

Financial Institution Soundness and Resilience

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Financial Institution Soundness and Resilience

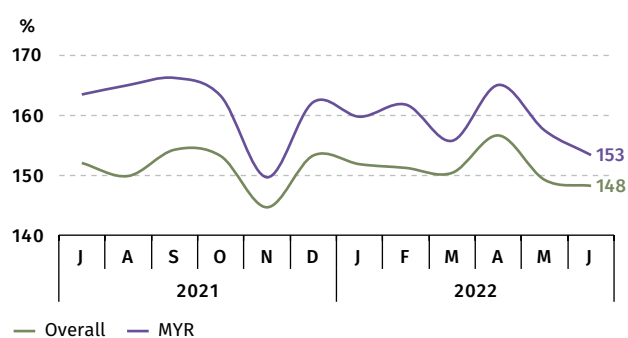
THE BANKING SECTOR

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



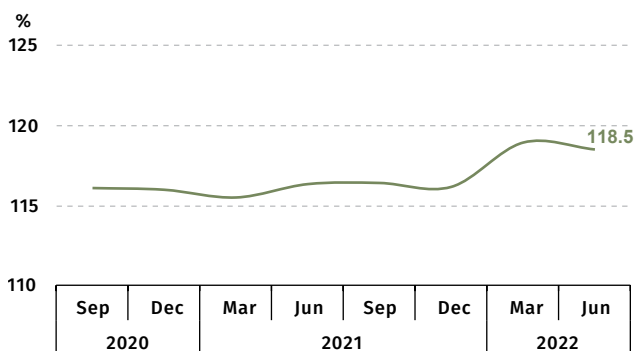
Note: 1. MYR LCR is calculated based on HQLA and expected net cash outflows denominated in ringgit.
2. Overall LCR is calculated based on HQLA and expected net cash outflows denominated in all currencies.

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.

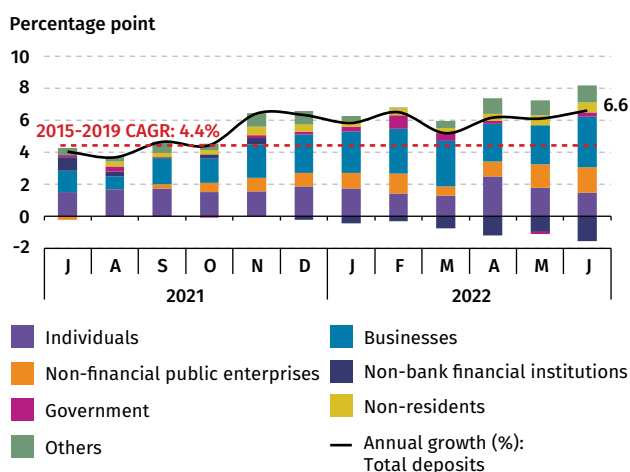
² Non-resident outflows are assumed to be comparable to levels seen during the 2016 US elections, with 10-year MGS yields exceeding the highest level in the last two decades.

Chart 2.2: Banking System – Net Stable Funding Ratio



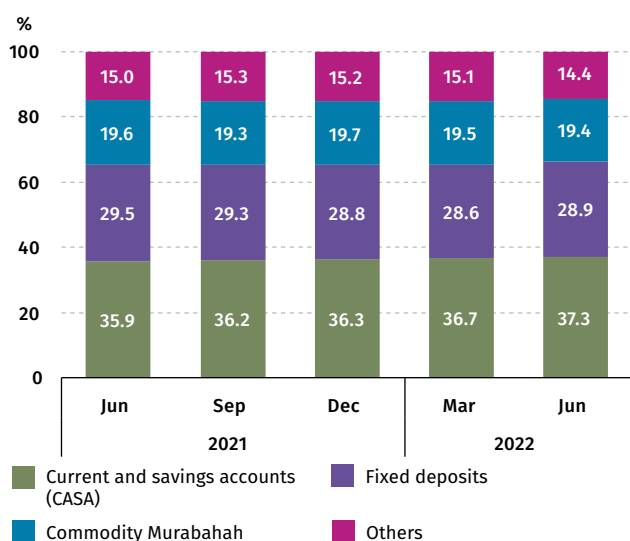
Source: Bank Negara Malaysia

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



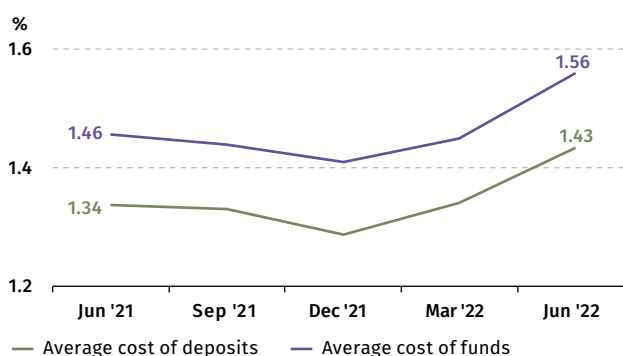
Source: Bank Negara Malaysia

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

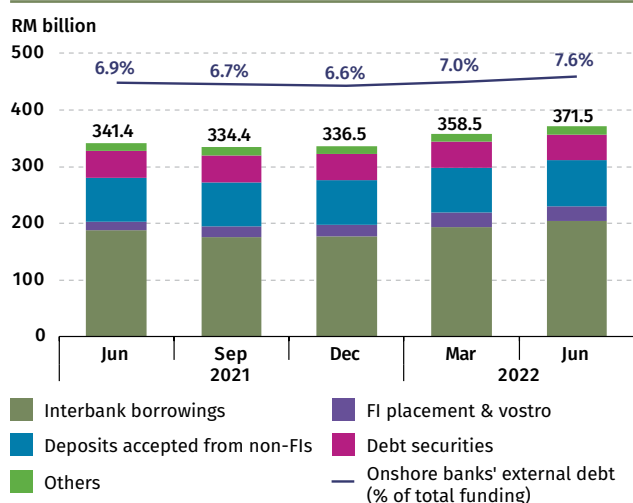
Risks from banks' external debt exposures remained manageable

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.

