

Key Developments in the Second Half of 2021

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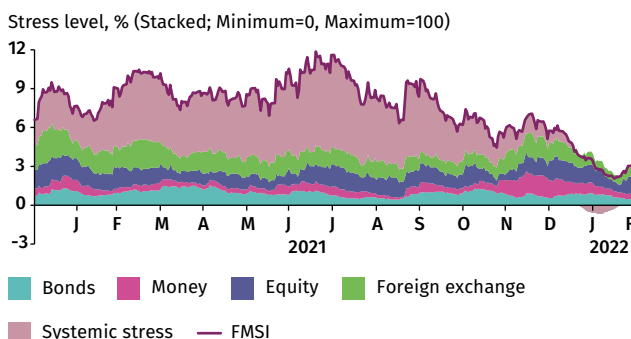
Key Developments in the Second Half of 2021

MARKET RISK

Domestic financial market conditions remained orderly despite volatility in global markets

Global financial markets experienced increased volatility throughout the second half of 2021 which continued into 2022.¹ The US Federal Reserve's acceleration of tapering plans and expected monetary policy normalisation saw investors shifting away from riskier asset classes. The spread of the Omicron variant and uneven vaccination rates across the world also affected global recovery and added to the volatility in global financial markets. On the domestic front, market stress rose in July and again in late September before gradually declining towards the end of 2021 (Chart 1.1). This followed more restrictive containment measures introduced in response to a surge in domestic COVID-19 cases in

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

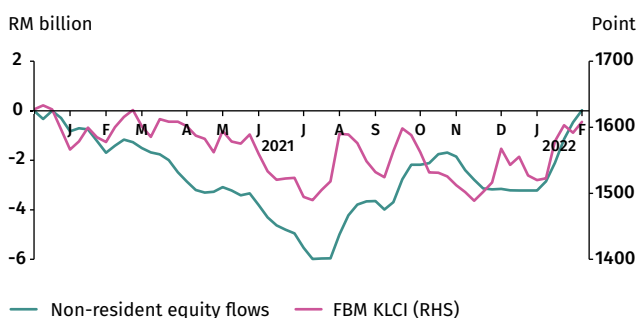
¹ Assessments refer to the period between July 2021 and February 2022 unless otherwise stated.

July and the rise in global bond yields, particularly long-term US Treasury (UST) yields amid rising inflation and expectations of a well-entrenched global recovery, in late September. Escalating geopolitical tensions towards the end of February 2022 further contributed to the risk-off sentiment in global markets including Malaysia. Despite these developments, domestic stress levels remained well below the levels observed at the onset of the COVID-19 pandemic between March and April 2020.

The domestic equity market continued to underperform most of its regional peers. Performance was weighed down by profit-taking activities in some healthcare and technology counters after the significant rise in prices of these counters in 2020. Additionally, market sensitivity to news flows on environmental, social, and governance (ESG) concerns on certain listed companies also contributed to the underperformance. Domestic institutional investors turned net sellers of domestic equities (2021: -RM12.0 billion; 2020: +RM8.2 billion; 3-year average: +RM8.8 billion) for the first time in three years, although the impact on equity prices was cushioned by sustained purchases by domestic retail investors and some non-resident investors. Retail investor activity increased further to account for 35% (2020: 34%) of total value traded in the equity markets and remains well above the three-year average share of 24%. Similar to earlier observations, retail investments have not, so far, been associated with an increase in leverage.² Household loans to purchase quoted shares remained small and stable at 0.5% of total banking system loans, unchanged from the 5-year average share of banking system loans. Non-resident participation in the equity market fell further to 20.1% (3-year average: 22.8%) of Bursa Malaysia's market capitalisation (Chart 1.2) on continued net selling by non-resident investors in the second half of 2021. This reversed in the first two

² Banks remained the key provider of share margin financing, accounting for close to three quarters of outstanding share margin financing in the domestic market.

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



Source: Bloomberg

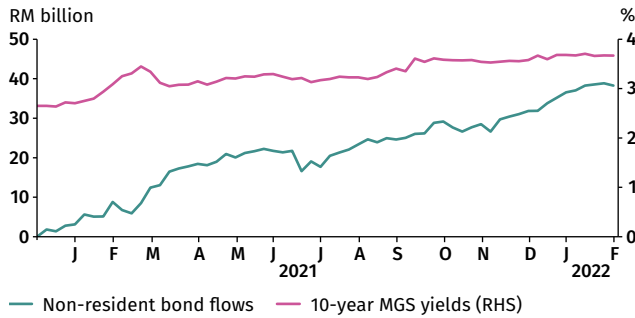
months of 2022 with net non-resident inflows (January to February 2022: +RM3.2 billion) recorded in tandem with rising commodity prices. Risks of heightened domestic market volatility remain. Escalating geopolitical tensions could lead to a global risk-off sentiment with spillovers into the domestic market. Actions by major commodity buyers and producers may also influence prices of commodity-related stocks. These factors, against a backdrop of rising global interest rates and domestic risk factors, could pose risk to domestic equities in 2022.

The bond market continued to record non-resident inflows

The domestic government bond³ market recorded non-resident net inflows amounting to RM17.4 billion between July 2021 and February 2022 (Chart 1.3). This was due in part to yield seeking activities and the increase of Malaysia's weightage in the JP Morgan Government Bond Index – Emerging Market (GBI-EM). Consequently, the share of non-resident holdings in the government bond market increased to 25.3% (June 2021: 25.1%; 5-year average: 24.4%) as at February 2022. Domestic institutional investors, such as banks, non-bank financial institutions (NBFIs) and insurers and takaful operators (ITOs), also remained active players in the government bond market. The healthy bid-to-cover (BTC) ratio (July 2021-February 2022 average: 2.14 times) reflects the sustained demand for Malaysian government bonds.

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

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



Source: Bank Negara Malaysia and Bloomberg

Despite strong non-resident inflows, yields on 10-year MGS increased by 39 bps to a peak of 3.68% in mid-October 2021 (end-June 2021: 3.29%) and remained around this level up to February 2022. This largely reflects the anticipated upward trajectory in global bond yields and higher domestic government bond issuances in 2022. The impact of higher bond yields on financial institutions has remained manageable thus far.⁴ The corporate bond market also continued to function smoothly. Sustained demand for corporate bonds as investors sought higher returns amid the low yield environment led to a moderation in yield spreads between 10-year AAA papers and 10-year MGS (July 2021-February 2022 average: 52.6 bps; July 2020-February 2021 average: 57.3 bps). Gross corporate bond issuances remained healthy as corporates took advantage of lower borrowing costs, although issuances remained below levels in 2020 (July-December 2021: RM54.9 billion; July-December 2020: RM65.5 billion), reflecting the uneven economic recovery in 2021.

For the rest of 2022, domestic bond yields are likely to experience further upward pressure amid monetary policy normalisation in the US and similar market expectations domestically, coupled with anticipated higher incoming government bond supply. This could lead to higher borrowing costs for financial institutions, businesses and the Government. Financial institutions would also

⁴ Based on a sensitivity analysis of banks' balance sheets to bond yield movements, an increase in bond yields of up to 89 bps and higher resultant funding costs could reduce banks' aggregate profits before tax and total capital ratio by up to 11% and 1 ppt, respectively. A similar bond yield shock could reduce the profitability of life and family funds, and general funds by up to 85% and 29%, respectively. Please refer the Chapter on 'Market Risk' in the Financial Stability Review for First Half 2020 for more details.

be susceptible to increased risk of higher mark-to-market losses from their investment portfolio. However, active risk management and hedging strategies, as well as strong liquidity buffers of financial institutions are expected to substantially mitigate any impact from higher bond yields.⁵ Malaysia's deep and liquid market, sustained demand for government bonds from the diverse investor base, as well as positive real yields will also continue to support orderly market conditions.

Between July 2021 and February 2022, the ringgit depreciated by 1.2% to close at 4.1993 against the US dollar, in line with the movements of other regional currencies. Despite the recent move by the US Federal Reserve to raise its Federal Funds Rate by 25 bps and heightened geopolitical tensions,

adjustments in the onshore foreign exchange (FX) market remained orderly. Average daily onshore FX transaction volume amounted to USD11.3 billion (3-year average: USD11.7 billion), while the 1-month MYR/USD implied volatility averaged at 4.1% between July 2021 and February 2022 (3-year average: 4.6%; 2021 regional average: 5.6%). Looking ahead, movements in the ringgit exchange rate are expected to be influenced by stronger domestic economic recovery, further monetary policy normalisation in the US and developments surrounding the military conflict in Ukraine. Amid continued uncertainty in the global economic outlook, flexibility in the exchange rate will continue to serve a critical role as a shock absorber by facilitating appropriate adjustments in the external sector and cushioning the domestic economy from adverse global shocks.

⁵ Refer to the Chapter on 'Financial Institution Soundness and Resilience' for further details.

CREDIT RISK

Overall financial performance of businesses improved, but risks remain amid an uneven recovery

During Phase 1 of the National Recovery Plan (NRP)⁶ which began in June 2021, firms across many sectors, especially those in the non-essential and high-touch segments,⁷ faced severe business disruptions following the reimposition of strict containment measures and mobility restrictions. However, as the containment measures were relatively less restrictive compared to the first Movement Control Order (MCO) in March 2020, some sectors were not as severely affected and quickly recovered once operating restrictions were eased in August. Of note, firms in the construction, manufacturing, restaurants and recreational activities sectors began to show signs of recovery towards the end of 2021. Firms that successfully pivoted towards greater digitalisation and automation of their operations were observed to fare better through episodes of operating and mobility restrictions. The recovery in businesses was also supported by some pent-up demand.

Reflecting these developments, the overall financial performance of businesses continued to improve, with the median interest coverage ratio (ICR)⁸ and operating margin increasing to 7.5 times and 7.6% (2Q 2021: 6.7 times and 7.2%; 2015-2019 average: 6.2 times and 6.6%), respectively (Chart 1.4). Corporates continued to shore up financial buffers and were cautious in taking on new debt. The aggregate cash-to-short-term debt ratio (CASTD)⁹ of businesses was sustained above the long-term average at 1.4 times (2015-2019 average: 0.9 times), while the debt-to-equity ratio stood lower at 21.8% (2015-2019 average: 23.2%). The share of firms-at-risk¹⁰ also continued to decline (4Q 2021: 20.9%; 3Q 2020, peak: 31.9%; 2015-2019 average: 21.4%) amid lower leverage, more

prudent controls over expenses in line with tighter cashflows, and a gradual recovery of economic activities.

