

## OPERATIONAL RISK

### Operational resilience of financial institutions remained intact

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

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

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

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

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

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

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

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

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

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

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

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

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

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## Payment and settlement systems sustained their operational resilience

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

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

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

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

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

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

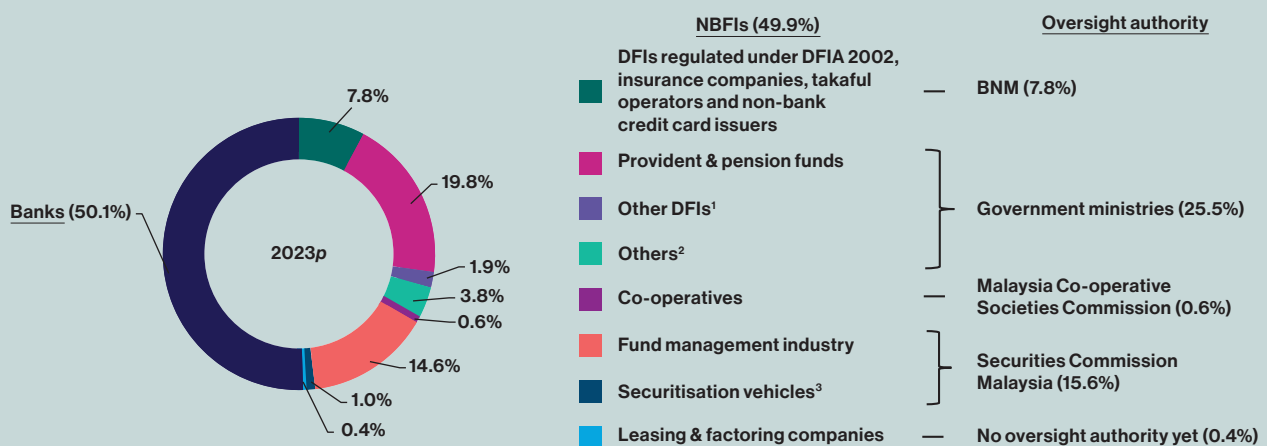
## Contagion Risk from Non-Bank Financial Institutions' (NBFI) Activity

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

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

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

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



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<sup>1</sup> Development financial institutions (DFIs) that are not regulated by BNM under the Development Financial Institution Act (DFIA 2002).

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

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

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

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

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

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

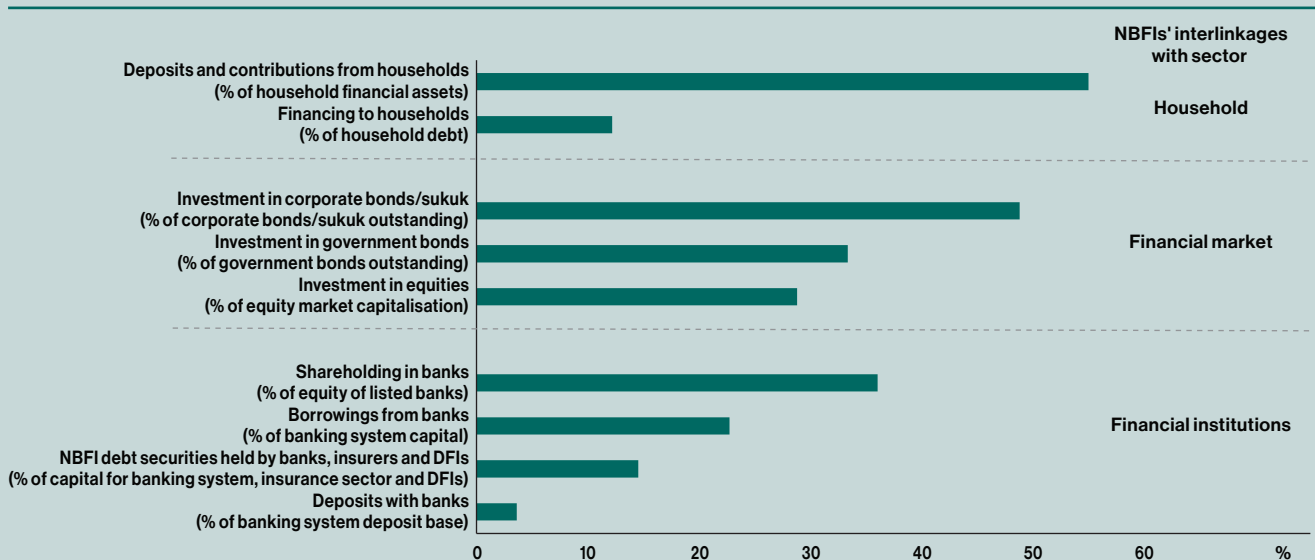
Other non-bank credit intermediaries<sup>4</sup> account for a much smaller share (10.9%) of NBFIs assets. Lending by these non-bank credit intermediaries is extended to individual borrowers and typically funded via bank loans, the capital market or government grants, with limited maturity transformation.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