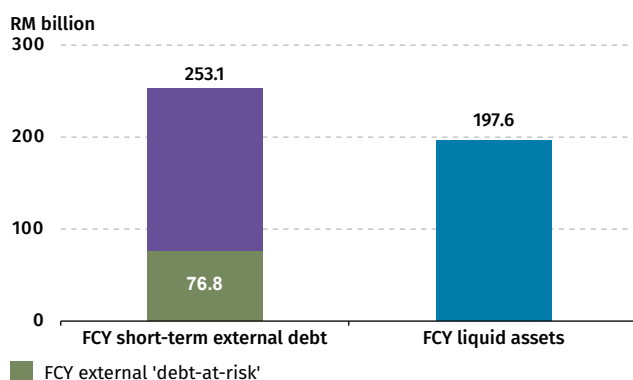
Chart 2.6: Banks' External Debt – by Instrument



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

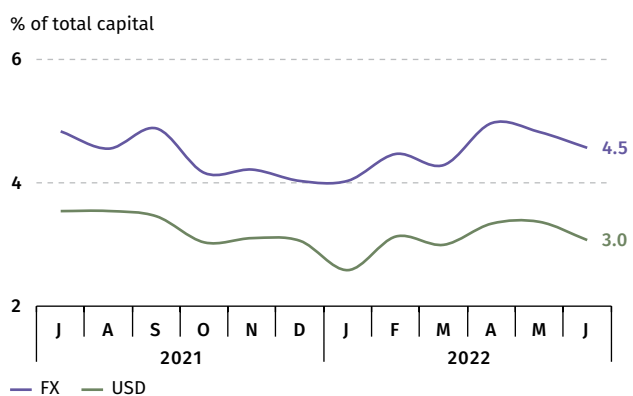
Chart 2.7: Banking System – FCY External 'Debt-at-Risk' and Liquid Assets



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

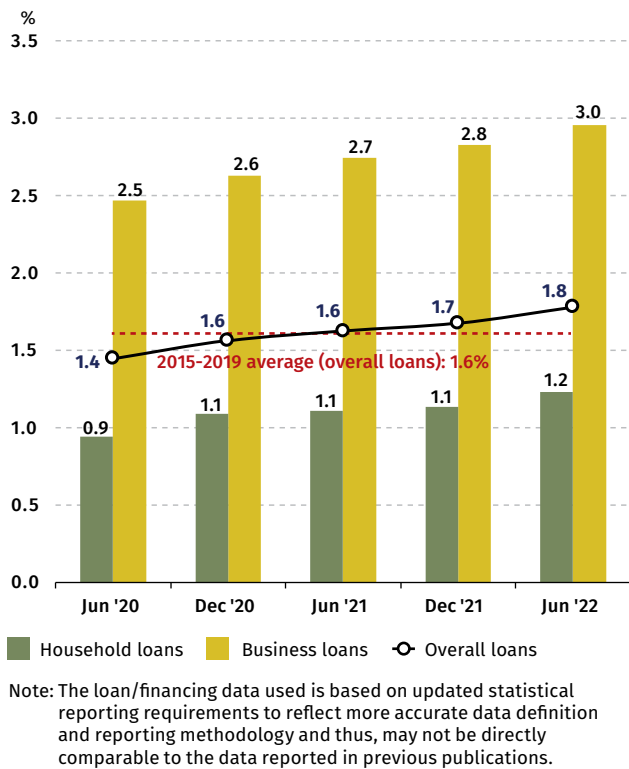
Banking system gross and net impaired loans ratios edged up to 1.8%⁴ and 1.1% of total loans, respectively, as at end-June 2022 (Chart 2.9). The increase was driven by a small number of vulnerable household and SME borrowers who were unable to resume loan repayments after exiting repayment assistance 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.

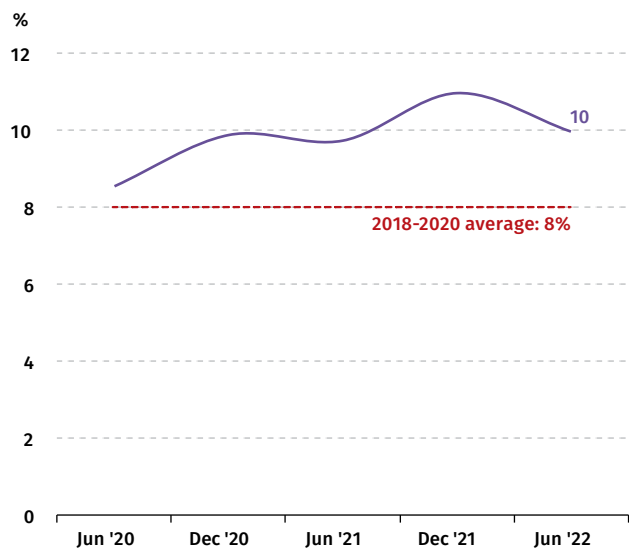
⁵ Refers to all types of repayment assistance for households and SMEs, including moratorium, banks' bespoke packages, R&R and URUS/FIRST programmes.