These improvements, however, masked the uneven recovery observed in some sectors (Chart 1.5). Mining activities weakened due to lower production of both crude oil and natural gas following the closure of several facilities for maintenance purposes. Sustained weakness in tourism activity continued to affect the hotel sector. Average hotel occupancy rates remained below pre-pandemic levels, despite the strong pick-up in the fourth quarter of 2021 following the reopening of domestic inter-state borders. In the commercial real estate sector, pre-existing oversupply conditions continued to weigh on vacancy and rental rates of office and retail space. Demand for office and retail space has also been affected by more entrenched work-from-home arrangements and shifts in consumer behaviour towards online purchases (refer to the Box Article titled 'Evolving Spaces in the Wake of the Pandemic: Vulnerabilities from the Commercial Real Estate Sector'). While the major floods in December led to sudden operational disruptions, the overall financial impact on businesses was limited given the temporary nature of the loss in output and income.

Among listed entities, larger firms¹¹ generally remained financially resilient. The median ICR and operating margin for these firms stood at 7.5 times and 13.7%, respectively. Larger firms typically have multiple and more diversified revenue streams to support earnings, and higher capacity to roll out cost-efficiency measures. This has helped to mitigate losses arising from disruptions caused by the strict containment measures and mobility restrictions during Phase 1 of the NRP. Looking ahead, supply-related disruptions¹² and higher input costs could continue to weigh on corporate earnings. However, financial buffers accumulated over the years, particularly among larger firms, are expected to cushion the impact from these developments. Banks have remained vigilant over heightened risks from their larger corporate borrowers, as reflected in the intensified borrower engagements, proactive loan classifications and

⁶ There are four phases of the NRP, with Phase 1 having the most restrictive containment measures. During Phase 1 of NRP, only essential services were allowed to operate, with an operating capacity of 60% and 40% for private and public sectors, respectively.

⁷ Non-essential and high-touch segments include restaurants, hotels and recreational activities.

⁸ Prudent threshold for ICR is two times.

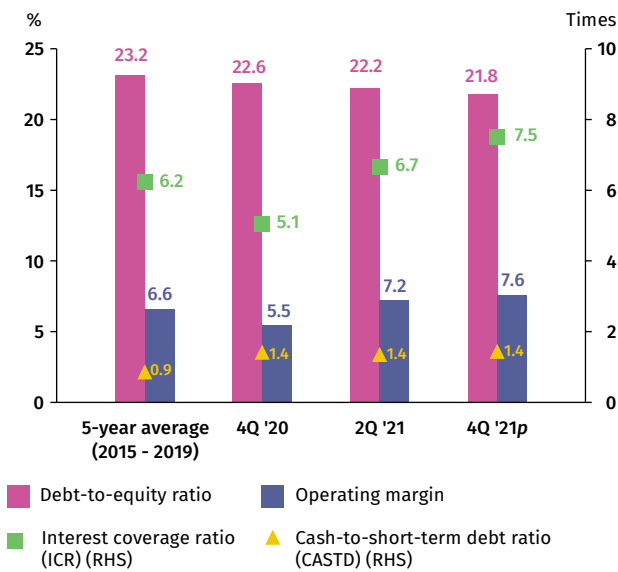
⁹ Prudent threshold for CASTD is one time.

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

¹¹ Based on the financials of top 120 listed companies which accounted for about 85% of Bursa Malaysia's market capitalisation.

¹² For instance, these may include labour shortages and adverse weather conditions which can result in lower oil palm output.

Chart 1.4: Business Sector – Key Financial Performance Indicators



p Preliminary

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

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

Chart 1.5: Business Sector – 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

continued use of management overlays to bolster provisions for vulnerable corporate borrowers. This has shored up the resilience of banks against potential risks of a significant deterioration in asset quality.¹³ Banks also continue to be forthcoming in working with viable corporate borrowers to pre-emptively reschedule or restructure their debt to help restore cashflows and avert premature failures.

Compared to larger corporates, SMEs were more affected by the pandemic given their smaller cash buffers and generally thinner profit margins. The stricter containment measures in the third quarter of 2021 had constrained revenues for a high number of SMEs. Based on a survey conducted by the Bank between October and November 2021, almost half of the SME respondents reported a decline in revenue. Among these SMEs, a majority faced a drop in revenue of up to 50%.¹⁴ High input costs and labour shortages added further pressure

on operating expenses and the production capacity of SMEs. Some SMEs were also affected by the floods in December. Given these challenges, SMEs continued to make up the highest number of firms benefitting from repayment assistance (95% of total business loan accounts approved for rescheduling and restructuring (R&R)).

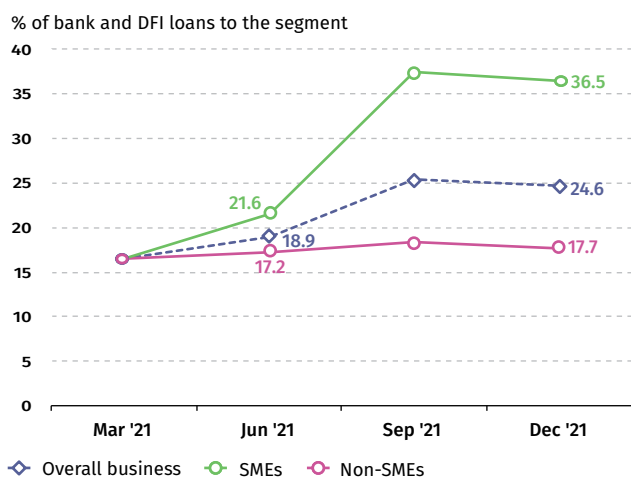
SME loans under repayment assistance remained high at 36.5% of total SME loans (or 5.7% of total loans from banks and development financial institutions (DFIs)) (Chart 1.6). The share of SMEs that rolled over their repayment assistance with banks also edged higher towards the end of 2021. This was mostly driven by SMEs in the hotels, wholesale and retail trade, and transport and storage sectors that experienced a slower recovery. New R&R applications by SMEs have, however, moderated significantly from its peak in July 2021 (Chart 1.7),¹⁵ indicating greater confidence among SMEs of their ability to service their debt. Repayment assistance and other measures by financial institutions, the Government and the

¹³ Refer to the Information Box on 'Banking Institutions' Provisioning Practices to Mitigate Elevated Credit Risk from the Pandemic' in the BNM Financial Stability Review for First Half 2021 for further details.

¹⁴ Meanwhile, surveys from the Federation of Malaysian Manufacturers (FMM) and the Associated Chinese Chambers of Commerce and Industry of Sarawak (ACCCIS) indicated that more than 80% of respondents saw revenues decline due to the NRP.

¹⁵ The spike in July coincided with the re-introduction of R&R with more flexible conditions under the PEMULIH package during the NRP.

Chart 1.6: Business Sector – Share of R&R Loans by Segment



Source: Bank Negara Malaysia

Bank, including flood relief programmes,¹⁶ have also contained any notable increase in defaults among SMEs. Nevertheless, SMEs in sectors most affected by the pandemic are closely monitored by banks as support measures are progressively unwound. A sustained economic recovery will mitigate credit losses from banks exposures to SMEs. For SMEs that continue to face difficulty servicing their loans, enhancements to debt workout mechanisms for SMEs under the Credit Counselling and Debt Management Agency (Agensi Kaunseling dan Pengurusan Kredit, AKPK) could help avert large-scale insolvencies.¹⁷

Financing remains available for viable and creditworthy borrowers

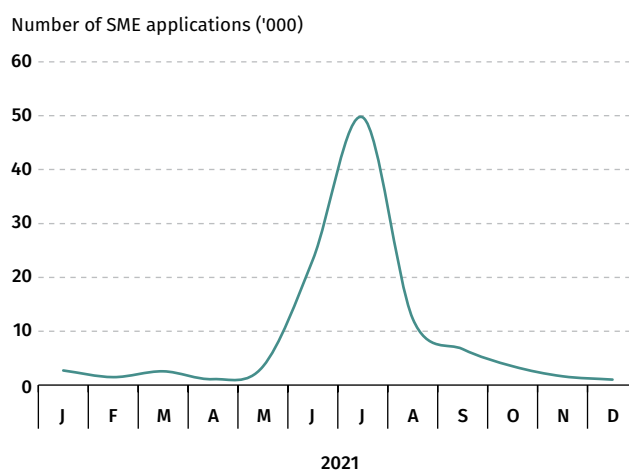
Banks continued to facilitate credit intermediation activities in the second half of 2021. Outstanding business loans¹⁸ expanded by 4.8% (June 2021: 1.3%) on an annual basis. This was driven by sustained demand for working capital loans. Loan disbursements recorded a strong growth in 2021, reversing the negative growth observed in the

¹⁶ The Bank established the Disaster Relief Facility 2022 (DRF), a RM500 million financing facility made available to SMEs, including microenterprises, affected by the December 2021 floods. A maximum amount of financing of up to RM700,000 is available per SME and up to RM150,000 per microenterprise. DRF can be used by SMEs (i) to cover the costs of repairs and/or replacement of assets for business use (e.g., plants and machinery) which have been damaged by floods; and/or (ii) for working capital.

¹⁷ 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.

¹⁸ Refers to loans and financing from the banking system and DFIs.

Chart 1.7: Business Sector – Monthly R&R Applications by SMEs



Source: Bank Negara Malaysia

previous year (2021: 27.1%; 2020: -5.7%), in line with the gradual re-opening of the economy. Loans to SMEs were further bolstered by the additional allocation under BNM's Fund for SMEs¹⁹ (BNM's Fund) amounting to RM10 billion in 2021. Since the onset of the pandemic, financing of close to 53,000 SME accounts has been approved under BNM's Fund, amounting to RM19 billion. Notably, there has been growing interest in the SME Automation and Digitalisation Facility,²⁰ indicating increased efforts among SMEs to pivot their operations and enhance productivity in the new normal. This will support business resilience over the longer term. Meanwhile, corporates continued to tap on the bond market for funds (2021 annual growth of outstanding corporate bonds: 4.2%; 2020: 6.6%).²¹ External debt of corporates²² expanded at a faster pace (2021: 15.3%; 2020: 5.2%; 5-year average: 7.5%), driven by a number of companies that raised external funding to support their overseas operations and intercompany borrowings of multinational corporations in Malaysia.

¹⁹ Facilities under BNM's Fund include the Targeted Relief and Recovery Facility (TRRF), Agrofood Facility (AF), Business Recapitalisation Facility (BRF), Low Carbon Transition Facility (LCTF), SME Automation and Digitalisation Facility (ADF), All Economic Sectors Facility (AES), Micro Enterprises Facility (MEF), PENJANA Tourism Financing (PTF), and High Tech Facility – National Investment Aspirations (HTF-NIA). For further details, refer to www.bnm.gov.my/covid19/

²⁰ SME Automation and Digitalisation Facility is aimed at incentivising SMEs to automate processes and digitalise operations to improve productivity and efficiency.

