ASSESSING THE RESILIENCE OF FINANCIAL INSTITUTIONS

Stress testing is an integral part of BNM's financial stability surveillance framework. Every year, BNM performs a multi-year, top-down macro solvency stress test to assess the potential impact of prolonged adverse macroeconomic conditions on individual banks and insurers, as well as to the broader financial system. In this macro solvency stress test, two adverse scenarios were applied to simulate the impact of different paths of economic contraction or slowdown on the resilience of financial institutions over a three-year horizon from 2025 up to the end of 2027. These scenarios are not indicative of BNM's actual economic forecasts but have been developed to assess the resilience of financial institutions to extreme shocks.

The first adverse scenario (AS1) is designed to test financial institutions' resilience to a sharp but temporary shock in the operating environment. AS1 assumes a deep recession in the domestic economy in 2025. This is followed by a sharp economic recovery in 2026, whereby GDP growth makes a strong V-shaped recovery and normalises thereafter. The second adverse scenario (AS2) tests financial institutions' resilience to a less severe but more prolonged economic contraction. It assumes a more persistent recessionary environment spilling over into 2026 with a sluggish L-shaped economic recovery. For both scenarios, the GDP growth shock was calibrated to levels similar to that observed during the Asian Financial Crisis and the COVID-19 pandemic episode. Selected key assumptions and shock parameters applied in AS1 and AS2 are as outlined in Table 2.1.

These macroeconomic and financial shocks are broadly similar to the previous exercise in 2024,[20] with revisions made to some of the parameters to reflect updated macroeconomic conditions. The severity of AS1 and AS2 parameters reflects heightened global risk aversion from a potential escalation of tariffs and trade wars, coupled with heightened geopolitical tensions, resulting in higher portfolio outflows from emerging economies. Financial markets are assumed to be more volatile, with domestic bond yields increasing considerably. The upward trend is more prolonged under AS2, attributed to persistently tight global financial conditions. The FBM KLCI performance worsens and subsequently rebounds sharply under AS1, whereas recovery under AS2 is more sluggish. The ringgit trends weaker to levels beyond historical lows against the US dollar amid greater uncertainty in the global financial environment, with sharper adjustments in 2025 under AS1.

The stress test exercise emphasises conservatism over strict macro-coherence in its input assumptions. This enables the stress test to factor in potential additional downside risks, ensuring that the Malaysian financial system can withstand even unlikely combinations of risk. For instance, the OPR is assumed to rise even within a recessionary environment driven by supply-side inflationary shocks. Policy rate hikes are assumed to impact the debt-servicing capacity of borrowers and

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

Key Assumptions	AS1	AS2
Annual domestic real GDP growth	Up to -6.0%	Up to -3.5%
Annual unemployment rate	Up to 5.4%	Up to 6.0%
Market risk shocks - Increase in 10Y MGS yield - Increase in 10Y AAA corporate bond yield - Decline in FBM KLCI	 Up to 300 basis points Up to 420 basis points Up to 30%	 Up to 270 basis points Up to 370 basis points Up to 30%
OPR hike[1]	Up to 100 basis points	Up to 100 basis points
MYR depreciation against USD	Up to 30%	Up to 20%
Quarterly headline inflation[2]	Up to 9.3%	Up to 7.3%

[1] The assumption of an OPR hike may not, in certain circumtances, be consistent with the broader macroeconomic scenarios but is assumed by design to account for potential downside risks.
[2] The assumption for the quarterly headline inflation reflects stressed impact from global shocks such as trade tensions and geopolitical conflicts putting pressure on energy prices and ringgit.

Source: Bank Negara Malaysia

[20] Refer to the section on 'Assessing the Resilience of Financial Institutions' in BNM's Financial Stability Review for Second Half 2023 for more details.

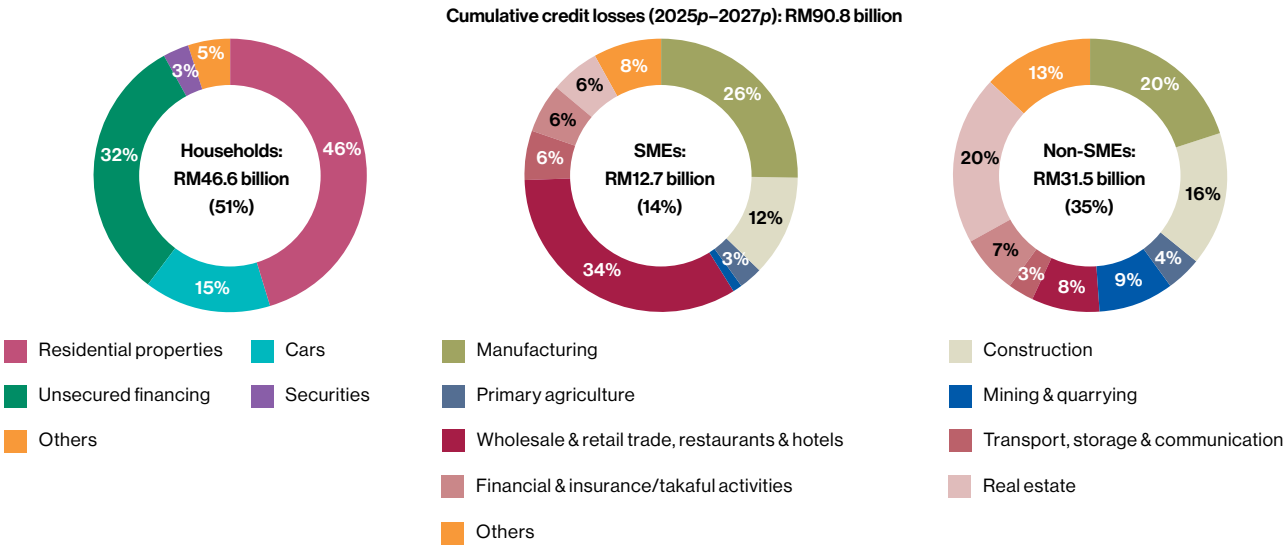
banks' interest expense, but do not increase banks' interest income. Meanwhile, banks facing persistent financial weakness during the stress horizon are also subjected to additional liquidity shocks in the form of adverse deposit outflows to simulate a loss of depositor confidence. Non-SME borrowers that fail the simulation are assumed to trigger cross-defaults across their entire business group, despite other subsidiaries being financially viable. Similar assumptions on cross-defaults are also applied to household borrowers who default on their loans. It is also assumed that there are no subsequent cures or reversal in loan staging even if there are improvements in the defaulted borrowers' debt-servicing capacity later in the stress horizon. Additionally, no policy intervention or support measures to distressed borrowers or financial institutions is assumed.