Chart 2.9: Banking System – Gross Impaired Loans Ratio



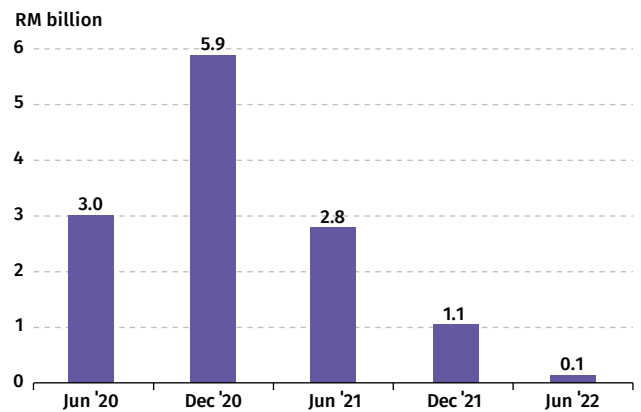
Source: Bank Negara Malaysia

Chart 2.10: Banking System – Stage 2 Loans Ratio



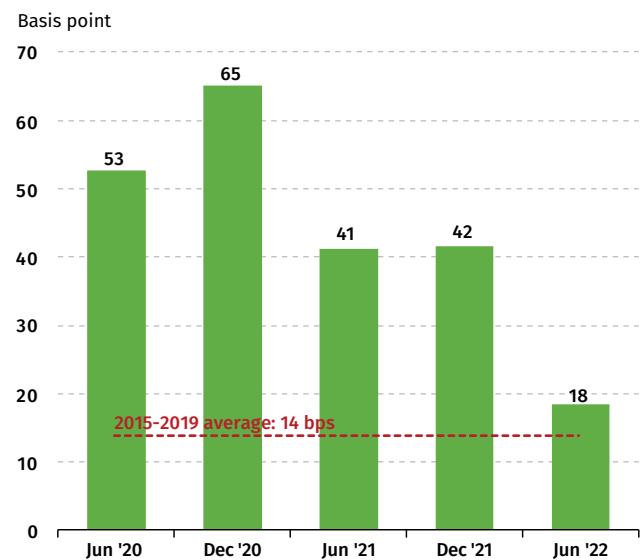
Source: Bank Negara Malaysia

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

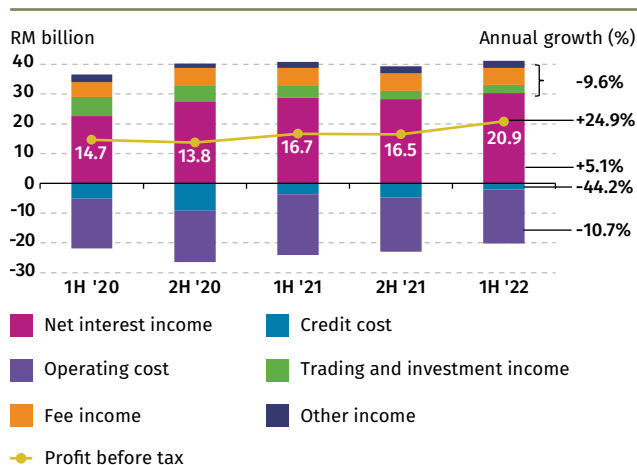
Sustained earnings recovery but downside risks remain

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).

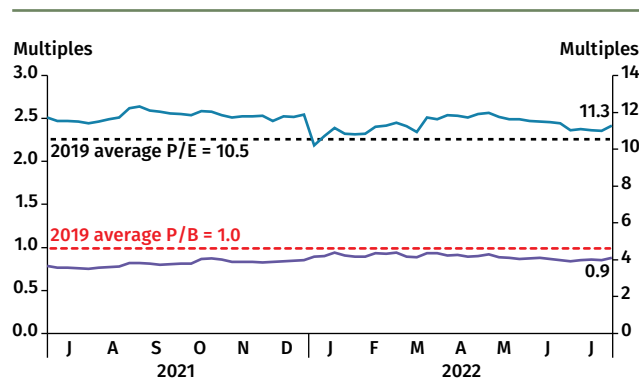
Chart 2.13: Banking System – Income, Cost and Profit before Tax



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.

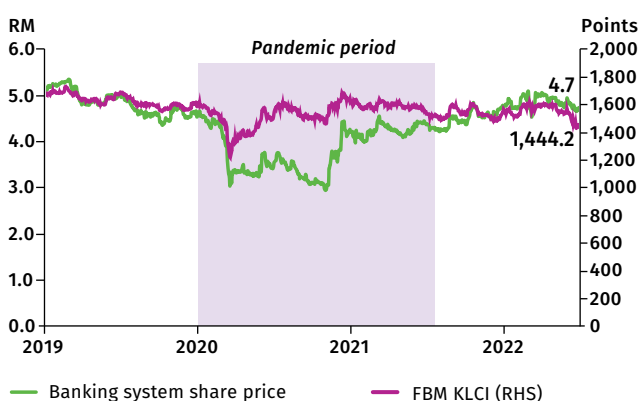
¹ Refers to entities undertaking investment activities through the management of public funds, collective investment schemes and retirement funds, that are not under the purview of the Bank.

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.