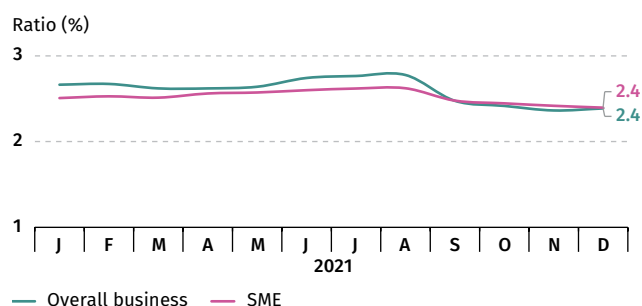
²¹ Refers to both bonds and sukuk, including short-term papers, unless otherwise stated. Excludes issuances by Cagamas, financial institutions and non-residents.

²² These instruments include offshore loans, offshore bonds and notes, and non-residents holdings of domestic debt securities.

Risks from higher corporate debt levels remained limited. Given the uncertainty in business prospects and uneven recovery in business conditions, firms generally remain cautious in taking on new debt as reflected in the lower annual business loan applications (2021: -3.6%; 2020: -11.1%). Average monthly repayments in 2021 have also surpassed pre-pandemic levels by 21%. Growth of outstanding business loans and corporate bonds consequently remained around or below pre-pandemic averages (2021: 4.8% and 4.2%, respectively; 2015-2019 average: 4.9% and 9.7%, respectively). Despite a slight pickup towards year end, overall net corporate bond issuances moderated compared to the previous year (2021: RM21.4 billion; 2020: RM30.7 billion). A survey to banks²³ also suggests that near-term concerns surrounding cashflow, rather than high overall leverage, remain the key contributor towards SME loan rejections. This indicates that current SME leverage remains within banks' risk tolerance levels.

The quality of business borrowings has not, so far, shown significant deterioration. The overall business loan impairment ratio remained low at 2.4% (Chart 1.8), owing to support measures that remain in place, particularly for SMEs. While leading indicators from banks remain elevated, they also reflect improvements as loans with increased credit risk²⁴ grew at a slower pace (2021: 13.5%; 2020: 36.4%). During the year, eight corporate bond issuers (or 0.7% of total outstanding domestic bonds; 2020: 5 issuers or 2.2% of total outstanding domestic bonds) were downgraded due to firm-specific vulnerabilities. Risks from non-financial corporates' external debt also remained largely contained. Three-quarters of corporate external exposures are of medium- to longer-term tenures and largely hedged against exchange rate volatility. This mitigates repayment, rollover and currency risks for these corporates. External debt-at-risk²⁵ for corporates remained low at 6.6% (2020: 6.9%) of total corporate external debt.

Chart 1.8: Business Sector – Gross Impaired Loans



Source: Bank Negara Malaysia

An improvement in business conditions is expected to further support asset quality going forward. Business sentiment picked up towards the end of 2021 following the gradual easing of movement restrictions. Corporate default risk²⁶ indicators have continued to improve (4Q 2021: 0.224%; 2Q 2021: 0.396%; 4Q 2020: 0.787%). The business sector outlook, however, remains subject to downside risks, including from the durability of economic recovery amid developments surrounding the pandemic. As noted earlier, these risks are assessed to be mitigated in the near term by the following factors:

- i. Improvements in business resilience on the back of a recovery in earnings since 2020 will lend some support to firms' debt-servicing capacity;
- ii. Measures supporting the economy under Budget 2022,²⁷ existing credit guarantee schemes²⁸ and on-going R&R by banks will continue to support firms and mitigate risks of a potential spike in business impairments; and
- iii. Established informal debt resolution mechanisms to facilitate efficient debt workouts between borrowers and lenders will help contain widespread premature bankruptcy proceedings.

Over a longer horizon, stress tests conducted by the Bank further affirm that banks' capital buffers are sufficient to absorb a potential increase in credit losses from the business sector, including from large, listed firms, under adverse stress scenarios.²⁹

²⁶ As tracked by the Bloomberg Default Risk (DRSK) 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.

²⁷ These include the increase of RM4.5 billion in the second half of 2021 allocated under BNM's Fund for SMEs and additional RM20 million to aid micro-entrepreneurs from low-income groups through iTEKAD.

²⁸ Credit guarantees by Credit Guarantee Corporation Malaysia Berhad (CGC) and Syarikat Jaminan Pembiayaan Perniagaan Berhad (SJPP).

²⁹ Refer to the section on 'Assessing the Resilience of Financial Institutions' for further details.

²³ The Credit Officer Opinion Survey to Banks (3Q 2021) covered respondents from 15 banks, comprising domestic banking groups, locally-incorporated foreign banks and DFIs.

²⁴ Classified as Stage 2 loans under the Malaysian Financial Reporting Standard 9 (MFRS 9).

²⁵ Based on offshore loans raised and bonds issued by high-risk corporate borrowers.

Evolving Spaces in the Wake of the Pandemic: Vulnerabilities from the Commercial Real Estate Sector

Globally, the commercial real estate (CRE) sector has been impacted by the pandemic, as movement restrictions adversely affected economic activity and the demand for commercial property. The world also experienced pivotal shifts in working and spending patterns. These will likely have a lasting impact on how future physical spaces are utilised, particularly office and retail commercial spaces. In many countries, the size of the CRE sector, its heavy reliance on debt funding, and strong interconnectedness with the real economy make the CRE sector a potential source and amplifier of risk to financial stability. Adverse shocks such as the recent COVID-19 pandemic can negatively impact CRE prices and the financials of CRE borrowers. This in turn increases risk to lenders, and reduces investments into CRE, with knock-on effects on the financial sector and real economy. Such issues are less pervasive in Malaysia, given that the size of the CRE market and its direct linkages to the financial system are smaller than most other countries.¹

This article comprises three sections. The first section explores key structural trends observed in the CRE sector, including examples of how industry players globally and locally are adapting to the changes. The second section examines the various conceptual linkages that exist between the CRE sector and financial sector, including those beyond direct credit exposures to the banking system. The article then concludes with a discussion on the potential implications for financial stability and the broader economy in Malaysia.

Recent structural trends in the commercial real estate market

The CRE sector, like many others, has seen pivotal shifts brought on or accelerated by the pandemic, many of which will likely continue well after the health crisis recedes. Globally, three structural trends are notable: a greater shift towards flexible working arrangements, the accelerated pace of digital transformation, and an increased focus on health and safety.

While the pandemic has accelerated the adoption of flexible working arrangements, it has not removed the need for office spaces altogether. Various workplace surveys indicate the continued need and desire for employees to return to the office for at least part of the week when movement restrictions ease. According to a survey on office worker preferences,² 81% of Malaysian office workers believe the workplace will continue to be vital, at least in the short term. This reflects the importance attached to social interactions in physical settings which continue to be a key aspect of office life in Malaysia. Office spaces will thus need to be able to accommodate hybrid working arrangements and evolving needs of tenants, with flexible space and design features for emerging work patterns. This entails investing in tools, technologies and infrastructure that would allow effective remote working. These demands are likely to further reduce the appeal of older buildings compared to newer buildings equipped with more modern and sophisticated infrastructure. In major cities such as London and Singapore, old office buildings are increasingly being re-purposed in response to changing tenancy needs, with some buildings converted into dwellings and art centres. While this process has been going on for some time before the pandemic, it has been further accelerated by the effects of the pandemic.

The rise of e-commerce is also expected to transform, rather than replace, the role of physical shopping malls. In Malaysia, online retail trade activity grew on average by 18.4% in 2021,³ with e-commerce expected to nearly double its current share of total retail sales within the next two years.⁴ Retailers and mall owners have responded to this shift by pursuing omni-channel retailing and offering convenience services as they strive to balance the high-touch shopping experience that consumers desire, against their need for a safe and efficient shopping experience. More retailers are also re-configuring their physical presence in malls to offer a

¹ For many European countries, direct lending to the CRE sector comprised on average a third of total bank lending to businesses in 2019, reaching higher than 50% in the United States and Estonia (Source: International Monetary Fund, 2021).

² Savills Survey published in November 2021. Survey respondents comprised 50% non-managerial, 40% managerial and 10% senior management.

³ See Chapter 1 of the Economic and Monetary Report 2021.

⁴ E-commerce comprised 7% of total retail sales in 2020 and is forecasted to grow to 12% by 2023 (Source: Euromonitor and eMarketer).

novel and more immersive experience,⁵ in order to maintain their appeal to customers who have become more accustomed to shopping online.

Physical distancing norms have also rapidly transformed the way people inhabit and interact in physical spaces. Measures that promote safety, health and wellbeing introduced during the pandemic have become the new norm, particularly for commercial spaces with high footfall such as shopping malls, offices, and hotels. This is likely to stay even after the lifting of restrictions. Safety-conscious tenants and visitors will increasingly seek spaces that pay careful attention to hygiene and sanitisation procedures and are equipped with the requisite facilities. A survey of Malaysian office workers reveals that 70% of respondents place high importance on cleanliness and 69% on air quality to be comfortable in a workplace.⁶ Commercial building owners have begun incorporating designs that promote contactless access, such as facial recognition, hands-free doors, and touch-free elevator systems. Regular deep cleaning of premises and UV disinfection systems are also among the more visible changes introduced in many commercial spaces to attract and retain tenants, as firms increasingly strive to provide a safe working environment for their employees and visitors.

Financial stability risks from the commercial real estate sector

Historically, CRE markets have posed major risks to the balance sheets of financial institutions, playing an amplifying role in financial crises globally. This was the case in Sweden in the 1990s, as well as in countries such as Ireland and the United States during the 2007-2009 Global Financial Crisis, where disorderly adjustments in CRE prices contributed to financial stress.⁷

In general, risks to financial stability posed by the CRE sector have been observed to be more significant than the housing market.⁸ Three key factors contribute to this. First, lending to the CRE sector is typically concentrated in loans for construction and development, which tends to be riskier than loans to purchase properties (i.e., end-financing). Given the large scale of commercial development projects, financing for such projects can be sizeable, commonly involving syndication across multiple banks. If such loans are improperly structured or monitored, the failure of a single project could lead to significant losses upon default and potentially affect multiple lenders simultaneously. Second, construction periods are inherently longer for commercial developments compared to residential projects.⁹ This can result in situations where a temporary increase in rentals for commercial spaces prompts construction that outstrips the underlying demand, creating an oversupply that takes longer for the market to absorb. Third, default probabilities for CRE loans can be more cyclically sensitive compared to housing loans. Like housing markets, evidence suggests that CRE markets are closely intertwined with business cycles.¹⁰ During an economic downturn, however, borrowers in the CRE sector have less incentive to avoid default compared to housing loan borrowers, who tend to be predominantly owner-occupiers.

