, including through crisis simulation exercises and joint reviews of group recovery and resolution plans, to further strengthen cross-border cooperation arrangements.

More than just a compliance exercise...

When seen as an extension of a financial institution’s risk management process along a continuum of stress (Diagram 3), measures taken by financial institutions to address impediments to recovery and resolution plans (e.g. reducing organisational complexity and market concentrations, improving data capabilities and strengthening the monitoring of recovery triggers) are expected to reinforce sound risk management practices and effective oversight by financial institutions during business-as-usual (BAU) times. Financial institutions have also found opportunities to improve operational efficiencies and strengthen decision making processes. Similarly, addressing transferability issues can unlock strategic value for member banks in good times, particularly for institutions considering mergers and acquisitions. In times of severe stress, a shorter reaction time for corrective actions to be taken will crucially preserve a financial institution’s viability and shareholders’ value.

Diagram 3: Interlinkages Between the Existing Risk Management Practices, Recovery Plan and Resolution Plan



Note: BCP refers to Business Continuity Plan; ICAAP refers to Internal Capital Adequacy Assessment Process; ILAAP refers to Internal Liquidity Adequacy Assessment Process; FI refers to financial institution; MI refers to a member institution of PIDM.

Source: Perbadanan Insurans Deposit Malaysia

References:

Financial Stability Board (2014). 'Key Attributes of Effective Resolution Regimes for Financial Institutions'.

Bank Negara Malaysia (2021). 'Policy Document on Recovery Planning'.

Perbadanan Insurans Deposit Malaysia (2022). 'Exposure Draft on Resolution Planning Approach for Deposit-Taking Members'.

Regulating Digital Banks

The entry of digital banks to the Malaysian banking landscape is expected to foster innovation and enhance the provision of financial services to the underserved and unserved market segments.

At the same time, the Bank recognises that digital banks are likely to introduce new business models that are highly reliant on: (i) digital distribution channels; (ii) data analytics to drive risk profiling and customer relationships; and (iii) the use of third-party service providers to enhance customer reach and experience. This warrants increased focus on managing cybersecurity and technology risks; the responsible use and protection of customer data; and risks arising from partnerships with third parties. Where appropriate, prudential standards applied to digital banks will be proportionate to address these risks, while ensuring that any risks to financial system stability are well mitigated and customers are adequately protected.

In the initial or 'foundational' phase of operations, the digital banks will be subject to a simplified regulatory framework commensurate with asset size limits imposed on their activities. Under this phase, certain regulatory requirements relating to capital adequacy, liquidity, stress testing, Shariah governance and disclosures have been adapted to allow for less complex applications, while generally preserving the same level of prudence applied to other banks. On the other hand, digital banks will be required to demonstrate the ability to meet higher expectations in the management of technology and operational risks that reflect the unique risks of digital banks. For example, given the absence of physical premises to fall-back on, digital banks will be expected to observe higher standards for operational resilience and demonstrate that they can recover swiftly from business disruptions across all their activities. Resources and approaches directed by digital banks to deploy, maintain, review and update cybersecurity controls by third parties must also be consistent with the criticality of the services to the digital banks' operations.

Over the course of the foundational phase of the initial three to five years of digital banks' operations, the Bank's supervisory resources will focus on assessing the sustainability and scalability of the business models and technology infrastructure, as well as the effectiveness of the controls and risk management practices of digital banks in delivering their value propositions. A particular area of emphasis – both from a business viability and operational standpoint – will be on the management of outsourcing risks, especially in cases where there is high reliance on multiple business partners or third-party service providers. Digital banks are also required to establish an effective exit plan to ensure that the business can be wound down in an orderly manner without the use of public funds and causing market disruptions. This will also protect customers from being adversely affected if a business model or innovation is unsuccessful.

The five licensed digital banks are currently undergoing a preparation period prior to an operational readiness audit by the Bank before operations can commence. The audit will ascertain that the organisational structure, policies, procedures and controls, IT and accounting systems, business continuity plan and other relevant aspects of the digital banks' operations are in place and meet the relevant regulatory requirements. This process may take between 12 and 24 months.

THE INSURANCE AND TAKAFUL SECTOR

Profitability of insurance and takaful funds declined, driven by weaker investment performance

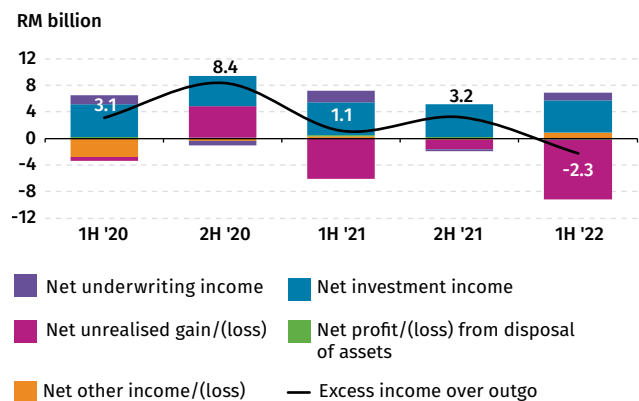
Overall profitability of insurance and takaful funds declined in the first half of 2022, driven by weaker investment performance of life insurance and family takaful funds. For life insurance and family takaful funds, excess income over outgo¹⁰ was negative in the first half of 2022 (Chart 2.22). The decline was driven by net unrealised losses from bond and equity investments, amid the higher bond yields and weaker performance of global and domestic equities during the period. In contrast, income from underwriting activity improved on the back of stronger new business growth. New business premiums¹¹ have mostly recovered to pre-pandemic levels (Chart 2.23). This was largely driven by the medical and health segment which has been a major contributor to new business growth in recent years, in line with the rising cost of medical services. The COVID-19 outbreak has further increased public awareness of the benefits of insurance and takaful coverage with the composition of medical and health premiums out of total new premiums doubling in the first half of 2022 compared to average pre-pandemic levels. The Mortgage Reducing Term Assurance/Takaful and other term policies, such as credit-related products, also recorded higher premiums during the period (1H 2022: RM3.8 billion; 2H 2021: RM2.9 billion), amid improvements in the property market and following the reopening of the economy. Investment-linked new business premiums, however, contracted by 31% (2H 2021: +16%). The slowdown in investment-linked new business was partially attributed to the lower productivity of the sales force due to sporadic COVID-19 infections as well as more cautious consumer sentiment amid volatile market conditions.

¹⁰ Sum of net underwriting income, net investment income and other income, for all direct life insurers/family takaful operators and life reinsurers. Data excludes investment-linked unit funds.

¹¹ Refer to both insurance premiums and takaful contributions, unless stated otherwise.

Overall net benefit payouts were broadly stable during the period (1H 2022: RM13.2 billion; 2H 2021: RM13.1 billion). The transition to endemicity drove the increase in medical payouts in the first half of 2022 (RM3.5 billion; 2H 2021: RM3.1 billion) as the consumption of medical services, including elective procedures, resumed. Similarly, surrender payouts increased to around pre-pandemic levels (RM2.5 billion; 2020-2021 half-yearly average: RM2.2 billion; 2018-2019 half-yearly average: RM2.4 billion). The increase in medical and surrender payouts was however offset by lower mortality and bonus payouts, coinciding with typically fewer policies with cash bonus anniversaries falling within the first half of the year.