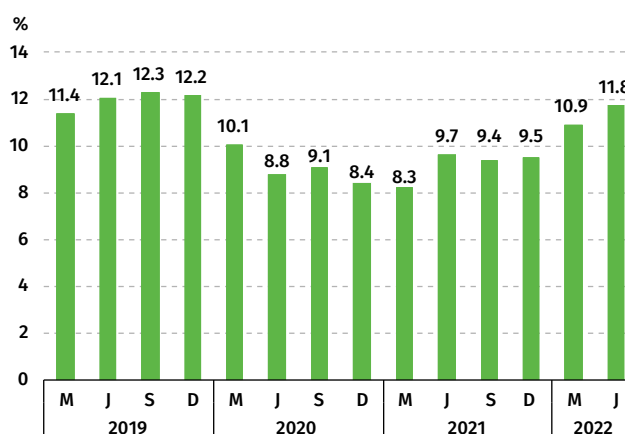
Chart 1: Banking System – Share Price of Publicly Listed Banks in Malaysia and FBM KLCI



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.

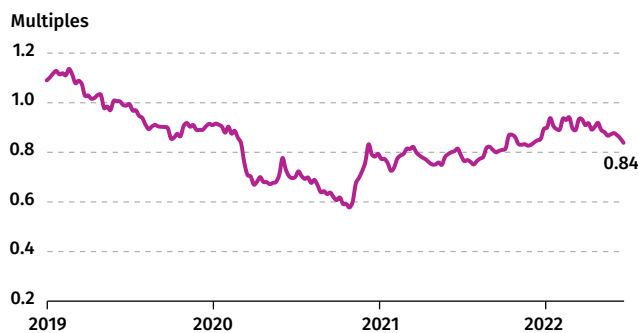
⁴ Price-to-book (P/B) ratio is a market measure of bank equity relative to book values and offers a measure of banks' franchise value. A P/B ratio greater than one signals investor confidence in a company's earnings capacity and that the market is willing to pay more per share than the value of the company's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

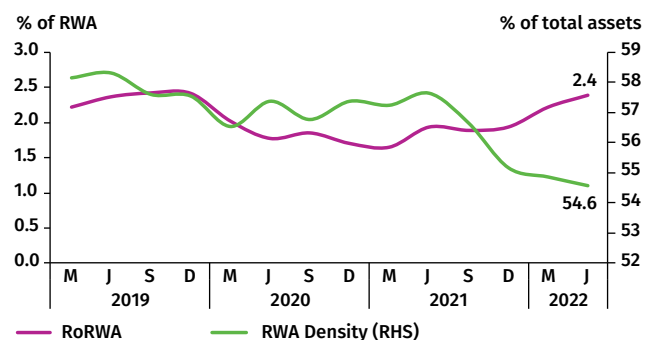
Despite the challenging operating conditions during the pandemic, banks did not dramatically change their risk-taking behaviour. Similar to ROE, banks' return on risk-weighted assets (RoRWA)⁵ also declined throughout 2020, falling from the pre-pandemic level of 2.42% to 1.71% by the end of 2020 (Chart 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.

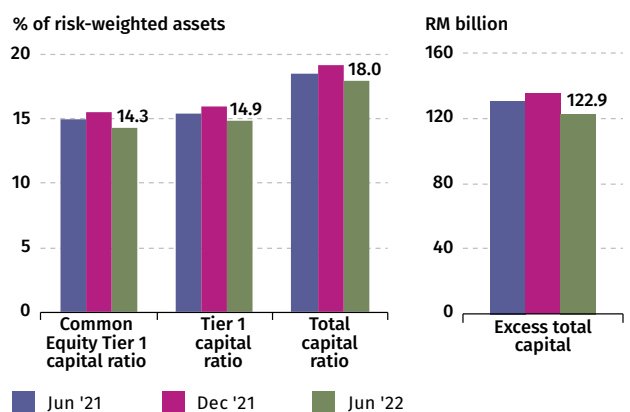
⁵ RoRWA, where the denominator is the risk-adjusted measure of total banking system assets, reveals the cost efficiency per unit of risk a bank is currently generating, where low values may signal higher risk-taking levels amongst banks through higher RWA.

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



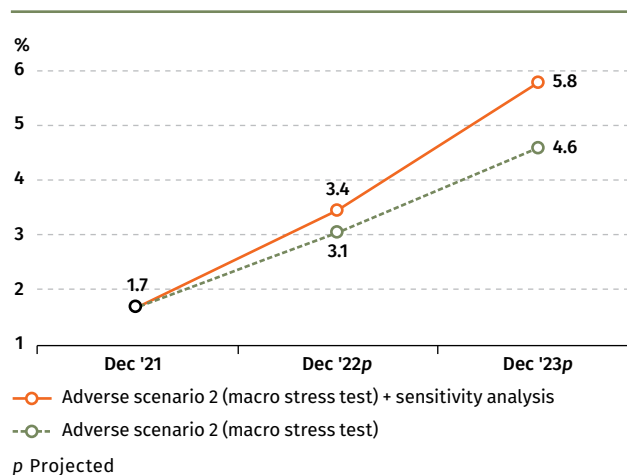
Note: Excess total capital refers to total capital above the regulatory minimum, which includes the capital conservation buffer requirement of 2.5% and bank-specific higher minimum requirements.

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).