Developments in the CRE sector can also affect the financial system through the collateral channel. Borrowers, specifically businesses, pledge properties they own as collateral to obtain bank financing. When the market value of the CRE asset increases, businesses can access more loans while maintaining the same financing margin. Conversely, a sudden price decline in the CRE collateral could increase potential losses to banks in the event of default.

⁵ Examples include malls that feature more indoor recreational activities (e.g., skating rink, rock climbing gym) and retailers offering 'experience concierge' or social media-ready photo backdrops and on-demand personal stylists to enhance the retail experience.

⁶ Source: Savills Survey (November 2021).

⁷ See Englund (1999), Ellis and Naughtin (2010), and Olszewski (2012).

⁸ The difference in impact during the Global Financial Crisis was particularly apparent in the United States, the United Kingdom and Ireland, where CRE prices fell by 20-30 percentage points more than house prices. For a more in-depth discussion of the contributing factors, see Ellis and Naughtin (2010).

⁹ This is common in Malaysia, as the construction of commercial buildings is not required by law to be completed within a specified period, unlike residential projects (e.g., 2 years for landed residential properties).

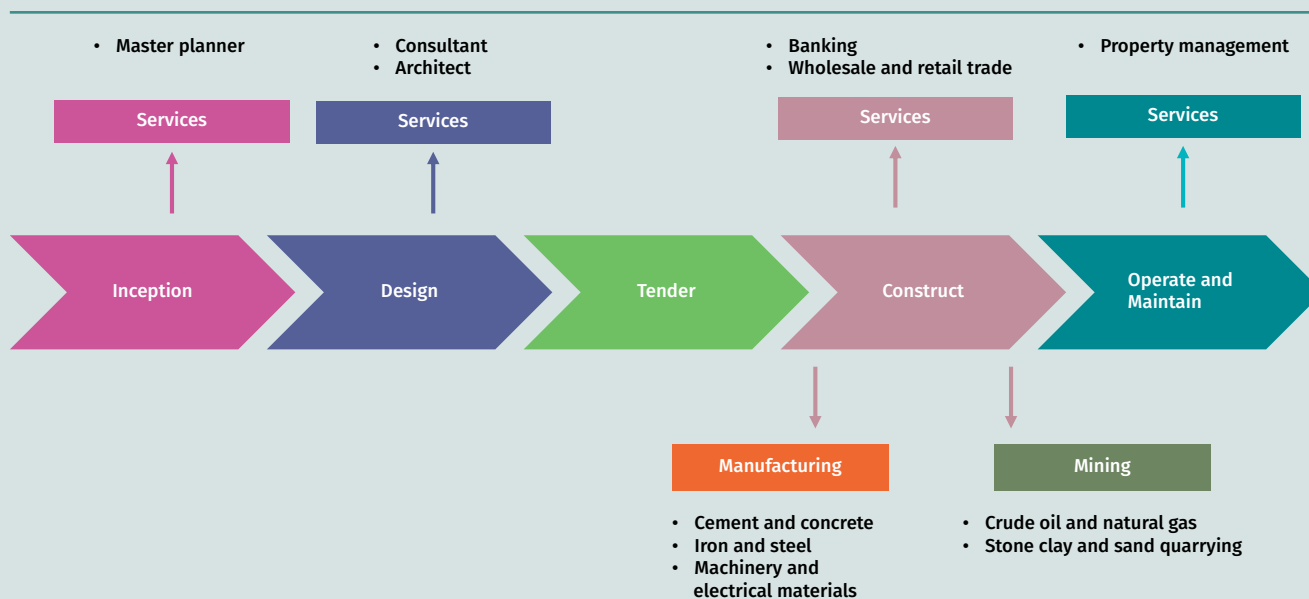
¹⁰ See the European Systemic Risk Board's 'Report on commercial real estate and financial stability in the EU' (2015).

Risks to financial stability can also arise from transmission channels between the CRE sector and the financial system which are less direct.

First, commercial and residential real estate share common production factors such as land and building materials. Therefore, prices in one property segment are likely to influence values in the other property segment, especially within the same location. Thriving commercial spaces also add value to, and improve property values in surrounding neighbourhoods, as residents can benefit from proximity to amenities typically offered by retail spaces.¹¹ Conversely, it can be inferred that prolonged weaknesses in commercial properties may weigh on the prices of other surrounding properties and affect future house prices in the vicinity.

Second, the share of CRE to construction sector value-added accounted for 11% in 2021 (0.4% of GDP). While the construction sector only constitutes a small share of the overall Malaysian economy (2021: 3.7% of GDP), it is highly integrated with other economic sectors through both backward and forward linkages. These linkages have the potential to create high multiplier effects to the economy. More specifically, the manufacturing, services and mining sectors are key segments within the CRE supply chain, where construction of CRE relies heavily on inputs from these related industries (Diagram 1). As such, a slowdown in CRE activity would not only affect the construction sector, but also activities across other related industries.

Diagram 1: Illustration of Primary Level Value Chain of the Construction Industry



Source: Bank Negara Malaysia and Construction Industry Development Board

Third, the construction sector and its related industries also play a significant role in creating employment opportunities for both the skilled and unskilled workforce. This is especially true in Malaysia, where the number of workers employed in the construction and real estate sectors remain sizeable, comprising 9% and 7.3% of total workers, respectively, as at the fourth quarter of 2021.¹² In the event of a shock to the CRE sector, a deterioration in employment and income conditions could adversely impact the ability of affected workers to service their debt. A recent study conducted by the Department of Statistics, Malaysia found that employees in the construction sector and real estate services were among those particularly affected during the pandemic, with slightly over half of respondents employed in these sectors suffering a decrease in monthly income due to the pandemic.

¹¹ See Kam et al (2015) and Sale (2015) for case studies on the impact of locational attributes to house prices in Mukim Rawang, Malaysia and South Africa, respectively.

¹² Source: Department of Statistics, Malaysia.

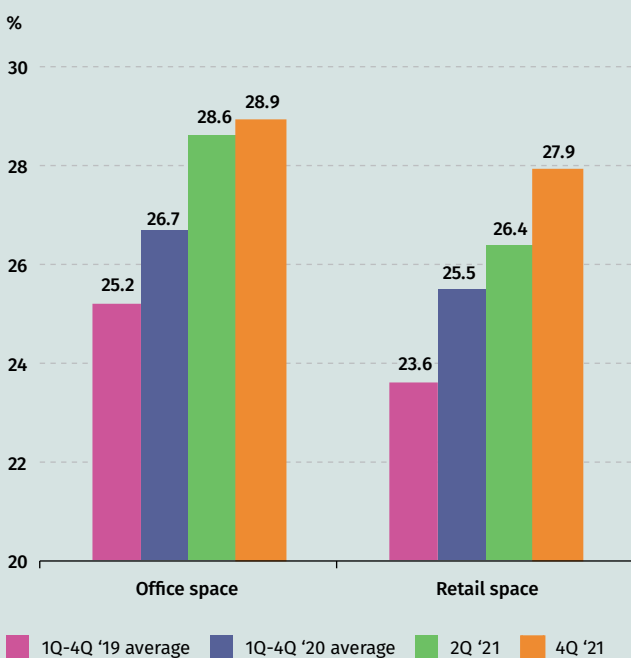
These indirect transmission channels can lead to a broader deterioration in banks' asset quality arising from exposures to businesses in industries related to the CRE sector, residential property lending and households that are employed across the supply chain.

Implications of post-pandemic structural trends on financial stability

In Malaysia, post-pandemic structural trends are likely to add to pre-existing imbalances. Vacancy and rental rates have worsened since the onset of the pandemic (Chart 1) and could take longer to improve given the structural shifts observed.

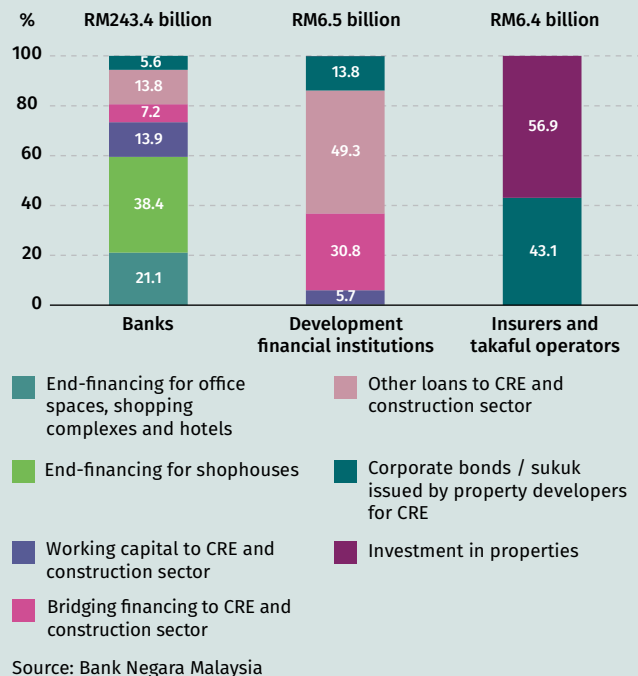
Direct linkages between the CRE sector and the financial system are, however, limited thus substantially mitigating risks to financial stability. Relative to many countries,¹³ linkages between the CRE sector and the financial system are significantly lower in Malaysia, with credit exposures to the CRE sector comprising 7.8% of total banking system assets. The share of CRE exposures to overall property exposures of financial institutions has declined in the past decade, reflecting banks' cautiousness towards the sector. The largest share of bank exposures to CRE is in the form of end-financing for the purchase of shophouses (Chart 2). Historically in Malaysia, trends for shophouses typically follow developments in the housing market, which makes shophouses more resilient relative to other CRE segments, further mitigating financial stability risks.¹⁴ The quality of overall bank lending to the sector is also sound, with impairment ratios remaining low at 1.5%. The share of Stage 2 loans has risen to 12% (June 2021: 9.4%), in line with an expected deterioration in asset quality as a result of COVID-19 developments. This increase, however, to some extent reflects conservative loan staging and provisioning practices of banks during the pandemic in view of continued uncertainty in the credit outlook.¹⁵

Chart 1: Vacancy Rates for Office and Retail Space in Klang Valley



Source: Jones Lang Wootton

Chart 2: Financial Institutions' Exposures to the CRE Sector



Source: Bank Negara Malaysia

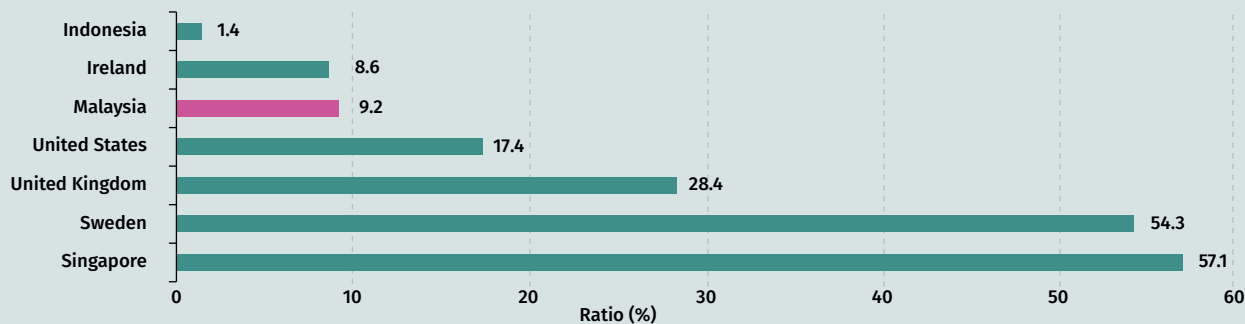
¹³ See footnote 1.