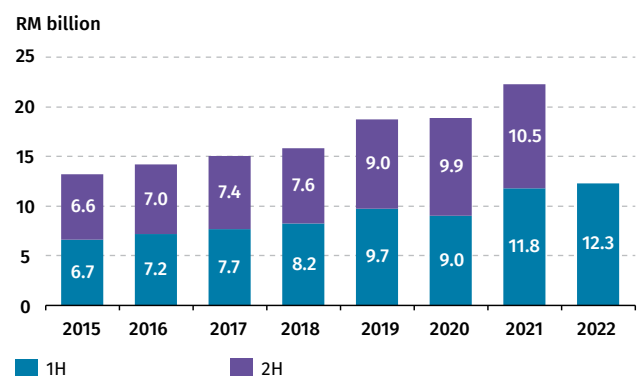
Chart 2.22: Life Insurance and Family Takaful Fund – Composition of Income and Outgo



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

Chart 2.23: Life Insurance and Family Takaful Sector – New Business Premiums



Source: Bank Negara Malaysia

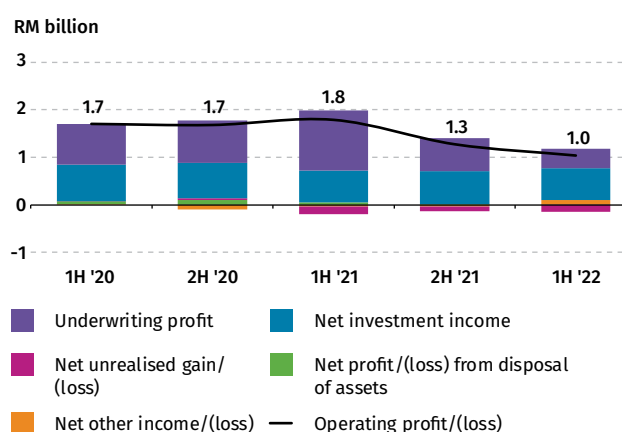
For general insurance and takaful funds, half-yearly operating profits declined to its lowest level in 10 years (Chart 2.24) (2015-2019 average: RM1.5 billion). The decline was largely attributable to lower underwriting profit due to higher net claims incurred in the motor and fire segments. This is in line with expectations for claims to normalise in 2022 as mobility gradually returned to normal conditions, and compounded by claims arising from major flood events in the first quarter of 2022. While businesses have generally been affected by the global supply chain disruptions, the impact on ITOs' claims experience has been negligible given their low exposures to business interruption cover (less than 1% of total general premiums). Similar to the life insurance and family takaful sector, weaker investment performance also affected operating results during the period.

Gross direct premiums increased at the fastest pace since 2015, mainly driven by the growth in fire premiums (Chart 2.25). This reflected higher coverage in the commercial segments both under new policies and seasonal renewals, and higher rates for large and specialised risks in tandem with a hardening reinsurance market. The personal accident segment also contributed to the higher premiums, reflecting the higher take-up of insurance by the lower income group in response to national initiatives to expand social protection for this group. The resumption of travel activities and reopening of the economy further supported the growth in personal accident business.

Despite large fire losses and the recent flood events, the higher cost of reinsurance coverage has been manageable for general ITOs. So far, tighter rates and conditions have been mainly confined to non-performing portfolios.¹² That said, market observers expect global rate increases to continue in 2022 given tighter capacity, continued uncertainty in the operating environment and volatile capital markets. General ITOs have sufficient earnings and capital buffers to absorb higher reinsurance costs, including from higher profit commissions earned on profitable portfolios. Based on engagements with ITOs, any upward revision in insurance rates for households and businesses is expected to be minimal given available margins and competition

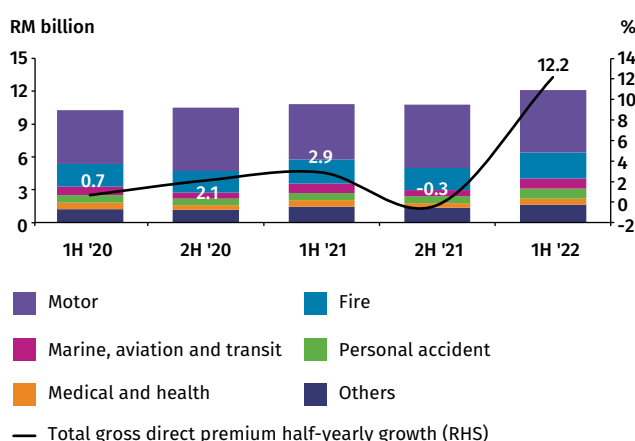
for market share. Revisions are also limited by applicable tariffs that remain in place for most fire policies. In June 2022, the Bank communicated the next phase of liberalisation, where greater pricing flexibilities for motor and fire products will be accorded to ITOs that meet the Bank's expectations and requirements on reforms to the motor claims ecosystem. The ongoing phased liberalisation of motor and fire tariffs is expected to improve the ability of general ITOs to respond to changes in underlying risks while ensuring that adjustments will not be sharp and disorderly.

Chart 2.24: General Insurance and Takaful Fund – Composition of Operating Profits



Source: Bank Negara Malaysia

Chart 2.25: General Insurance and Takaful Sector – Gross Direct Premium Growth and Product Composition



Source: Bank Negara Malaysia

¹² Refer to reinsurers' loss-making reinsurance portfolios. To avoid similar losses in the future for these portfolios, higher reinsurance rate and/or tighter conditions are imposed by reinsurers on direct ITOs.

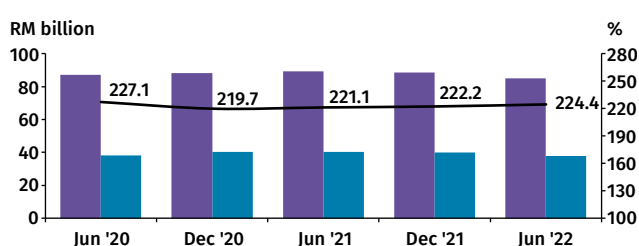
Looking ahead, ITOs remain susceptible to heightened volatility in the financial markets given their sizeable bond and equity investments. For life and family ITOs, their strategic asset allocation is expected to remain broadly stable to reflect their liability profile. In an environment of rising interest rates, the net financial impact on life and family ITOs is expected to be favourable as the decline in valuations of assets with shorter durations are offset by higher gains from the lower valuations of longer-duration liabilities. Additionally, reinvestments in higher-yielding assets would also improve profit margins. Overall, net investment income for the life and family ITOs edged higher in the first half of 2022 (RM4.9 billion; 2020-2021 half yearly average: RM4.8 billion; 2015-2019 half-yearly average: RM4.4 billion). Meanwhile, general ITOs continue to hold sufficient liquid asset buffers to meet claims and other shorter-term liquidity needs. This is expected to cushion any potential adverse impacts from the heightened financial market volatility. Based on the Bank's macro solvency stress tests, ITOs remain resilient to large MGS yields and equity price shocks of up to +120 bps and -19% relative to pre-stress levels, respectively.¹³ This would also be true under a sensitivity analysis incorporating additional bond yield shocks in the macro solvency stress test,¹⁴ with the aggregate industry capital adequacy ratio remaining strong at 209% (refer to the section on 'Financial Institution Soundness and Resilience - The Banking Sector' for further details).