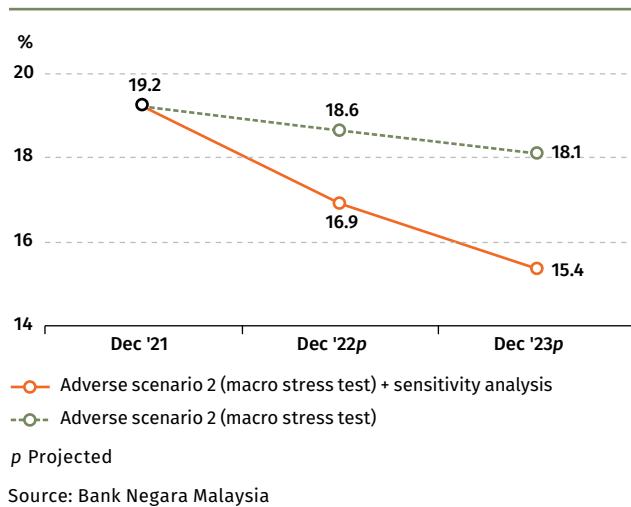
Chart 2.16: Sensitivity Analysis: Banking System – Impaired Loans Ratio



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

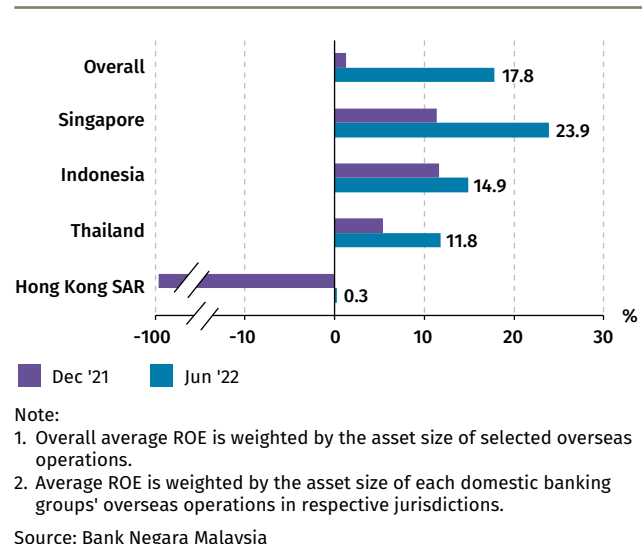
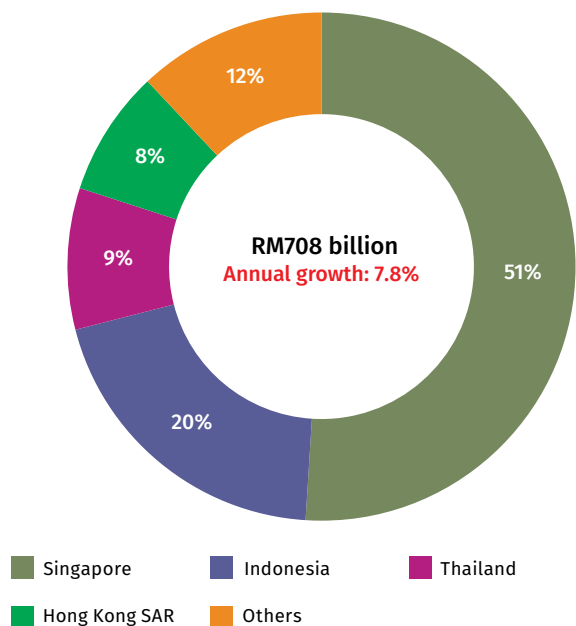
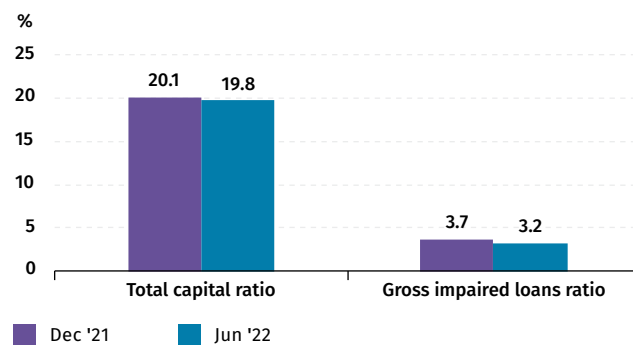


Chart 2.19: Banking System – Asset Profile of Major Overseas Operations



Source: Bank Negara Malaysia

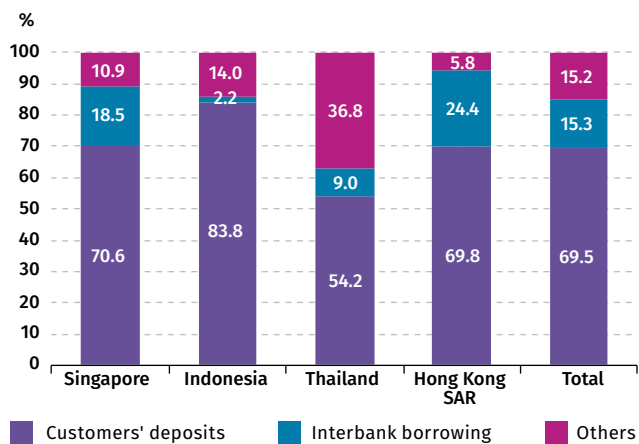
Chart 2.21: Banking System – Key Financial Indicators of Overseas Operations