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

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

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

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



■ 2023<sup>p</sup>

<sup>p</sup> Preliminary

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

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

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

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

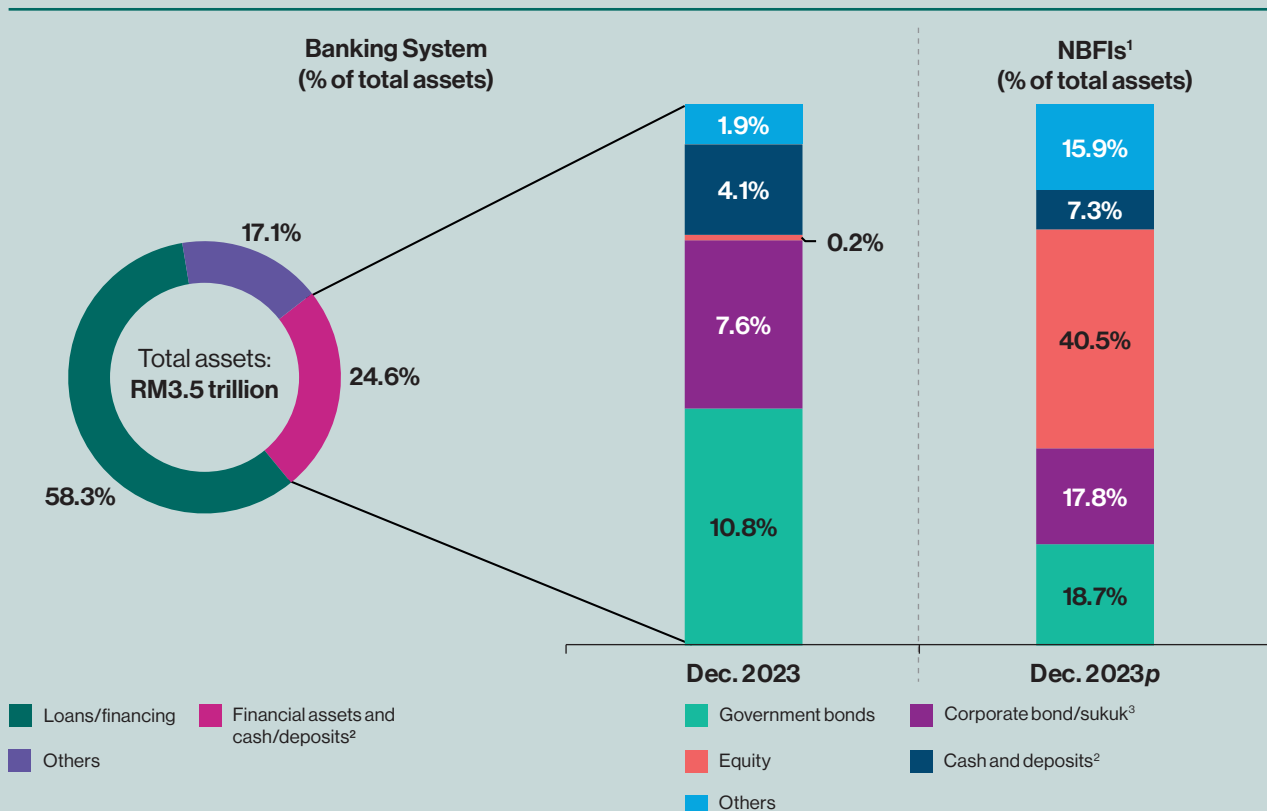
<sup>7</sup> In the subsequent section of this box article, references to NBFIs exclude DFIs, ITOs and non-bank credit card issuers that are regulated by BNM. BNM-regulated DFIs, ITOs and non-bank credit card issuers are subject to strong prudential standards that mitigate financial stability risks.

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

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

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

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



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

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

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

Source: Bank Negara Malaysia

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

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

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

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