In addition to financial market volatility and rising bond yields, the performance of ITOs going forward is expected to reflect the continued normalisation of claims experience, rising medical and motor claims cost (due to inflation and supply chain disruptions), as well as more frequent and severe physical risk events such as floods which could weigh on underwriting income. Legal developments involving motor claims compensations could also continue to pose some risks to the performance of ITOs. This included a recent ruling by the Federal Court¹⁵ which

clarifies the liability of ITOs for compensations to third-party victims of motor vehicle accidents in cases involving a vehicle that had been sold by the insured without the insurer's knowledge. The ruling is unlikely to result in any material increases in overall motor claims and provision given current reserving practices of general ITOs that would have already assumed such risks under their third-party policies.

The insurance and takaful sector is expected to remain resilient, supported by the strong capital and liquidity positions, as affirmed by the results of the Bank's macro solvency stress test conducted earlier this year.¹⁶ The aggregate industry capital adequacy ratio of 224% is currently well above the regulatory minimum of 130% (Chart 2.26). At the institution level, all ITOs maintained capital ratios above their individual target capital level of between 150% and 250%. Aggregate excess capital buffers above the regulatory minimum also remained strong at RM35.8 billion (December 2021: RM36.8 billion). To ensure that the capital framework remains effective under changing market conditions and to enhance ITOs' resilience through a more comprehensive risk coverage, a discussion paper on proposed revisions to the Risk-Based Capital Framework for Insurers and Takaful Operators (Framework Design) was issued in 2021¹⁷ as part of the Bank's ongoing multiphase review of the capital adequacy requirements. The enhanced requirements are expected to be implemented in 2025 at the earliest.

Chart 2.26: Insurance and Takaful Sector – Capital Adequacy Ratio



Legend: Total capital available (purple bar), Total capital required (blue bar), Capital adequacy ratio (RHS) (black line).

Source: Bank Negara Malaysia

¹³ In addition to market risk shocks, other key insurance-specific assumptions include (i) specific COVID-19-related payments to policyholders, (ii) conservative growth projections of insurance liabilities net of reversals due to claims and surrenders; and (iii) higher general insurance claims ratio due to adverse economic conditions, intensified competition in the motor and fire segments, and annual year-end flood events throughout the stress test horizon.

¹⁴ Under the updated bond yield shock parameters, MGS yields are assumed to increase by more than double the magnitude of increase assumed under the macro solvency stress test.

¹⁵ On 5 August 2022, the Federal Court delivered a landmark ruling for road accidents that involved vehicles with changes in ownership that were not registered in accordance with Section 13(1) of Road Transport Act 1987. Based on the ruling, ITOs will be liable to compensate the third party victim even if the sale of the motor vehicle to the third-party was made without the insurer's knowledge, as the policy is deemed to be in full force at the time of accident.

¹⁶ Refer to the chapter on Assessing the Resilience of Financial Institutions, as set out in the BNM Financial Stability Review for Second Half 2021 for further details.

¹⁷ The Discussion Paper on Risk-Based Capital Framework for Insurers and Takaful Operators (Framework Design) is available at <https://www.bnm.gov.my/-/dp-risk-based-capital-framework-instkf>.

The State of Play of Digital Assets in Malaysia and Linkages To Financial Stability

Digital asset activities globally have been growing and evolving rapidly especially over the past few years. Accordingly, central banks and national regulatory authorities are devoting resources to better understand the digital asset landscape and its linkages with mainstream finance and the broader economy. The borderless nature and increasing interconnectedness with the financial system underscores the need for enhanced surveillance, more effective regulation and supervisory cooperation to avert potential threats to financial stability.

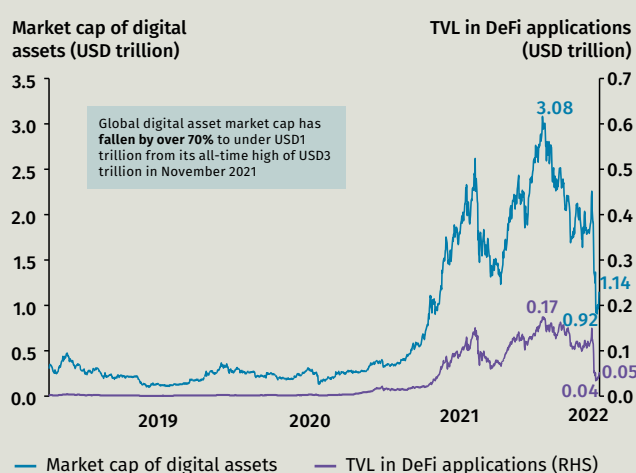
This article reviews the current state of play of digital assets in Malaysia, where adoption has also grown significantly since the start of the pandemic, and includes insights on the potential implications of such activities for domestic financial stability.

State of Play

Global landscape: Continued market volatility and uncertainty

More than a decade since the minting of the first Bitcoin in 2009, the digital asset market has experienced continued episodes of wild price swings and significant market volatility. As observed in the most recent market turmoil – dubbed by many as the “crypto winter” – this continues to be a defining characteristic of the market. During the pandemic, market capitalisation of digital assets grew to around USD3 trillion at its peak in November 2021. This was fuelled by ample liquidity, historic low interest rates, and increased participation by retail and institutional investors. However, the market capitalisation of digital assets plummeted by 70% to USD894 billion in June 2022, before recovering some of its losses more recently. The Total Value Locked (TVL) in decentralised finance (DeFi) platforms also experienced a similar decline, falling dramatically from a peak of USD186 billion in December 2021 to USD55 billion in June 2022 (Chart 1). This steep sell-off was contributed by a general risk-off sentiment due to a global environment facing high inflation, rising interest rates, and increasing geopolitical uncertainties. This was further exacerbated by market-specific events such as the failure of the TerraUSD project which wiped off USD40 billion in value within a matter of days.

Chart 1: Market Capitalisation of Digital Assets and Total Value Locked (TVL) in DeFi Applications



Source: CoinGecko

As a fallout from the crypto winter, a number of prominent crypto projects and companies have shuttered over a space of a few months. In addition to the TerraUSD collapse in May 2022, crypto lenders such as Celsius Network (based in the US) and Vault (based in Singapore) have resorted to restricting customer withdrawals, trading, and deposits on their platforms amid restructuring efforts. Crypto hedge funds have met similar fates, such as Three Arrows Capital (based in Singapore) which recently filed for bankruptcy with debts amounting up to USD3.5 billion.