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

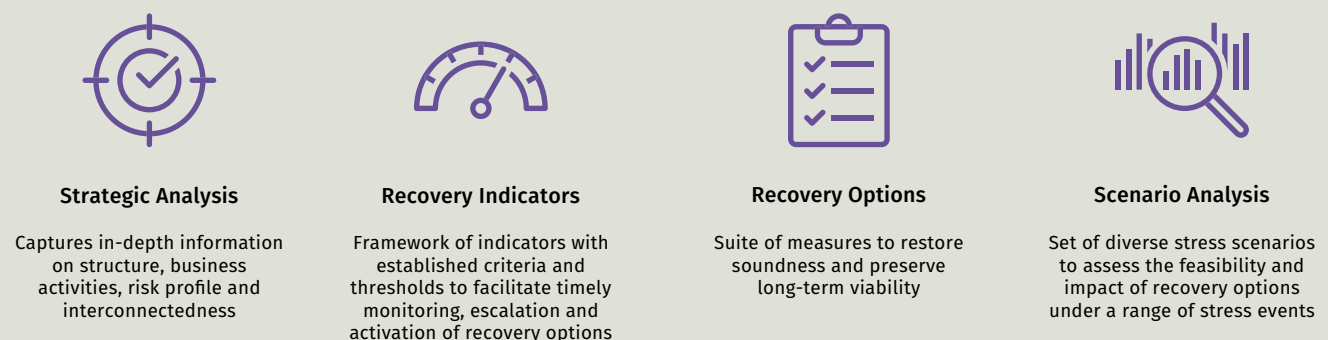
In the aftermath of the Global Financial Crisis (GFC), the G20's Financial Stability Board issued the paper on Key Attributes of Effective Resolution Regimes for Financial Institutions as the new international standard for effective resolution regimes. The objective of the standard is to ensure that 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.

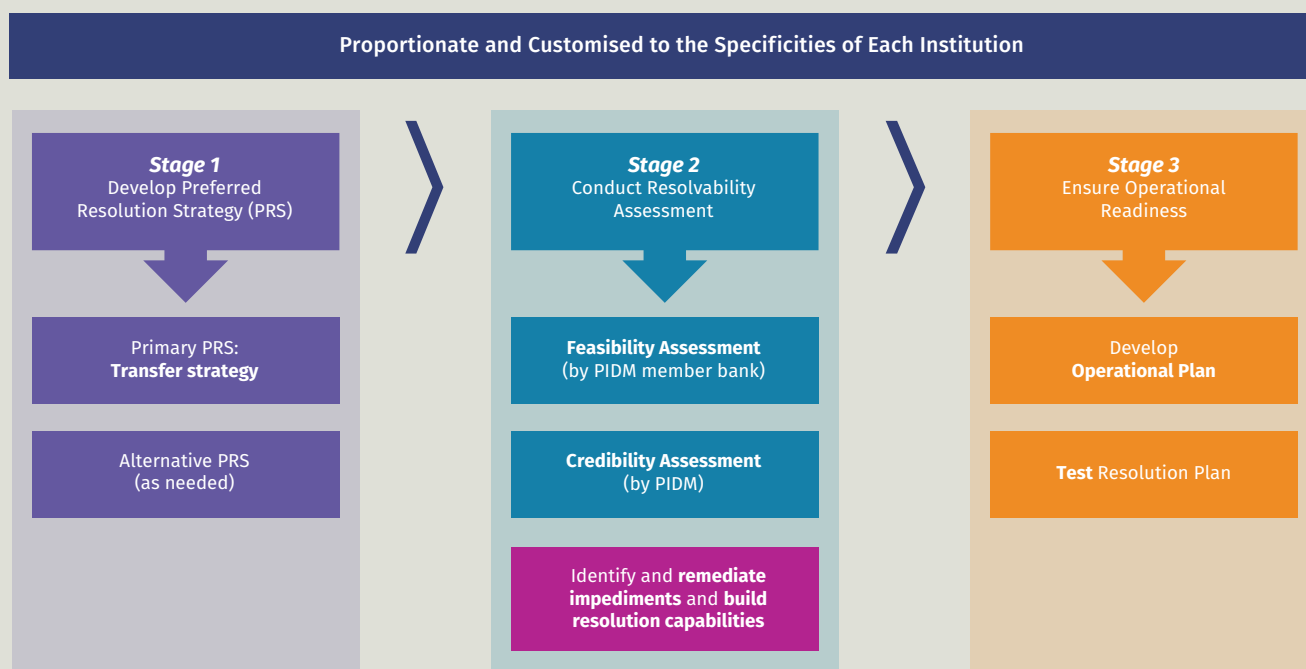
² Member Institution is a financial institution deemed to be a member institution of PIDM under PIDM Act 2011.