¹⁴ This reflects the significant portion of loans to purchase shophouses by households (57% share by value and 73% by number of accounts). Refer to the Chapter on 'Risk Developments and Assessment on Financial Stability' in the BNM Financial Stability and Payment Systems Report 2017 publication for details.

¹⁵ Refer to the Chapter on 'Financial Institution Soundness and Resilience' for further details.

Risks from broader contagion are also contained by the relatively small CRE market in Malaysia (Chart 3). Experience shows that foreign investors and cross border flows to CRE can amplify boom-bust cycles.¹⁶ However, the limited presence of foreign investors in the property sector in Malaysia (0.3% of total property transactions in 2020) reduces the likelihood of cross border investments amplifying contagion risk. Meanwhile, Malaysian real estate investment trusts (REITs), which are mostly funded by large institutional investors such as pension funds, remain a nascent and small market, representing less than 3% of total Bursa market capitalisation.¹⁷ While the larger¹⁸ REITs experienced sharp declines in income during the pandemic, the impact on financial institutions has been relatively muted given their limited holdings.

Chart 3: CRE Asset-to-GDP Ratio by Country



Note: Total CRE asset value is measured by the size of professionally-managed real estate investment estimated by MSCI Incorporated.

Source: MSCI Incorporated and Bank Negara Malaysia estimates

From the collateral channel, 4.5% of outstanding bank loans (excluding end-financing for the purchase of property) are secured by CRE. 92% of this are extended to businesses for working capital and construction purposes. About 186,000 units of commercial properties were used as collateral by businesses to secure loans totaling RM76 billion or 12.1% of outstanding bank loans to businesses. Businesses in the wholesale and retail trade sector make up a much higher proportion of such loans, with mainly shops owned by the borrowers being pledged as collateral. Credit risks from property-secured business loans are limited, as reflected by the low impairment ratio (2.3%), with the bulk (88%) of property-secured loans to businesses fully collateralised against the property value. Borrowers from the wholesale and retail trade sector who operate out of their own premises also have a strong incentive to meet their loan obligations in order to continue operating from the premise. Loans extended to households employed within the construction and real estate sector are also low at 7.7% of total banking system loans to households, thereby significantly mitigating risks arising from this channel. Importantly, financial stability risks from the CRE sector continue to be mitigated by prudent lending and provisioning standards that are observed by banks.¹⁹ This is further reinforced by strengthened prudential requirements applied to CRE lending. Notably, to finance development and construction projects, banks are expected to effectively manage risk concentrations and consider a broad range of factors when assessing the viability of projects. This includes demographic indicators (e.g., population and employment trends), as well as industry trends that could weigh on current and prospective lease terms, rental rates, and valuations.

While pre-existing issues of commercial property oversupply have so far not posed a significant risk to the financial system and broader economy, a sharp and protracted slowdown in CRE activity could have an indirect negative impact on other industries such as the manufacturing sector, ancillary business services (e.g., transportation, architectural, legal support, valuers, and property consultants) and wholesale trade providers. This could in turn affect employment prospects within these sectors and eventually weigh on the debt-servicing capacity among some households. As such, progress in resolving the existing glut, compounded by large incoming supply of office and retail spaces, remains important. More specifically, the long-term sustainability of the overall CRE sector will require stronger resolve and effort by industry players to re-strategise and, where needed, reform commercial spaces to take into account growing risks to prices and the structural shifts shaping demand.

¹⁶ See Aizenman and Jinjarak (2009).

¹⁷ Source: CEIC Data.

¹⁸ The top 5 REITs by market capitalisation experienced declines in income averaging 34% in 2021 compared to pre-pandemic income levels.

¹⁹ Refer to the Information Box on 'Banking Institutions' Provisioning Practices to Mitigate Elevated Credit Risk from the Pandemic' in the BNM Financial Stability Review for First Half 2021 for further details.

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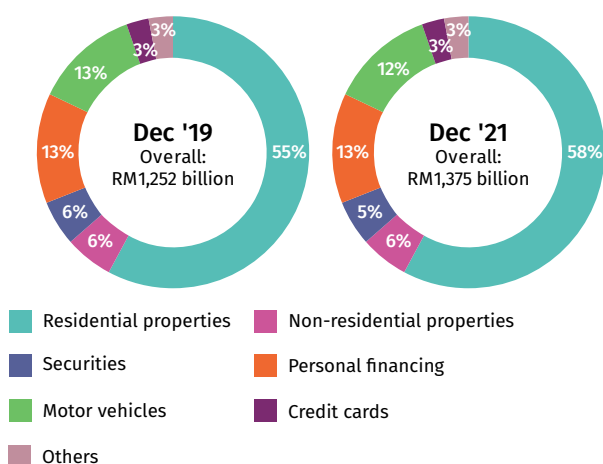
Olszewski, K. (2012). 'The impact of commercial real estate on the financial sector, its tracking by central banks and some recommendations for the macro-financial stability policy of Central Banks'.

Savills. (2021). 'What Workers Want – Malaysia'. Savills Malaysia.

Credit risk from the household sector remains manageable, supported by continued assistance for distressed borrowers, and improving economic and labour market conditions

Household debt³⁰ grew at a slower pace of 4.1% (June 2021: 5.5%) year-on-year as at December 2021 due to the reimposition of containment measures in the third quarter. The growth in debt was primarily driven by housing loans as households took advantage of incentives under the Home Ownership Campaign which ended on 31 December 2021. Compared to the pre-pandemic period, housing debt – generally considered to be less risky – as a share of household debt has increased. Meanwhile, personal financing (-0.3%) and outstanding credit card debt (-1.3%) recorded declines in the second half of 2021 over the same period in 2020, in line with lower discretionary spending during periods of stricter containment measures. Consequently, the share of consumption credit as a proportion of aggregate household debt declined further to 31.1% (December 2019: 32.7%) (Chart 1.9). Quarter-on-quarter, household borrowing picked up towards the end of the year as movement restrictions eased (Chart 1.10). The ratio of household debt-to-GDP declined to 89% on the back of stronger nominal GDP growth (Chart 1.11) but remains on the higher end compared to regional economies (Chart 1.12).

Chart 1.9: Household Sector – Composition of Debt by Purpose

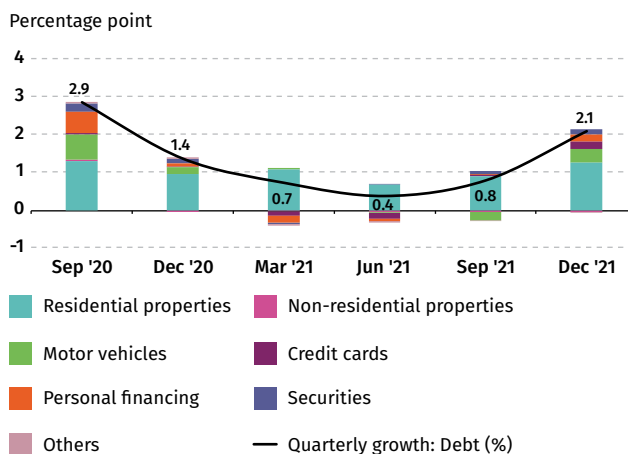


Note: Figures may not add up due to rounding

Source: Bank Negara Malaysia

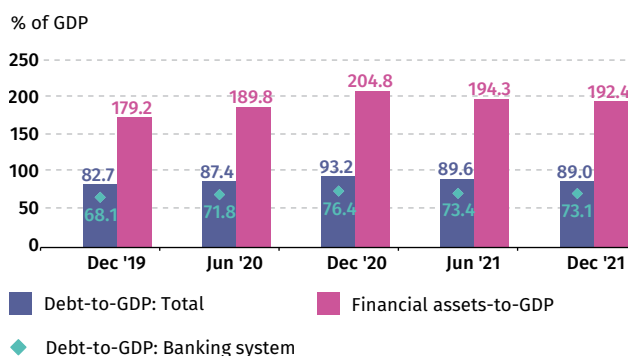
³⁰ Extended by both banks and non-bank financial institutions.

Chart 1.10: Household Sector – Quarterly Growth of Debt



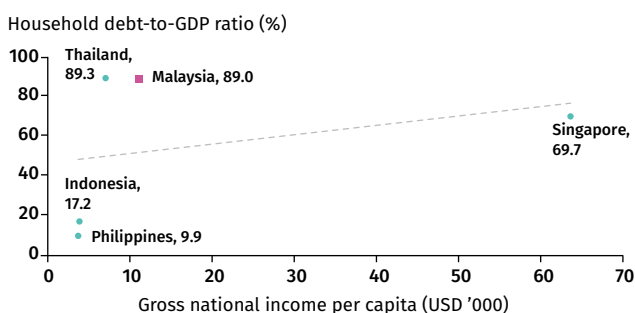
Source: Bank Negara Malaysia

Chart 1.11: Household Sector – Key Ratios



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

Chart 1.12: Cross-country Comparison of Household Debt



Note: 1. Figures are based on the latest available data published.
2. Household debt-to-GDP ratio for Indonesia and Philippines covers banking system household debt only and sourced from Bank for International Settlements and national authority, respectively.