In response to these developments, regulators and standard-setting bodies have stepped up efforts to address the concerns surfacing from the crypto markets. For instance, European Union (EU) agreed on a landmark deal to bring crypto-assets, crypto-asset issuers, and crypto-asset service providers under an EU-wide regulatory framework for the first time in June 2022. The resulting Markets in Crypto-Assets (MiCA) framework aims to protect investors and preserve financial stability, while allowing for innovation in the crypto-asset sector.¹ In September 2022, the White House released a comprehensive framework for responsible digital asset development that outlines recommendations to protect consumers, investors and businesses, foster financial stability, fight illicit finance and mitigate any environmental impact.² Closer to home, the Monetary Authority of Singapore (MAS) issued guidelines in January 2022 giving effect to expectations that Digital Payment Token (DPT) service providers should not promote their DPT services to the general public in Singapore, with indications that access to digital assets by retail investors may be further tightened. In August 2022, MAS also announced its intention to take stronger measures to restrict access to digital assets by retail investors and consider further measures to reduce consumer harm. These include imposing customer suitability tests and restricting the use of credit for trading.³

Domestic landscape: Growing rapidly, but remains small

Digital asset adoption in Malaysia has also grown rapidly over the past two years. Based on data published by the Securities Commission Malaysia (SC), the number of investment accounts across the four registered Digital Asset Exchanges (DAX) grew by around 300% to approximately 760,000 in 2021 (2020: more than 190,000). Despite the rapid growth, total digital asset activities in Malaysia remain small. The overall number of investment accounts in DAXs amounted to just over 3% when compared to the 24.1 million unit trust funds accounts in Malaysia in 2021 (2020: 21.3 million). In 2021, a total of approximately RM21 billion of digital assets were traded across all registered DAXs, compared to just RM1.4 billion in 2020. This accounted for only 2.3% and 0.2% when compared to the trading value in the local equities and foreign exchange (FX) markets respectively (Chart 2).

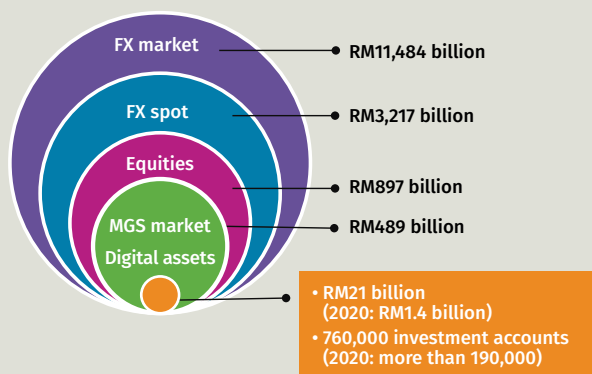
Younger investors aged below 35 years old comprised the largest segment of digital asset users in Malaysia, accounting for 62% of the total investment accounts as at end-2021. The greater prominence of younger investors is also consistent with global trends, as they are likely to be more technology savvy and willing to take on higher risks. A study by Luno indicated that 76% of its users purchased digital assets for investment purposes while 15% did so for trading purposes (Chart 3). This is consistent with digital assets being largely viewed by the public as a speculative asset class. In contrast, only 2% of respondents have used digital assets as a payment method. This too is consistent with the common view that digital assets are generally unsuitable as a medium of payment due to their significant price volatility.

¹ European Council and Council of the European Union (June 2022).

² The White House (September 2022). The comprehensive framework follows President Joseph R. Biden Jr.'s Executive Order on Ensuring Responsible Development of Digital Assets (March 2022).

³ Financial Times (August 2022).

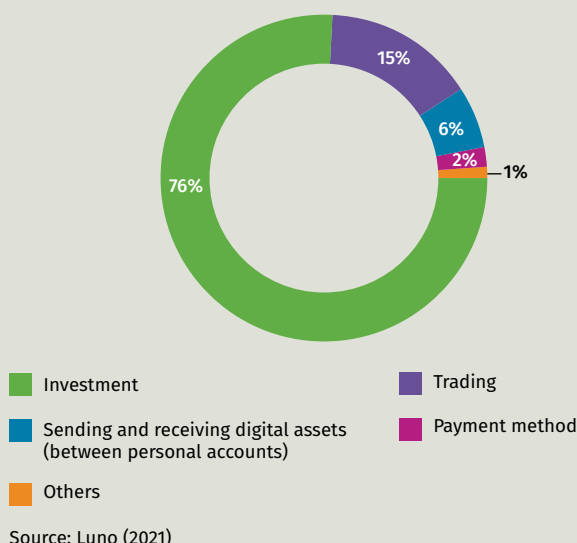
Chart 2: Annual Trading Value in Malaysia for Digital Assets and Other Financial Market Instruments in 2021



Note: 1. The annual trading value for MGS market is for secondary bond market.
 2. The high annual growth for digital assets is likely due to the low base effect.

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

Chart 3: Percentage of Luno's Users in Malaysia by Purpose of Purchasing Digital Assets



Linkages to Financial Stability

Minimal risk to financial stability at the current level of adoption

At the current level of digital asset adoption in Malaysia, risks to domestic financial stability remain well contained. However, more widespread adoption of digital assets may be a source of future risks to the financial sector, with important implications for financial stability. This could arise from the disintermediation of the financial sector and heightened spillover risks from the digital asset market to the broader financial system. For example, a large shift of bank deposits to digital assets may put pressure on banks' cost of funds by increasing their dependence on costlier and less stable funding sources (e.g., wholesale deposits). The resulting impact on banks' liquidity and earnings could in turn drive higher lending rates or lower loan growth, with broader implications for economic activity and future credit risks. Such risks are low at present. As at end-June 2022, about RM4.9 billion of customer funds have been deposited at registered DAXs, accounting for only 0.6% of the total retail deposits in Malaysia. At the same time, the natural growth in bank deposits and loans⁴ have also continued to consistently outstrip any effects from broader digital asset adoption.

Financial institutions may also have direct and indirect exposures to digital assets that could give rise to liquidity, credit and operational risks. For instance, stablecoin arrangements, which aim to maintain a stable value relative to a specific asset, introduces such risks as they rely on short-term debt instruments or less credible stabilisation mechanisms⁵ to maintain the stable value. Such stablecoins are susceptible to runs where large-scale redemptions of the stablecoins may threaten the solvency of stablecoin issuers or trigger a fire sale of the underlying assets to meet redemptions. This could create broader disruptions in asset markets and generate funding shocks for corporates and banks. DeFi platforms and services have also come under greater scrutiny as a potential flashpoint leading to systemic risks, due to their potential reliance on leverage and borderless operations. To-date, however, there has yet to be any issuance of major stablecoins in Malaysia, or such projects backed primarily by Malaysian-based assets. The adoption of DeFi in Malaysia also remains modest, with Malaysia ranked 46th out of 145 countries in the 2021 Global DeFi Adoption Index.⁶

⁴ To date, there has been no instances of negative growth in bank deposits and loans in Malaysia.

⁵ For example, algorithmic stablecoins are typically programmed to adjust its supply in response to changes in demand in order to maintain a price peg.

⁶ As outlined in the Chainalysis' 2021 Geography of Cryptocurrency Report (Oct 2021) the DeFi Adoption Index is made up of three metrics, i.e., (i) On-chain cryptocurrency value received by DeFi platforms weighted by purchasing power parity (PPP) per capita; (ii) Total retail value received by DeFi platforms; and (iii) Individual deposits to DeFi platforms weighted by PPP per capita.