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

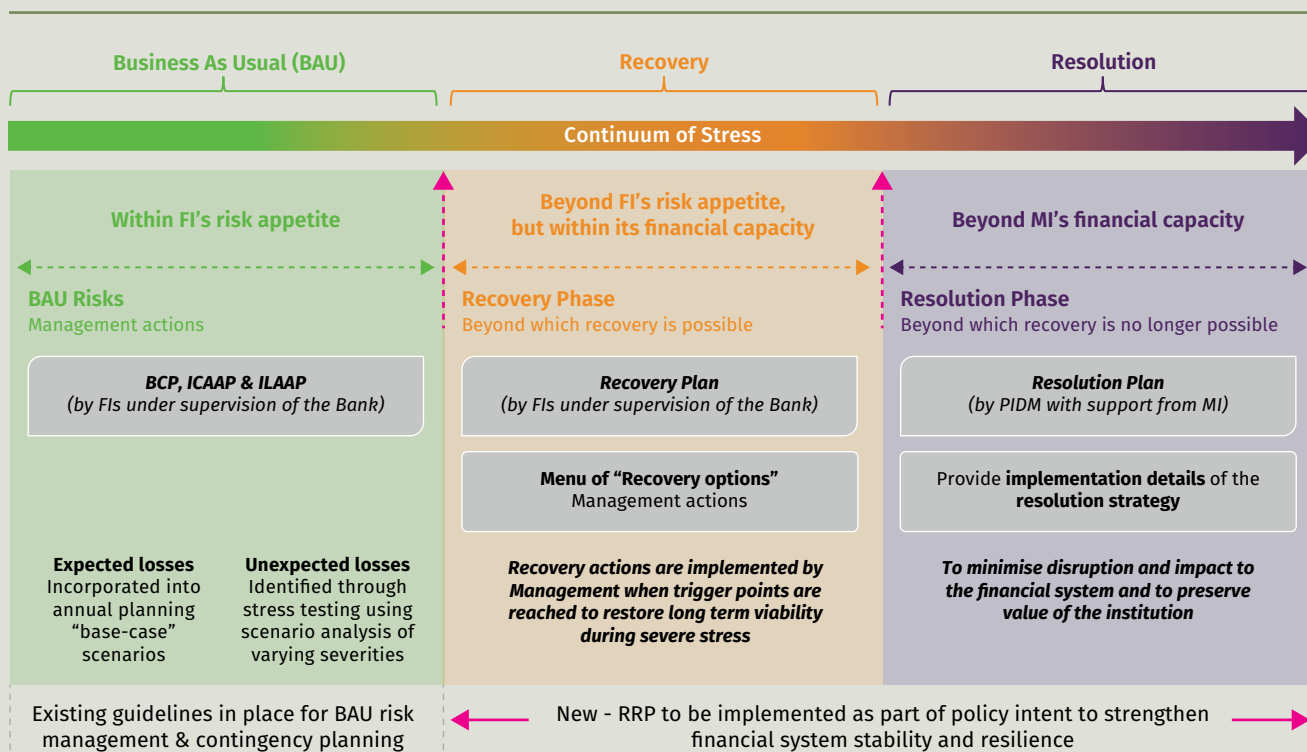
Recovery planning and resolution planning complement each other to ensure that a suite of crisis preparedness strategies is in place for financial institutions to weather significant stress from unexpected events and in turn, preserve financial stability. The Bank and PIDM coordinate closely in the development 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

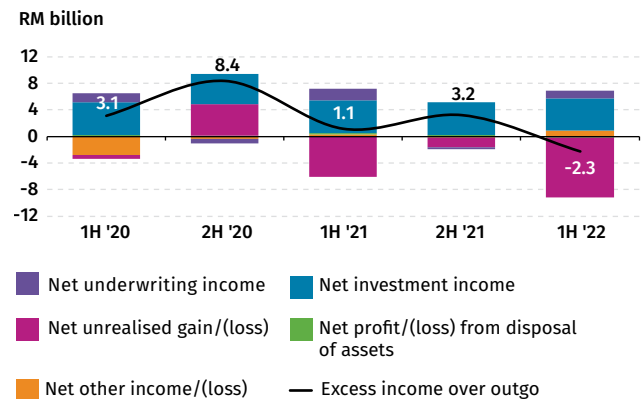
Overall profitability of insurance and takaful funds declined in the first half of 2022, driven by weaker investment performance of life insurance and family takaful funds. For life insurance and family takaful funds, excess income over outgo¹⁰ was negative in the first half of 2022 (Chart 2.22). The 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.

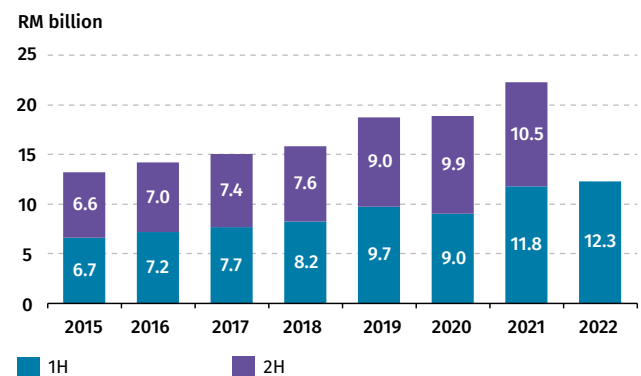
Chart 2.22: Life Insurance and Family Takaful Fund – Composition of Income and Outgo



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

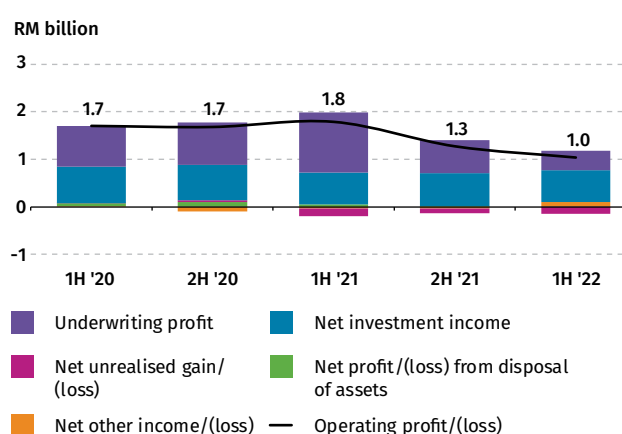
For general insurance and takaful funds, half-yearly operating profits declined to its lowest level in 10 years (Chart 2.24) (2015-2019 average: RM1.5 billion). The decline was largely attributable to lower underwriting profit due to higher net claims incurred in the motor and fire segments. This is 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

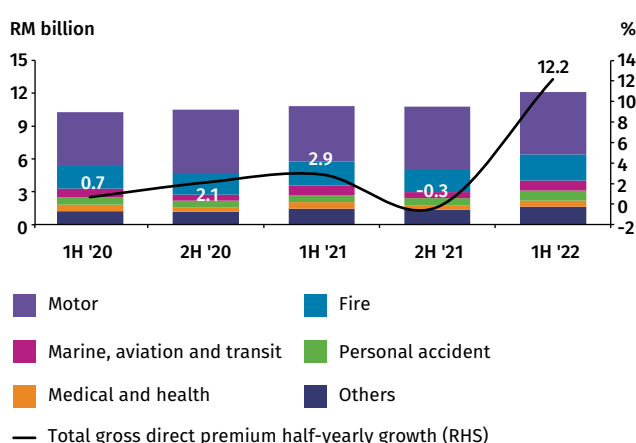
for market share. Revisions are also limited by applicable tariffs that remain in place for most fire policies. In June 2022, the Bank communicated the next phase of liberalisation, where greater pricing flexibilities for motor and fire products will be accorded to ITOs that meet the Bank's expectations 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.