Source: Bank Negara Malaysia, Bank for International Settlements, national authorities, World Bank and Bank Negara Malaysia estimates

Bank lending to households was sustained (4.3% year-on-year growth; June 2021: 5.2%) in the second half of 2021. About 71% of new banking system disbursements³¹ were to borrowers earning more than RM5,000 per month. Lending standards remained sound with the median debt service ratios (DSRs) of newly-approved and outstanding household loans maintained at 44% and 35% (June 2021: 44% and 35%), respectively. Around two-thirds of new loans approved in 2021 had DSRs below 60%, little changed from the share before the pandemic. Overall, the share of borrowers with DSRs exceeding 60% has also remained stable at around a quarter of total household borrowers. The bulk (67%) of these credit exposures are held by borrowers earning more than RM5,000 per month who typically have larger buffers to sustain loan repayments in the event of financial shocks. Most of these loan accounts continue to be performing with impairment levels among these borrowers remaining low at 0.7%. Forward-looking indicators such as the share of loans classified by banks to be of higher risk for this segment, however, point to an expected increase in impairments (Stage 2³² loans ratio: 9.6%; June 2021: 7.4%) largely in line with trends observed for overall household loans.

Banks remain forthcoming in providing access to home financing. With close to 60% of household debt comprising housing debt, risks can arise from higher-than-expected incidents of default, as well as losses in the event of default, due to the softer housing market. This risk is assessed to be contained as households remain generally resilient against a potential decline in house prices and weaker rental market activity. As at end-2021, the median loan-to-value (LTV) ratio of outstanding housing loans stood at 65.2% (March 2020: 66.5%). This provides ample buffers for borrowers against a steep correction in house prices.

The growth in housing loans continues to be driven by owner-occupiers,³³ who accounted for two-thirds of the increase in housing debt. Borrowers earning below RM10,000 per month accounted for close to 90% of new housing loans approved to owner-occupiers. The bulk of these newly-approved loans were to first-time home buyers with higher margins of financing. In the second half of 2021, 73.6% of house financing to first-time home buyers have

LTV ratios exceeding 90%. Such financing can be associated with a higher possibility of falling into negative equity³⁴ position. Nonetheless, credit risks from first-time home buyers are partly mitigated by mortgage guarantees and prudent loan affordability assessments carried out by the banks. In particular, prudent loan affordability assessments remain crucial in averting long-term financial hardship and exclusion which can result from households losing their homes to foreclosure. Housing unaffordability,³⁵ however, remains a major barrier for households to access home financing. Broader reforms to improve housing affordability therefore remain important to reduce the debt burden of households in line with what they can afford and avert risks of future financial hardship.

Despite the search for yield given the low interest rate environment, there have been limited signs of credit-fuelled speculative investments in the housing market. On an annual basis, the growth in housing loans taken by owner-occupiers (+7.4%) continued to outstrip that by household investors³⁶ (+5.7%). Credit risks are typically higher among household investors who are more likely to default if their housing loans fall into negative equity or when faced with a loss of rental income. Banks have maintained prudent lending standards when financing household investors by applying lower DSR and LTV ratios compared to borrowers who are owner-occupiers. Consistent with this, about 75% of household investors are those earning more than RM5,000 per month. Meanwhile, new financing extended to household investors earning below RM5,000 per month are largely associated with house purchases in the lower- and mid-priced market segments (below RM500,000). Risks of a sharp correction in house prices in this market segment are generally lower given sustained demand. Further, prudent DSRs were observed for this borrower segment, in line with their affordability (around 70% of borrowers had DSR below 60%). In addition, only 1.2% of investors were in a negative equity position. Collectively, these factors continue to mitigate risks stemming from debt exposures of household investors. Overall, total bank exposures to investors with impaired loans or in a negative equity position remained low. The share of investors' Stage 2 loans increased further to 2.2%

³¹ Excludes credit cards.

³² Refers to exposures that have exhibited deterioration in credit risk, for which banks are required to set aside provisions based on lifetime expected credit losses under Malaysian Financial Reporting Standard 9.

³³ Proxied by individual borrowers with one housing loan.

³⁴ Where the outstanding housing loan exceeds the collateral value, in this case, the house price.

³⁵ Refer to the Information Box on 'Developments in the Residential Property Market' for further details.

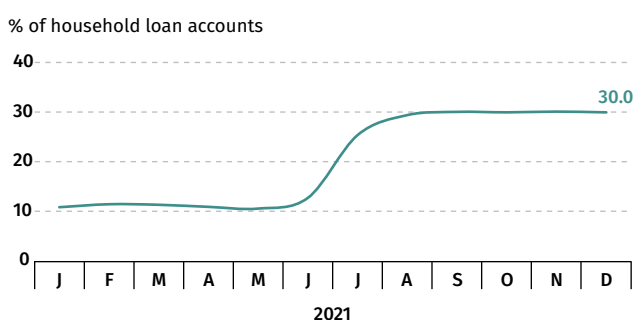
³⁶ Household investor refers to an individual borrower with more than one housing loan.

of total bank exposures to households (June 2021: 1.4%). This increase is largely in line with the higher share of total household loans classified as Stage 2 by banks following banks' pre-emptive loan staging practices for loans under repayment assistance.³⁷ Given the flexible enrolment criteria for existing repayment assistance programmes, actual debt-servicing capacity of household investors may be better than implied by the higher share of borrowers currently under repayment assistance.

Repayment assistance has helped distressed household borrowers stave off further damage to their finances

The take-up of repayment assistance rose sharply in the second half of 2021 to 30% of household loan accounts or 35.7% of outstanding household loan exposures³⁸ (June 2021: 12.8% and 16%, respectively) (Chart 1.13). More borrowers, across all income groups, opted for repayment assistance under the PEMULIH package given the flexible enrolment criteria which also extended assistance to those not already experiencing income loss or reductions. The flexible enrolment criteria also saw a higher share of loans under moratoria compared to reduced instalments. Borrowers earning less than RM5,000 per month remained the main beneficiaries of repayment assistance (60% of new accounts under repayment assistance between July and December 2021).

Chart 1.13: Household Sector – Accounts under Repayment Assistance



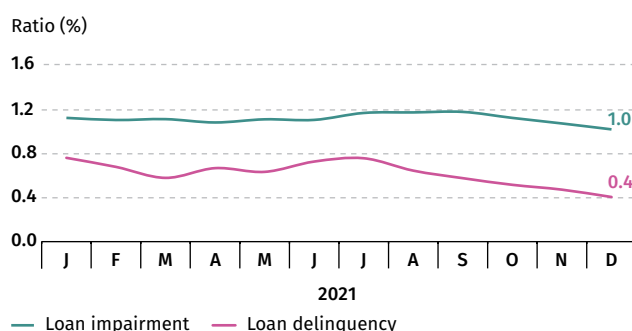
Source: Bank Negara Malaysia

³⁷ Refer to the Chapter on 'Financial Institution Soundness and Resilience' for further details.

³⁸ Or 20.6% (June 2021: 9.3%) of total loans from banks and DFIs.

Amid ongoing repayment assistance efforts, impairment and delinquency ratios have remained stable at 1% and 0.4%, respectively, as at December 2021 (Chart 1.14). Nevertheless, banks reported a larger share of Stage 2 household loan exposures (December 2021: 8.5%; June 2021: 6.9%). This, coupled with additional management overlays set aside by banks, reflects the general conservatism adopted by most banks to bolster provisioning buffers in the absence of observable actual repayment behaviour for loans under moratoria. The flexible enrolment criteria for repayment assistance have also meant that the take-up of repayment assistance by borrowers could be for reasons other than difficulties in servicing their loans due to a loss or reduction in income. A closer examination of borrowers under repeat repayment assistance indicates that only a small segment of borrowers is more likely to present higher risks. This is due to their higher DSR of more than 60% and the slower recovery in income associated with sectors more adversely impacted by the pandemic. Collectively, they account for only 0.5% and 1.7% of total household borrowers and outstanding banking system loans, respectively. For borrowers that continue to face difficulty servicing their loans, more targeted repayment assistance provided through the Financial Management and Resilience Programme (Program Pengurusan dan Ketahanan Kewangan, URUS³⁹) remains in place. Taken together, these factors could support better-than-expected loan performance for households going into 2022 than implied by banks' loan classification and provisioning practices.

Chart 1.14: Household Sector – Loan Impairment and Delinquency Ratios in the Banking System

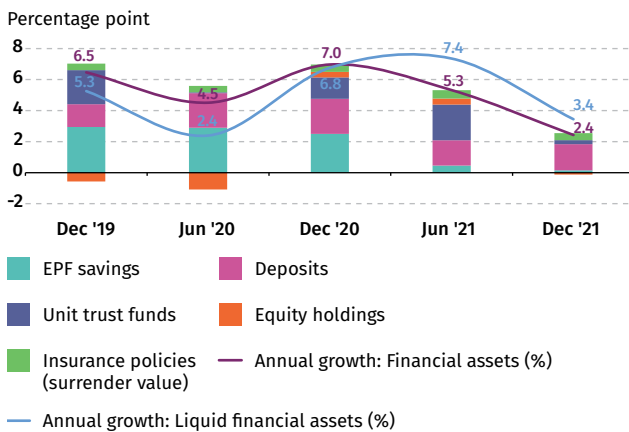


Source: Bank Negara Malaysia

³⁹ URUS is targeted towards the B50 income group under an existing repayment assistance programme who have lost employment or are experiencing a significant reduction in Income. Assistance entails a personalised financial plan that considers borrower's affordability to repay, with relief including a 3-month interest waiver, reduction in instalments for up to 24 months and lower interest rates for unsecured personal loans. Refer to <https://www.akpk.org.my/my/urus> for further details.