At present, the exposure of banks in Malaysia to digital asset activities is largely limited to facilitating low-risk client services - mainly comprising the provision of deposit or trust accounts for registered DAXs and facilitating payments for customer purchases of digital assets via the registered DAXs.⁷ Based on a recent survey of banks' intentions to participate in digital asset activities, key factors that have inhibited further involvement by banks in digital assets at this stage include concerns over price volatility, high fraud cases, lack of regulatory clarity around banks' involvement in digital asset activities and investor protection requirements, cyber security risks and the adverse environmental impact.

Looking ahead, several banks have indicated an interest to extend their involvement in digital assets, in response to anticipated demand from their clients and as a potential revenue stream. These activities may include providing digital asset exchange and custody services, among others. As this may increase the bank's exposure to digital assets, such activities will be closely monitored by the Bank as part of its supervisory activities, along with a consideration of relevant safeguards and controls to address any significant increase observed in the risk exposures of banks.

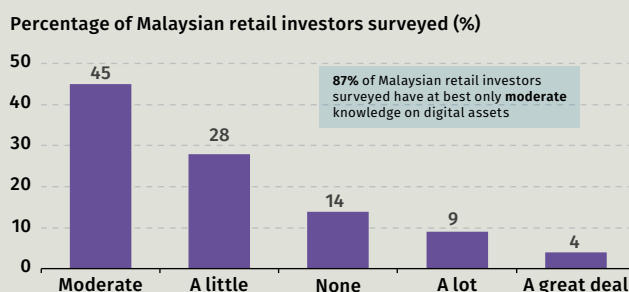
Wealth effects: Keeping investors and consumers safe

Insights on the profile of retail digital asset investors suggest a cause for concern. A recent study conducted by Sukumaran et al (2022) found that 87% of Malaysian retail investors surveyed had at best only moderate knowledge of the digital assets they were investing in (Chart 4). Given that these investors are mostly below 35 years old, they are also more likely to be vulnerable to financial stress due to lower financial buffers.⁸ A significant rout in digital asset prices would have negative wealth effects on retail investors. Investments that are funded through credit or leverage would further amplify these effects by impacting borrowers' debt servicing ability and add to individual financial stress.

Consumers are also exposed to additional risks when dealing with unregistered digital asset service providers. Such providers typically do not provide investors with customer protection and redress channels equivalent to those offered by mainstream finance and regulated DAXs. Further, there have been numerous recent cases of misuse of investors' personal data, theft of information assets, and inability to access user funds due to frozen accounts.

Given these risks, the Bank together with the SC have continued to direct efforts to educate the public on the risks associated with digital assets, in particular the risk that they could lose their wealth not only through large price swings, but also through an increased risk of fraud or cyber thefts when they deal with unregulated digital asset players.

Chart 4: Percentage of Malaysian Retail Investors by Depth of Knowledge in Digital Assets



Source: Sukumaran et al. (2022)

⁷ Investors in Malaysia are able to transfer funds to the four registered DAXs via the Financial Process Exchange (FPX), DuitNow or Interbank GIRO (IBG) systems for onward purchase of digital assets.

⁸ Estimates from DOSM's Household Income and Expenditure Survey 2019 data suggest that households headed by younger individuals (aged 35 years and below) typically have lower average residual income after accounting for expenditure and financial obligations, compared to older counterparts.

Going forward: Building capacity and strengthening collaboration

While there may be limited risks to financial stability from digital asset adoption now, the Bank, via its Digital Currency Research Hub, continues to closely monitor global and domestic developments surrounding such activities in relation to our core mandates. We continue to accord priority, working with other regulators, the Financial Education Network and relevant Government agencies, to strengthen financial education and public awareness on the risks of digital assets.

The Bank also aims to strengthen its on-going surveillance capabilities to facilitate better understanding of the digital asset landscape and to address potential data gaps. In expectation of an increase in banks' involvement in digital asset activities in the coming years, attention will also be directed towards enhancing our regulatory framework to mitigate the attendant risks posed by digital assets. Such efforts will be pursued in consultation with industry players and taking into account ongoing developments surrounding global regulatory standards in this area.

Efforts to strengthen the oversight of digital asset activities will also require the Bank to strengthen international cooperation and coordination with other financial regulators. This aims to reduce risks of fragmentation and regulatory arbitrage especially given the borderless nature of digital assets.

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Climate Risk Stress Testing Exercise

Climate hazards are becoming increasingly frequent and intense. They have a devastating impact on the economy and pose risk to the financial system. In addition, policies and strategies by both the Government and other economies in managing these climate challenges would result in transition risks which would pose further threats to financial stability. These require heightened attention and prompt action by financial players to ensure such risks are managed effectively, and any potential consequences to the financial system and economy are contained.

With the above in mind, the Bank in June of this year published a discussion paper on plans to conduct an industry-wide Climate Risk Stress Testing (CRST) exercise in 2024, which aims to assess the resilience of financial institutions to both physical and transition risks. The CRST is also expected to strengthen the capabilities of the Bank and financial institutions in sizing up and assessing these risks, in order to inform internal strategies for mitigating such risks. At the industry level, the collective effect of mitigation actions by financial institutions can also create important feedback loops that could reduce or amplify systemic risks. These effects are explored through the use of alternative climate scenarios as part of the CRST. Feedback to the discussion paper will be used to finalise the design and specifications for the CRST.

In this exercise, the Bank intends to use three adverse climate scenarios¹ to capture the impact from alternative pathways that are associated with a range of different transition and physical risks. These are:

- Current Policies scenario – this scenario assumes the government does not impose any new measures to address climate risk above and beyond those that have been implemented in the past, while economic agents do not alter their behaviour to reduce greenhouse gases (GHG) emissions and there is limited availability of carbon dioxide removal technology. Physical risks are severe.
- Nationally Determined Contributions scenario – this scenario assumes both implemented and pledged policy measures to be effective even though some measures have yet to be implemented. Some materialisation of moderate to severe physical risks are expected, reflecting insufficient policy actions.
- Delayed Transition scenario – this scenario captures the transition risks that may arise from a late implementation of measures to fight climate change. Efforts to lower GHG emissions are delayed until 2030, after which more stringent policy measures are suddenly introduced to make up for the delay. Economic agents are forced to drastically change their behaviour, resulting in sharp disruptions to economic activity and financial markets.

The stress test will span an assessment horizon of up to 2050, aligned with Malaysia's commitments to net zero GHG emissions.

The CRST builds on existing initiatives that the Bank has undertaken to strengthen the financial industry's management of climate-related financial risks. These include the issuance of standards and frameworks to improve climate risk management practices by financial institutions² and to promote the consistent classification of exposures to climate-related financial risks.³ These initiatives serve to strengthen the conditions that will enable financial institutions to conduct the CRST with appropriate rigour and to use its results in a meaningful way to enhance climate resilience.

¹ Please refer to the Discussion Paper on the 2024 CRST for further details (https://www.bnm.gov.my/-/dp_2024_crst).

² Climate Risk Management and Scenario Analysis exposure draft published in December 2021.

³ Climate Change and Principle-based Taxonomy which came into effect on 30 April 2021 and Value-based Intermediation Financing and Investment Impact Assessment Framework Sectoral Guides.