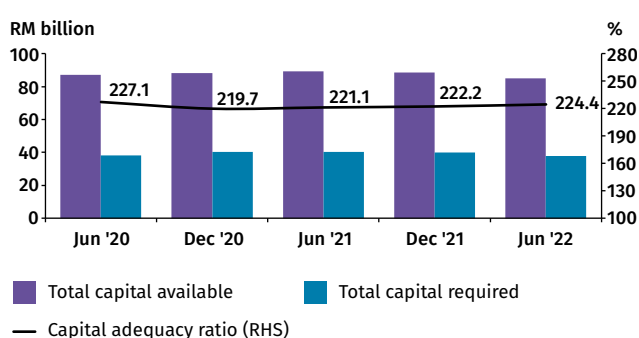
Looking ahead, ITOs remain susceptible to heightened volatility in the financial markets given their sizeable bond and equity investments. For life and family ITOs, their strategic asset allocation is expected to remain broadly stable to reflect their liability profile. In an environment of rising interest 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



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.

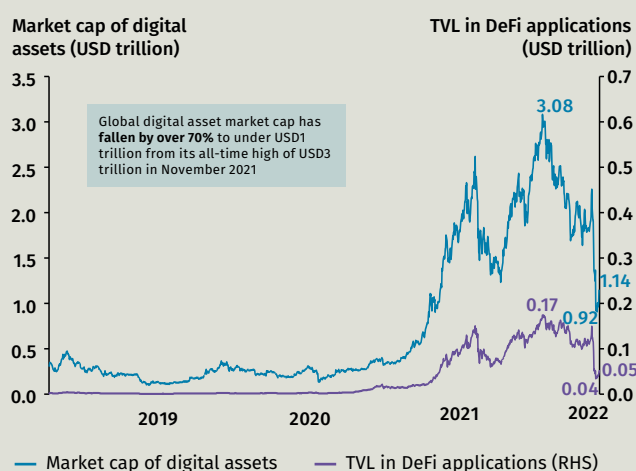
This article reviews the current state of play of digital assets in Malaysia, where adoption has also grown significantly since the start of the pandemic, and includes insights on the potential implications of such activities for domestic financial stability.

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).

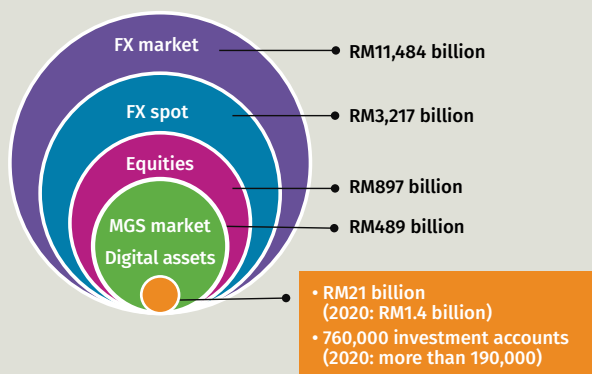
Younger investors aged below 35 years old comprised the largest segment of digital asset users in Malaysia, accounting for 62% of the total investment accounts as at end-2021. The greater prominence of younger investors is also consistent with global trends, as they are likely to be more technology savvy 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).

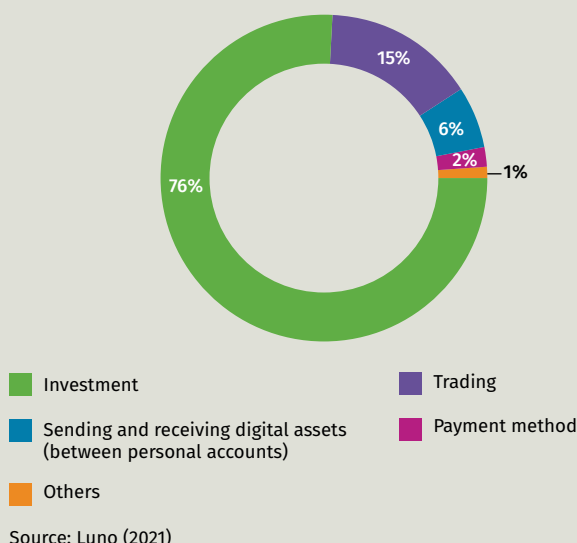
Chart 2: Annual Trading Value in Malaysia for Digital Assets and Other Financial Market Instruments in 2021



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.

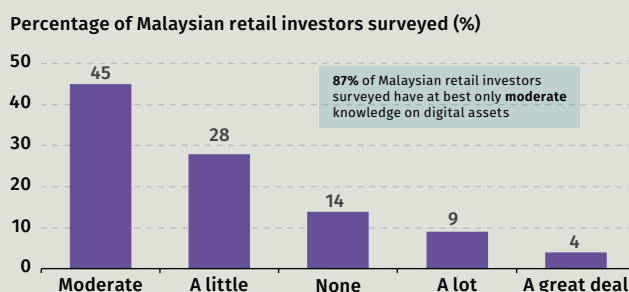
Wealth effects: Keeping investors and consumers safe

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.