Household financial assets grew at a more moderate pace (2.4%; June 2021: 5.3%). This was due to the weaker equity market performance and sizeable drawdowns of retirement savings under various special withdrawal facilities put in place due to the pandemic (Chart 1.15). Concerns remain over the financial resilience of some segments of household borrowers that are highly leveraged and have low financial buffers. Stress tests conducted by the Bank show that under adverse scenarios of income and employment shocks, between 3.8% and 4% of banking system loans could be at risk of default by end-2024 due to borrowers having insufficient financial buffers. The bulk (63.5%) of these at-risk borrowers earn monthly incomes of less than RM5,000.⁴⁰

Chart 1.15: Household Sector – Annual Growth of Financial Assets

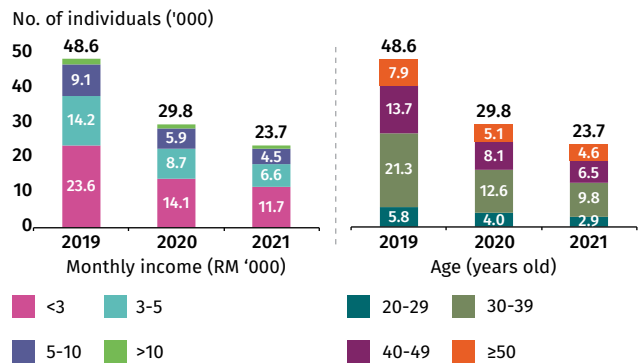


Source: Bank Negara Malaysia, Bursa Malaysia, Employees Provident Fund and Securities Commission Malaysia

Public support measures and repayment assistance offered by banks continue to help financially-distressed households cope with income and employment setbacks. In 2021, 23,711 new borrowers have enrolled into the AKPK's Debt Management Programme to rehabilitate their finances (Chart 1.16). Meanwhile, under URUS, borrowers can benefit from free financial advisory and education programmes aimed at promoting longer-term financial resilience. As of 4 March 2022, 5,657 individuals with total loan exposures of RM2.7 billion have enrolled into URUS. Of this, around half of the borrowers with total exposures of RM1.4 billion are those who have experienced job losses. Beyond URUS, banks continue to offer a range of repayment packages

⁴⁰ Refer to the section on 'Assessing the Resilience of Financial Institutions' for further details.

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



Source: Credit Counselling and Debt Management Agency (AKPK)

to borrowers which are tailored to their financial circumstances. Financial institutions have also extended assistance packages to borrowers affected by the flood events in December. Going forward, the improving economic outlook and employment prospects are expected to support overall household debt-servicing capacity.

Latest insights⁴¹ by the Employees Provident Fund (EPF), however, underscore material longer-term risks to household resilience. According to EPF, around 6.1 million EPF members currently have retirement savings of less than RM10,000 in their accounts, of which 3.6 million have less than RM1,000. Further drawdown of retirement savings would increase the financial vulnerabilities of these households over the longer term given already insufficient savings for retirement. Risks would be higher for household borrowers with loan tenures extending into retirement and those who are already retired. As the economy recovers, it will therefore be important to ensure that impacted households are able to gradually re-build their financial buffers. Efforts by the Government to pursue the necessary labour market⁴² and social protection⁴³ reforms will be key towards raising income levels and household resilience in the long run.

⁴¹ Press release dated 31 October 2021 by EPF titled 'EPF Focused on Rebuilding Members' Retirement Savings Following Exceptional Withdrawal Facilities'.

⁴² Refer to the Box Article on 'Getting the Great Reset Right: Structural Labour Market Issues in the Post-COVID-19 World' in the BNM Economic and Monetary Review 2020 for further details.

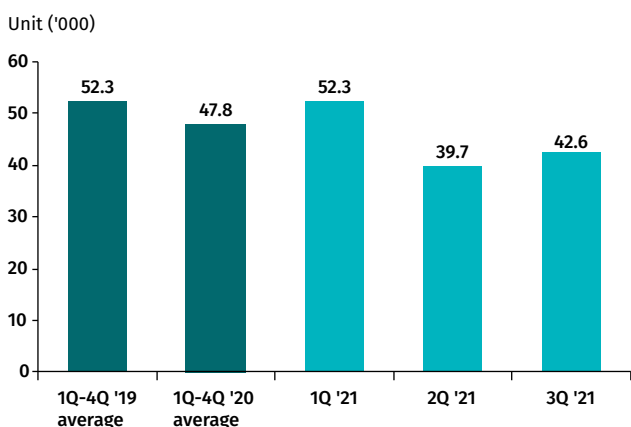
⁴³ Refer to the Box Article on 'A Vision for Social Protection in Malaysia' in the BNM Economic and Monetary Review 2020 for further details.

Developments in the Residential Property Market

The continuation of tighter containment measures from the second quarter of 2021 continued to weigh down housing market activity in the third quarter of 2021. Consequently, while transaction volume increased marginally in the third quarter of 2021, it remained below the quarterly average volume of transactions recorded in recent periods (Chart 1.17). However, market activity is expected to improve in the fourth quarter of 2021 driven by the resumption of economic activities. Correspondingly, higher loan applications were recorded across all price segments in the second half of 2021 (Chart 1.18). The significant increase in loan applications in the final two months of 2021 coincided with the Home Ownership Campaign that ended on 31 December 2021. Improving employment prospects and the low interest rate environment further supported housing demand. Demand for housing was largely driven by owner-occupiers, with 57.3% (1H 2021: 55.8%) of approved housing loans in the second half of 2021 granted to owner-occupiers.

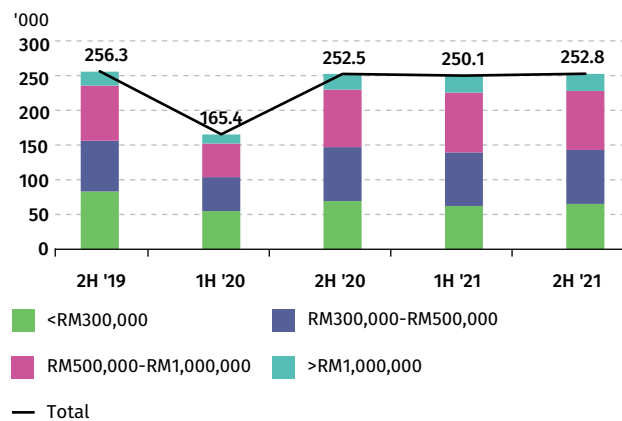
Despite some improvements in market activity, the number of unsold houses remained elevated at 180,702 (2Q 2021: 181,463) units.⁴⁴ Disruptions caused by the pandemic partly contributed to the slower clearance of unsold housing stock despite ongoing home purchase incentives. More broadly, the elevated number of unsold houses reflects pre-existing affordability issues in the housing market, which has worsened since the onset of the pandemic as consumer incomes were affected (Diagram 1.1). In this regard, supply adjustments have continued with more new housing launches shifting towards lower- and mid-price market segments. The share of property launches priced at RM500,000 and below increased significantly in the third quarter of 2021 (3Q 2021: 88.1%; 1H 2021: 67.7%; 2015-2019 average: 65.9%). This should help to cap a further significant increase in unsold housing stock. Nonetheless, the bulk of new launches remain beyond the affordable price segment, with only 35.6% of new launches since 2015 priced below RM300,000, indicating further room for price and supply adjustments to improve overall housing affordability.

Chart 1.17: Property Market – Housing Transaction Volume



Source: National Property Information Centre (NAPIC)

Chart 1.18: Property Market – Volume of Housing Loan Applications by Price Segment



Source: Bank Negara Malaysia

⁴⁴ Of this, 31.4% are overhang units while the remainder (68.6%) are units under construction. Unsold houses are mainly priced above RM300,000 (75.4% of total unsold houses) and high-rise properties, in particular, serviced apartments (36.5% of total unsold houses).

Diagram 1.1: Housing (Un)affordability in Malaysia

What is affordable housing?

A house is considered affordable¹ if:

$$\frac{\text{House Price}}{\text{Annual Income}} \leq 3 \text{ times}$$

Rating	House Price-to-Income Ratio
Severely Unaffordable	5.1 & Above
Seriously Unaffordable	4.1 to 5.0
Moderately Unaffordable	3.1 to 4.0
Affordable	3.0 & Below

Based on this metric, house prices in Malaysia are seriously unaffordable

$$\frac{\text{Median House Price (2020): RM295,000}}{\text{Annual Median Income (2020): RM62,508}} = 4.7 \text{ times}$$

(2019: 4.1 times)

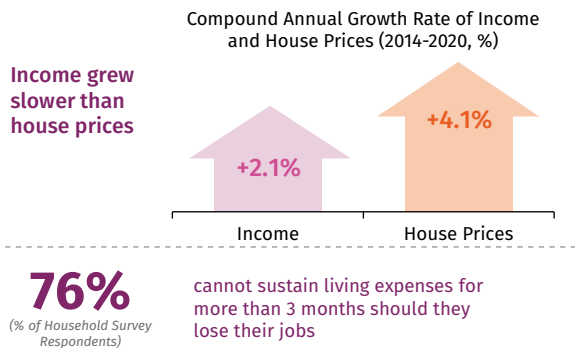
Rating by State
Johor, Perak, Sarawak, Sabah, Kelantan
MALAYSIA, Selangor, Kuala Lumpur, Pulau Pinang, Pahang, Terengganu, Kedah, Negeri Sembilan, Perlis
-
Melaka

Why do Malaysians find houses seriously unaffordable?

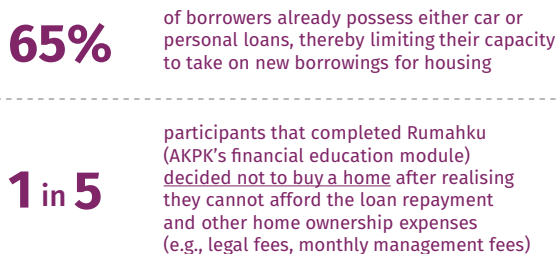
Demand: For some, housing affordability is limited by insufficient income and high indebtedness

Supply: Mismatch in supply – Market failure to provide enough affordable housing²

1 Low income or saving buffers



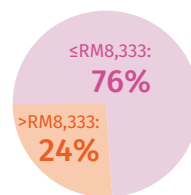
2 Prospective borrowers already highly-indebted



A household earning RM100,000/year³ or RM8,333/month could only afford a house priced up to RM300,000

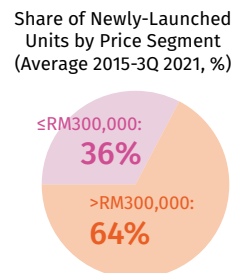
76% of households in Malaysia earn ≤RM8,333...

Share of Households by Monthly Income Group (2019, %)



... but only 36% of newly-launched units are priced ≤RM300,000

Share of Newly-Launched Units by Price Segment (Average 2015-3Q 2021, %)



This has worsened overall housing affordability and increased unsold properties priced >RM300,000 in Malaysia

¹ Based on the Median Multiple approach, as recommended by the World Bank as well as the United Nations (UN). See the box article on 'Demystifying the Affordable Housing Issue in Malaysia' in BNM Annual Report 2016 for more details.

² Based on the National Affordable Housing Policy 2019, the maximum price of affordable housing in Malaysia is RM300,000.

³ Estimated using Median Multiple approach, in which a house is deemed affordable if the house price is not more than 3 times the annual income.