Annex



Table A.1

Key Financial Soundness Indicators

	As at end				
	1H 2020	2H 2020	1H 2021	2H 2021	1H 2022 ^p
	% (or otherwise stated)				
Banking System					
Total Capital Ratio	18.4	18.9	18.6	19.2	18.0
Tier 1 Capital Ratio	15.2	15.7	15.4	16.0	14.9
Common Equity Tier 1 Capital Ratio	14.6	15.2	14.9	15.5	14.3
Return on Assets ¹	1.0	1.0	1.1	1.1	1.3
Return on Equity ¹	8.8	8.4	9.7	9.5	11.8
Liquidity Coverage Ratio	149.2	148.2	149.1	153.4	148.3
Net Impaired Loans Ratio ²	0.9	1.0	1.0	1.1	1.1
Capital Charge on Interest Rate Risk in the Trading Book to Capital Base	1.2	1.1	1.1	1.0	0.9
FX Net Open Position to Capital Base	4.8	5.2	4.7	4.0	4.5
Equity Holdings to Capital Base	1.3	1.5	1.3	1.3	1.4
Insurance and Takaful Sector					
Capital Adequacy Ratio	227.1	219.7	221.1	222.2	224.4
Life Insurance and Family Takaful					
Excess Income over Outgo (RM billion) ³	3.1	8.4	1.1	3.2	-2.3
New Business Premium / Contribution (RM billion)	9.0	9.9	11.8	10.5	12.3
Capital Adequacy Ratio	210.6	203.5	207.9	212.0	217.3
General Insurance and General Takaful					
Operating Profit (RM billion)	1.7	1.7	1.8	1.3	1.0
Underwriting Profit (RM billion)	0.9	0.9	1.3	0.7	0.4
Gross Direct Premium / Contribution (RM billion)	10.3	10.5	10.8	10.8	12.1
Claims Ratio	55.9	54.2	52.7	56.5	63.8
Capital Adequacy Ratio	287.1	282.6	270.9	256.9	246.2
Household (HH) Sector					
HH Debt (RM billion) ²	1,265.9	1,320.6	1,335.4	1,376.2	1,409.0
HH Financial Assets (RM billion)	2,749.8	2,901.3	2,896.0	2,971.3	2,901.9
HH Debt-to-GDP Ratio ²	87.4	93.1	89.6	89.1	84.5
HH Financial Assets-to-Total HH Debt Ratio ²	217.2	219.7	216.9	215.9	205.9
HH Liquid Financial Assets-to-Total HH Debt Ratio ²	143.7	145.2	146.2	144.1	137.6
Impaired Loans Ratio of HH Sector (Bank Loans) ^{2,4}	1.0	1.2	1.2	1.1	1.2
Impaired Loans Ratio of HH Sector (Non-Bank Loans) ^{2,5}	1.3	1.4	1.5	1.0	1.1
Business Sector					
Return on Assets	0.9	1.1	2.2	2.4	2.4
Return on Equity	1.6	2.2	4.1	4.1	4.3
Debt-to-Equity Ratio	24.1	22.6	22.3	22.5	21.5
Interest Coverage Ratio (times)	4.0	4.8	6.8	7.1	7.1
Operating Margin	5.1	5.5	7.5	7.4	7.3
Impaired Loans Ratio of Business Sector ²	2.5	2.6	2.7	2.8	3.0
Development Financial Institutions⁶					
Lending to Targeted Sectors (% change)	3.9	7.7	6.2	3.6	3.0
Deposits Mobilised (% change)	2.0	6.6	7.5	1.4	2.3
Impaired Loans Ratio	5.9	5.1	5.5	4.8	5.4
Return on Assets	1.1	1.1	1.3	1.1	1.0

¹ Banking system profits are aggregated at the entity level. Since the BNM Financial Stability Review for First Half 2021 publication, the aggregated results for 2019 onwards have been adjusted for dividend income received from domestic banking subsidiaries (previously added at both the parent and subsidiary levels). Differences in comparative pre-tax figures reported in previous Financial Stability Reviews are estimated to range between 5.5% and 10.7%.

² The loan/financing data used is based on updated statistical reporting requirements to reflect more accurate data definition and reporting methodology and thus, may not be directly comparable to the data reported in previous publications.

³ 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.

⁴ Based on Stage 3 loans under the Malaysian Financial Reporting Standard 9 (MFRS 9).

⁵ Based on loans with 3 months or more in-arrears.

⁶ 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				
	1H 2020	2H 2020	1H 2021	2H 2021	1H 2022 ^p
Islamic Banking System	RM million (or otherwise stated)				
Total Assets ¹	1,041,629.6	1,089,540.7	1,139,095.2	1,191,622.4	1,236,239.2
% of total assets of entire banking system ¹	33.3	34.2	35.1	35.5	35.5
Total Financing ¹	780,376.6	817,403.3	841,507.2	886,607.2	924,156.1
% of total loans / financing of entire banking system ¹	39.9	41.0	41.5	42.5	43.2
Total Deposits and Investment Accounts ¹	859,946.8	889,951.4	933,749.8	968,918.4	1,001,104.9
Total Deposits ¹	761,993.4	790,905.4	820,390.9	844,293.4	865,763.1
Total Investment Accounts ¹	97,953.4	99,046.0	113,358.9	124,625.0	135,341.8
% of total deposits and investment accounts of entire banking system ¹	38.1	38.9	39.7	39.8	40.2
	%				
Total Capital Ratio	18.3	18.6	18.4	19.2	18.0
Tier 1 Capital Ratio	14.6	15.0	14.8	15.5	14.5
Common Equity Tier 1 Capital Ratio	14.0	14.5	14.3	15.0	14.0
Return on Assets	0.6	0.7	1.3	1.1	1.2
Net Impaired Financing Ratio	0.9	0.9	0.9	0.7	1.6
Takaful Sector	RM million (or otherwise stated)				
Takaful Fund Assets	39,040.1	41,871.2	43,223.1	45,803.0	46,779.6
Family	34,538.5	37,025.5	38,272.5	40,258.9	41,182.4
General	4,501.6	4,845.7	4,950.6	5,544.1	5,597.2
% of insurance and takaful industry	11.8	11.9	12.3	12.6	13.2
Net Contribution Income	5,642.8	5,985.5	7,189.0	6,614.6	8,590.7
Family	4,336.5	4,527.5	5,776.3	5,093.2	6,888.6
General	1,306.3	1,457.9	1,412.8	1,521.5	1,702.1
% of insurance and takaful industry	18.6	18.2	21.9	19.4	24.3
Family Takaful					
New Business Contribution	3,191.8	3,401.9	4,682.1	3,817.5	5,439.9
General Takaful					
Gross Direct Contribution	1,641.2	1,817.1	1,861.7	1,966.4	2,229.5
Claims Ratio (%)	53.3	58.0	51.8	50.7	60.0

¹ Including 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

Glossary, Acronyms and Abbreviations



Amortised cost (AC) security

Security purchased with the intent of holding it until maturity. Changes in its market price do not result in any unrealised gains or losses

Annualised credit cost ratio

Annualised year-to-date loan loss impairment charged to the income statement as a share of total outstanding loans

Bid-to-cover ratio

A measure of the strength of demand for securities during an auction. It is the ratio of amount of bids received in an auction over the amount sold

Blockchain

Distributed ledger that is updated in groups of transactions called blocks

Bridge institution (BI)

A body corporate established or acquired by the Bank or a subsidiary of PIDM, designated as a bridge institution, to assume the business, assets, affairs and liabilities, including critical functions, of a non-viable bank

Business continuity plan (BCP)

A comprehensive documented action plan that outlines the procedures, processes and systems necessary to resume or restore the business operation of an institution in the event of a disruption

Buy-now-pay-later (BNPL)

A facility that allows a customer to defer the payment of goods or services over an agreed period of time whereby the payment is already advanced by a financial service provider (or jointly with its partner) to the providers of such goods or services. The deferment of payment does not attract any interest or profit

Capital adequacy ratio (CAR)

A measure of the solvency position of an insurer or takaful operator, expressed as the ratio of total capital available to total capital required

Cash-to-short-term debt ratio (CASTD)

Ratio of a corporation's cash to short-term debt, which measures liquidity

Common Equity Tier 1 (CET1) capital

A component of a bank's regulatory capital comprising ordinary shares issued by a banking institution, retained earnings and other reserves

Consumption credit

Financing taken for consumption purposes such as personal financing, motor vehicle financing, credit cards and others

Debt service ratio (DSR)

Ratio of total monthly bank and non-bank debt obligations to monthly disposable income (net of statutory deductions)

Debt-to-income ratio (DTI)

Ratio of all outstanding debt held by a borrower to their gross annual income

Decentralised finance (DeFi)

Financial services that are delivered without intermediaries, using automated protocols (smart contracts) on blockchains

Delinquent loan

Loan accounts with 2 months-in-arrears

Digital asset

Digital assets are digital representations of value that can be digitally traded or transferred and can be used for payment or investment purposes. Digital assets primarily leverage on cryptography and distributed ledger technology, which enables them to be transacted without the need for intermediaries. Generally, digital assets can be classified into two main categories - unbacked digital assets (e.g., Bitcoin, Ether) and stablecoins (e.g., Tether, USD Coin), which aim to maintain a stable value relative to a specified asset, or a pool of assets. Of note, digital assets do not include digital representations of fiat currencies issued by a sovereign body

Digital bank

A bank that is licensed under Financial Services Act 2013 or Islamic Financial Services Act 2013 to carry on banking business or Islamic banking business, wholly or mainly, through digital or electronic means

Digital Payment Token (DPT)

Digital representations of value that can be transferred, stored or traded electronically and satisfy the requirements as set out in the Payment Services Act 2019 in Singapore

Disaster Recovery Plan (DRP)

A comprehensive written plan of action that sets out the procedures and establishes the processes for IT systems and requirements that are necessary to support and restore the business operation of an institution in the event of a disruption

Dividend reinvestment programme

A programme offered by banks that allows shareholders to reinvest cash dividends into additional shares of the banks

Domestic banking group (DBG)

Domestically-owned financial group comprising a licensed commercial bank, licensed investment bank and licensed Islamic bank

Domestic systemically important bank (D-SIB)

Bank whose failure has the potential to cause considerable disruption to the domestic financial system and the wider economy

Excess income over outgo

Sum of net underwriting income, net investment income and other income, for all direct life insurers/family takaful operators and life reinsurers

External debt-at-risk of banks

The proportion of banks' external debt that is more susceptible to sudden withdrawal shocks

Fair value through other comprehensive income (FVOCI) security

Security purchased with the intent of selling before it reaches maturity, with gains and losses from changes in its fair value being reflected in other comprehensive income until they are sold

Financial Market Stress Index (FMSI)

A risk monitoring tool to gauge the stress level in the domestic financial markets and drivers of market stress

Fintech

Integration of financial technology into financial services

Firms-at-risk

Listed non-financial corporates with interest coverage ratio below the prudent threshold of two times

Green bonds

Financial instruments that finance green projects and provide investors with fixed income payments

Gross direct premium/contribution

Premium/contribution receivable before deduction of commissions, brokerage or other expenses, for all direct general insurers and direct general takaful operators

Higher loss absorbency (HLA)

Capital buffer requirement imposed on a D-SIB above the minimum regulatory requirement to increase its going-concern capital buffers, which aims to reduce its probability of failure

High-quality liquid assets (HQLA)

Assets that can be easily and immediately converted into cash at little or no loss of value

Household financial assets

Assets that are held by households including deposits, investments in unit trust funds and equities, insurance/takaful policies and Employees Provident Fund (EPF) savings

Household liquid financial assets

Household financial assets excluding EPF savings

Interest coverage ratio (ICR)

Ratio of a corporation's earnings before interest, taxes, depreciation and amortisation to interest expense, which measures debt-servicing capacity

Internal Capital Adequacy Assessment Process (ICAAP)

An overall process to ensure that a banking institution maintains adequate capital on an ongoing basis to support its business operations beyond the minimum regulatory capital requirements under Pillar 1

Internal Liquidity Adequacy Assessment Process (ILAAP)

An overall process to ensure that a banking institution maintains robust liquidity risk management to ensure its ability to fulfill payment obligations at all times, including under adverse conditions

Investment-linked products

Life insurance or family takaful where the policy/certificate value at any time is partly determined by the value of the investment assets at the time

Liquidity Coverage Ratio (LCR)

The ratio of a bank's high-quality liquid assets (HQLA) to the expected net cash outflows over the next 30 calendar days

Loan-to-value ratio

Ratio of a loan to the value of an asset purchased

Locally-incorporated foreign bank (LIFB)

Foreign-owned licensed bank or licensed Islamic bank that is incorporated in Malaysia

Malaysia Financial Literacy and Capability (MYFLIC) Index

Index to measure level of financial knowledge, behaviour and attitude of Malaysian consumers

Management Information System

An information system used for decision-making, and for the coordination, control, analysis, and visualization of information in an entity

Negative equity

Property price that is below the outstanding balance on the loan used to purchase that property

Net impaired loans

The ratio of impaired loans net of specific provisions to total loans net of specific provisions

Net interest margin

The difference between interest rates at which banks extend financing and interest rates banks pay for funding, including deposits

Net Stable Funding Ratio (NSFR)

The ratio of a bank's available stable funding (ASF) to the required stable funding (RSF), where ASF refers to funding sources weighted according to their stability, and RSF refers to assets and other off-balance sheet exposures weighted according to their liquidity

Net underwriting income

Insurance premium/takaful contribution income after deducting benefit payouts, agency remuneration, and other expenses, for all direct life insurers/family takaful operators and life reinsurers

Net zero greenhouse gases (GHG) emissions

Net zero GHG emissions are achieved when anthropogenic (released by human activities like usage of fossil fuels) emissions of GHG to the atmosphere are balanced by anthropogenic removals (such as greater forestry and carbon capture and storage) over a specified period. Where multiple GHG are involved, the quantification of net zero emissions depends on the climate metric chosen to compare emissions of different gases (such as global warming potential, global temperature change potential and others, as well as the chosen time horizon)

New business premium/contribution

Premium/contribution acquired from new policies/certificates for a particular year, for all direct life insurers/family takaful operators and life reinsurers