Source: Bank Negara Malaysia, Household Income Estimates and Incidence of Poverty Report, Malaysia (2020) by the Department of Statistics, Malaysia (DOSM), Household Income and Expenditure Survey (2014 and 2019) by DOSM, BNM Survey on Households (2018) and National Property Information Centre

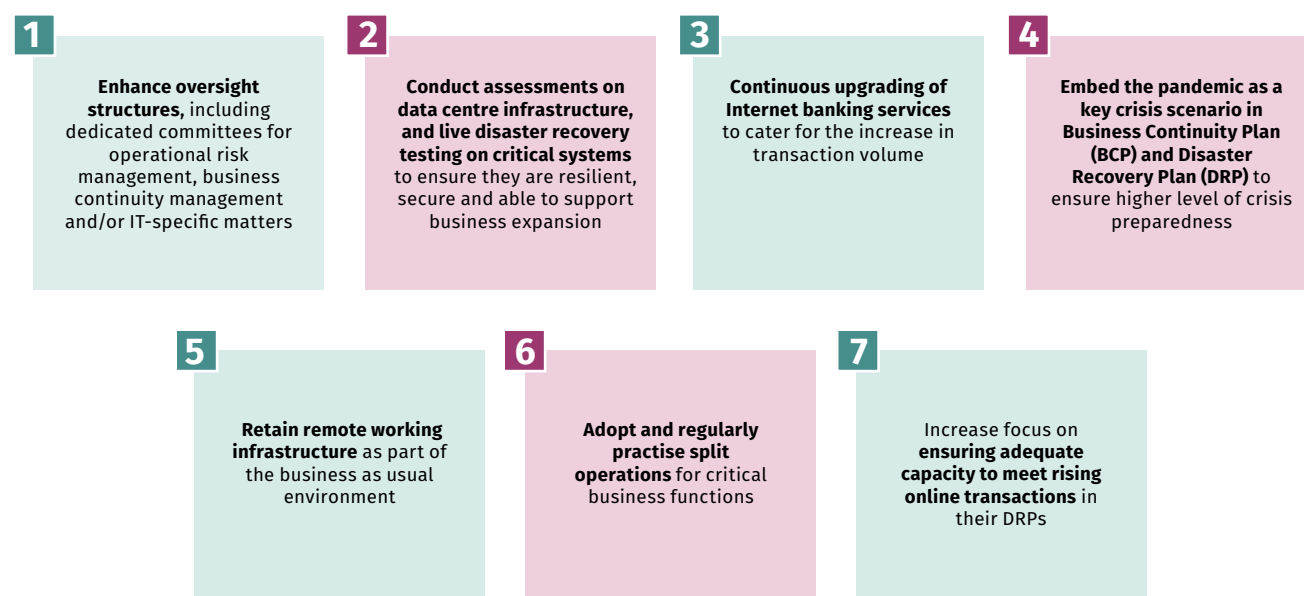
OPERATIONAL RISK

Financial institutions remained operationally resilient but emerging risks warrant continued vigilance

Financial institutions remained operationally resilient, with no major system-wide operational disruptions in the second half of 2021. Operational risk losses also remained small at RM78.4 million (2H 2020: RM137.1 million). This was supported by continuing measures taken by financial institutions to strengthen oversight arrangements and ensure the resilience of technological infrastructure (Diagram 1.2). While the flood events in December led to the temporary closure of a number of branches, financial institutions were able to continue providing essential financial services to the public with almost no disruptions. Remote working arrangements were promptly activated for affected staff. Internet banking and insurance services also remained available to customers in flood-affected areas.

Risks from third party service providers (TPSPs), including their major sub-contractors, remain a top priority for the Bank. The reliance on TPSPs has increased given prolonged remote working arrangements and increased digitalisation of financial services. Financial institutions have intensified periodic reviews of TPSPs' abilities to meet service level agreements (SLA). Contingency plans are largely in place to manage TPSPs' sudden business disruptions. This includes identifying alternate TPSPs and establishing in-house arrangements to manage potential disruptions. To gauge crisis preparedness, more financial institutions are also conducting integrated business continuity assessments with their critical TPSPs. In 2022, one of the Bank's supervisory priorities is to assess the level of reliance and concentrations on major sub-contractors of TPSPs. This will enable the Bank and financial institutions to better understand and manage supply chain risks. Concurrently, the Bank is working to develop common stress test scenarios for technology risks to identify potential vulnerabilities and further strengthen the management of operational risks arising from common TPSPs. This aims to increase resilience against severe operational disruptions associated with the prolonged failure of a major TPSP, both at the institution and industry levels.

Diagram 1.2: Efforts by Financial Institutions to Ensure Operational Resiliency



Source: Bank Negara Malaysia

The Bank continued to provide security advisories to bolster the industry's defences against cyber threats. Rising ransomware incidents led to the issuance of an industry advisory in August 2021 to guide the adoption of better safeguards for key information technology (IT) infrastructure and customer data. The Bank and industry have also increased vigilance against potential cyber risks from the use of open-source software and third-party codes. In December, the National Institute of Standards and Technology (NIST)⁴⁵ reported the discovery of a zero-day vulnerability⁴⁶ with a Common Vulnerability Scoring System (CVSS)⁴⁷ severity level of 'critical'. In response, the Bank issued recommended control measures to the industry to remediate potential risks from any impacted systems and services. The Bank's subsequent supervisory review observed that the industry has taken the necessary measures to minimise this risk by patching the vulnerability or implementing effective workarounds in the absence of a patch. Given the rising number of global and domestic high-profile ransomware and supply chain attacks in the second half of 2021, financial institutions were also encouraged to undertake independent compromise assessments (CA)⁴⁸ to pre-emptively identify compromises to their systems.

Cloud adoption among banks and insurers and takaful operators (ITOs) has increased by almost 50% since the pandemic. This is driven by more entrenched remote working arrangements and financial institutions' digital aspirations. Currently, cloud solutions are being adopted mostly for non-critical applications. However, this is expected to gradually expand to more critical IT services, including to host core insurance and banking platforms. To ensure the adequate management of risks associated with increasing cloud adoption, the Bank will issue supplementary guidance to the Risk

Management in Technology (RMiT) policy document in 2022 to address specific risks in the use of cloud services. This includes addressing misconfiguration risk arising from current gaps in cloud risk management capabilities. Financial institutions will be required to meet enhanced expectations on governance, management of cloud service providers and end-to-end information security controls associated with cloud adoption.

Over the course of the next 12 months, ensuring cyber risk resilience will remain a key focus of financial institutions to reduce operational disruptions.⁴⁹ Other key sources of operational risks identified by financial institutions include regulatory non-adherence, business disruption due to pandemic and natural disasters, human error, and data theft and leakage (Diagram 1.3). The Bank and financial institutions remain vigilant to these risks, with increasing attention given to the protection and recovery of critical business operations in the event of an operational incident. While incidents have not led to wider disruptions thus far, risks of reputational damage have increased, in part due to the increasing influence of social media. This in turn could affect confidence and customer retention. It is therefore important for financial institutions to ensure adequate consideration to the management of reputational risks as an integral part of their incident response plans.

Operations of payment and settlement systems remained efficient and resilient

The Real-time Electronic Transfer of Funds and Securities System (RENTAS)⁵⁰ and major retail payment systems (RPS) continued to maintain high system availability. There were no major incidents, including cyber security incidents, or significant service disruptions in the second half of 2021. Business Continuity Plan (BCP) arrangements remained effective, including throughout the recent flood events. Sound cyber security measures also remain in place, including measures related

⁴⁵ NIST, an agency under the United States' Department of Commerce, maintains the largest publicly available source of vulnerability intelligence known as the National Vulnerability Database (NVD). Vulnerabilities listed in the NVD are ranked according to the CVSS, a widely adopted framework that helps to communicate the characteristics and severity of security vulnerabilities.

⁴⁶ A zero-day vulnerability is a weakness or a bug in a computer system that has been disclosed but no security fix is available yet. A system with zero-day vulnerability is exposed to cyber-attacks until a fix is developed and patched.

⁴⁷ CVSS helps IT teams to prioritise their security efforts, share information, and proactively address areas of exposure or vulnerability. The overall CVSS score of this zero-day vulnerability has been assigned to its highest level i.e., 10 out of 10, which is regarded as 'critical' and warrants immediate attention.

⁴⁸ Compromise assessment uses contextualised cyber threat intelligence and active/passive reconnaissance to detect any anomalies in an IT environment of an organisation.

⁴⁹ Based on the 2021/2022 emerging operational risk survey conducted by the Bank.

⁵⁰ RENTAS is a real-time gross settlement system for interbank fund transfers, debt securities settlement and depository services for scrippless debt securities.

Diagram 1.3: Key Emerging Operational Risks and Mitigants



Cyber threat

- Continuous surveillance of cyber threats and timely alerts via the Financial Sector Cyber Threat Intelligence Platform (FinTIP)
- Reinforcement of cyber security controls by financial institutions to mitigate ransomware threats
- Wider coverage of Cyber Resilience Maturity Assessment (CRMA) for deeper insights into the state of industry cyber resilience
- Intelligence-led Bank advocacy e.g., on compromise assessments to detect potential intrusions
- Industry-wide cyber drill to gauge preparedness for systemic cyber incidents



Regulatory non-adherence

- Multi-pronged approach to industry engagement by the Bank:
 - Issuance of annual regulatory calendar
 - Industry consultation prior to roll-out of new policies
 - On-going supervisory interactions
 - Chief Risk Officer Forum
- Adoption of pragmatic policy implementation strategy
- Strengthening of internal controls by financial institutions to ensure compliance with rules and regulations



Business disruption due to pandemic and natural disasters

- Continuous review and improvements to Business Continuity Plans
- Ensure latest updates on Government directives are implemented in a timely and practical manner



Data leakage and theft

- Strengthening of security control features:
 - Access to internal systems via corporate devices only
 - Installation of latest antivirus on all devices
 - Implementation of Mobile Device Management software to prevent data leakages
- Adoption of cryptography techniques e.g., encryption to ensure data security



Human error in executing tasks

- On-going efforts by financial institutions to:
 - Strengthen internal controls and processes
 - Automate manual processes that are prone to human error
 - Review risk points in risk-control self-assessment

Source: Bank Negara Malaysia

to endpoint security. The Bank conducts regular supervisory reviews to ensure the control measures remain effective against new and emerging threats. In this regard, efforts by the operators of RENTAS and key RPS to address gaps identified during the supervisory reviews are largely on track. To further strengthen the operational reliability of key payment infrastructures, the Bank also

issued supervisory expectations to RPS operators to ensure adequate controls are put in place by their TPSPs. The Bank continues to strengthen the operational capacity of RENTAS to respond to future shocks or disruptions. This included further enhancing its BCP to ensure timely recovery of payment systems in the event of a major disruption caused by cyber-attacks.