Nominal Effective Exchange Rate

The weighted average of home country's currency against the currencies of major trading partners

Nominal gross domestic product (GDP)

GDP at current prices

Non-fungible tokens

Unique cryptographic tokens that exist on a blockchain and cannot be replicated, used to represent ownership of artwork, real estate or other assets

Operating profit/loss

Sum of underwriting profit/loss, net investment and other income for all direct general insurers/takaful operators and general reinsurers

Physical risk

Economic costs and financial losses resulting from the increasing severity and frequency of (i) extreme climate change-related weather events (or extreme weather events) such as heatwaves, landslides, floods, wildfires and storms (i.e., acute physical risks); (ii) longer-term gradual shifts of the climate such as changes in precipitation, extreme weather variability, ocean acidification and rising sea levels and average temperatures (i.e., chronic physical risks or chronic risks); and (iii) indirect effects of climate change such as loss of ecosystem services (e.g., desertification, water shortage, degradation of soil quality or marine ecology)

Preferred resolution strategy (PRS)

Resolution strategy(s) that has been assessed as appropriate in relation to a specific PIDM member bank to achieve a prompt and orderly resolution that ensures continuity of critical functions, if any, and promotes and contributes to the stability of the financial system

Price-to-book ratio (P/B)

The ratio of stock price to book value of the share

Price-to-earnings ratio (P/E)

The ratio of stock price to bank's earnings per share for the last 12 months

Purchase and Assumption

A resolution strategy where a third-party acquirer purchases assets and assumes liabilities from a non-viable bank

Real-time Electronic Transfer of Funds and Securities System (RENTAS)

A real-time gross settlement system for interbank fund transfers, debt securities settlement and depository services for scripless debt securities

Recovery and Resolution Planning

Planning by the financial institution and authorities which sets out an effective and efficient process to enhance supervisability, recoverability and resolvability of financial institution during crisis and avoid having to rely on government bailouts

Retail payment system (RPS)

A funds transfer system that typically handles a large volume of relatively low value payments in such forms as cheques, credit transfers, direct debits and card payment transactions

Stage 2 loans

Loans that have exhibited deterioration in credit risk, for which banks are required to set aside provisions based on lifetime expected credit losses, based on the Malaysian Financial Reporting Standard 9

Third party service provider (TPSP)

Entities, including affiliate companies, that provide ancillary services to a financial institution under an outsourcing arrangement

Total capital

A bank's total regulatory capital comprising the sum of CET1, Additional Tier 1 and Tier 2 capital

Total Value Locked (TVL)

The overall value of user funds deposited in a decentralised finance (DeFi) protocol. These funds may be vested in the protocol for several functions, such as staking, contributing to liquidity pools, or lending

Transition risk

The risks related to the process of adjustment towards a low-carbon economy. These drivers represent climate-related changes that could generate, increase or reduce transition risks. They include changes in public sector (generally government) policies, legislation and regulation, changes in technology and changes in market and customer sentiment, each of which has the potential to generate, accelerate, slow or disrupt the transition towards a low-carbon economy

Underwriting profit/loss

Earned insurance premium/takaful contribution income less net claims incurred, net commissions and management expenses, for all direct general insurers/takaful operators and general reinsurers

Unsold houses

Comprises residential units that remained unsold for more than nine months from the date of launch or after 1 January 1997. These units comprise (i) units completed with Certificate of Completion and Compliance or Temporary Certificate of Fitness for Occupation in the review period; or (ii) units with building plan approval that are under construction

Glossary, Acronyms and Abbreviations

AC

amortised cost

AKPK

Credit Counselling and Debt Management Agency

BCP

business continuity plan

BI

bridge institution

BNPL

buy-now-pay-later

CAGR

compounded annual growth rate

CAR

capital adequacy ratio

CASA

current and savings accounts

CASTD

cash-to-short-term debt ratio

CCPT

Climate Change and Principle-based Taxonomy

CDRC

Corporate Debt Restructuring Committee

CGC

Credit Guarantee Corporation Malaysia Berhad

CIS

Collective Investment Scheme

CRMA

Cyber Resilience Maturity Assessment

CRST

Climate Risk Stress Testing

CSM

Cyber Security Malaysia

DAR

debt-at-risk

DAX

Digital Asset Exchanges

DBG

domestic banking group

DeFi

decentralised finance

DFI

development financial institution

DPT

Digital Payment Token

DRP

disaster recovery plan

DRSK

Bloomberg Default Risk

D-SIB

domestic systemically important bank

DSR

debt service ratio

DTI

debt-to-income

EPF

Employees Provident Fund

FCI

Financial Capability and Inclusion Demand Side

FCY

foreign currency

FEN

Financial Education Network

FinTIP

Financial Sector Cyber Threat Intelligence Platform

FMSI

Financial Market Stress Index

FVOCI

fair value through other comprehensive income

FX

foreign exchange

GDP

Gross Domestic Product

GFC

Global Financial Crisis

GHG

greenhouse gases

GII

Government Investment Issues

HLA

higher loss absorbency

HQLA

high-quality liquid assets

ICAAP

Internal Capital Adequacy Assessment Process


ICR

interest coverage ratio

ILAAP

Internal Liquidity Adequacy Assessment Process

IT information technology	PayNet Payments Network Malaysia Sdn Bhd
ITO insurers and takaful operators	PEMULIH National People's Well-Being and Economic Recovery Package
LCR Liquidity Coverage Ratio	PIDM Perbadanan Insurans Deposit Malaysia
LIBFC Labuan International Business and Financial Centre	PRS preferred resolution strategy
LIBOR London Interbank Offered Rate	R&R rescheduling and restructuring
LIFB locally-incorporated foreign bank	RE4CT 2022 Real-time Exercise Against Cyber Threats 2022
LTV Loan-to-value	RENTAS Real-time Electronic Transfer of Funds and Securities System
MAS Monetary Authority of Singapore	RFR risk-free rates
MCMC Malaysian Communications and Multimedia Commission	RMP Royal Malaysia Police
MFRS 9 Malaysian Financial Reporting Standard 9	ROE return on equity
MGS Malaysian Government Security	RORWA return on risk-weighted assets
MI member institution	RPP Real-time Retail Payments Platform
MYFLIC Index Malaysia Financial Literacy and Capability Index	RPS Retail payment system
MYR Malaysian Ringgit	RRP Recovery and Resolution Planning
NACSA National Cyber Security Agency	RWA risk-weighted asset
NBFI non-bank financial institution	SC Securities Commission Malaysia
NFT non-fungible tokens	SDRS Small Debt Resolution Scheme
NOP net open position	SJPP Syarikat Jaminan Pembiayaan Perniagaan Berhad
NSFR Net Stable Funding Ratio	SME small and medium enterprise
OPR Overnight Policy Rate	SOFR Secured Overnight Financing Rate
P/B price-to-book	SRR Statutory Reserve Requirement
P/E price-to-earnings	



Glossary, Acronyms and Abbreviations

TPSP

third party service provider

TVL

Total Value Locked

URUS

Financial Management and Resilience Programme

UST

United States Treasury

VBIAF

Value-based Intermediation Financing and Investment
Impact Assessment Framework

YTD

year-to-date