The financial system remains resilient even under severe simulated shocks.

Under the severe macroeconomic environment assumed in the scenarios, the Malaysian banking system is expected to remain resilient. Credit losses are expected to drive the bulk of projected losses. Overall, projected cumulative credit losses over the 3-year horizon are estimated to be RM77 billion and RM90.8 billion under AS1 and AS2 respectively (or equivalent to 58% and 63% of total losses respectively). In particular, banks are projected to face higher defaults post-shock from household borrowers contending with the higher inflationary shocks. Meanwhile, a few large corporate borrowers are projected to default given their pre-existing weak financials while prolonged weakness in the economy will continue to impact SMEs (Chart 2.26). Losses from interest rate risk in the banking book, driven by higher bond yields, are the second largest source of projected losses. Revaluation losses on banks' securities held at fair value through other comprehensive income (FVOCI) are expected to erode banks' capital buffers by RM52.3 billion and RM50.3 billion under AS1 and AS2 respectively (AS1: 39%; AS2: 35% of total losses). Conversely, trading book losses which are mainly driven by bonds, equity and FX movements are not significant under both scenarios (AS1: 3.2%; AS2: 2.3% of total losses) (Chart 2.27). Losses from domestic banking groups' (DBGs) overseas operations are also not expected to pose a significant risk to overall resilience, accounting for only 11% of cumulative credit losses and stemming primarily from defaults of large corporates.

By the end of the stress horizon in 2027, overall impairments are projected to increase to 8% and 9% of total banking system loans under AS1 and AS2 respectively,

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

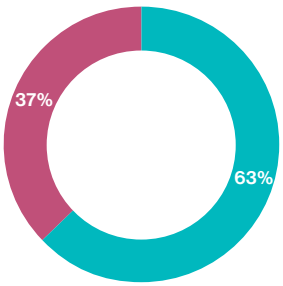


p Projected

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

Source: Bank Negara Malaysia

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



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

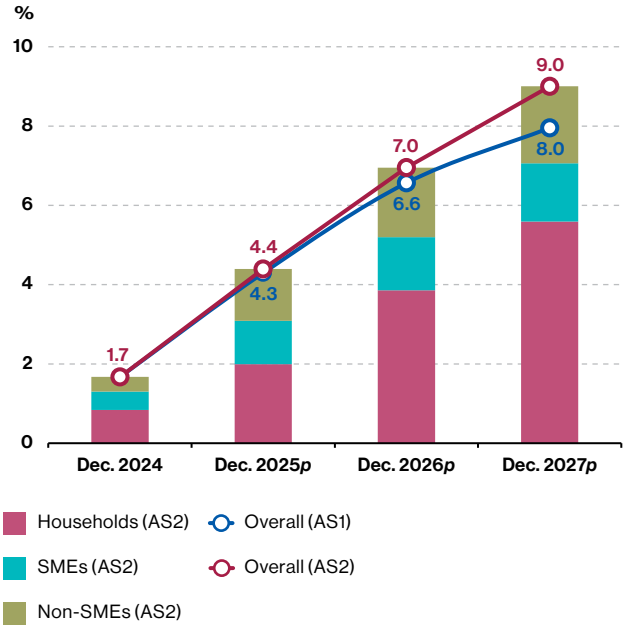
Source: Bank Negara Malaysia

driven mainly by household borrowers (Chart 2.28). Household borrowers at risk of defaulting continue to largely comprise those earning less than RM5,000 per month (62%) given their lower financial buffers relative to other income segments (Chart 2.29). Nevertheless, these borrowers account for a lower share (36%) of new impairments by value due to the smaller size of exposures. In comparison, borrowers earning between RM5,000 and RM10,000 a month form a larger share (45%) of new impaired debt by value. The stress test also indicates that highly indebted borrowers[21] are less resilient when severe shocks materialise, with defaults rising more rapidly for borrowers with DSRs beyond 60%. This group accounts for more than 75% of defaulting household borrowers. For businesses, non-SMEs make up the bulk of the projected increase in impaired business loans under AS2 (64%), commensurate with their larger outstanding loan sizes and the conservative cross-default assumption. SMEs make up the remaining 36% of business impairments with projected defaults notably higher under AS2 (1.5%; AS1: 1% of total banking system loans). This is to be expected given the limited and smaller cash buffers of SMEs under the extended stress horizon.

Overall banking system profitability is expected to decline sharply in the initial year of stress mainly from higher credit costs. While net interest income would also decline sharply amid elevated funding costs, this is expected to gradually recover in the subsequent years, leading to a recovery in profits and capital buffers. Expected losses incurred from overseas operations are notable for some large DBGs but the impact is mitigated by the healthy capital buffers held by the respective overseas entities.

The aggregate capital ratios of the banking system remain above the regulatory minima under both scenarios

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

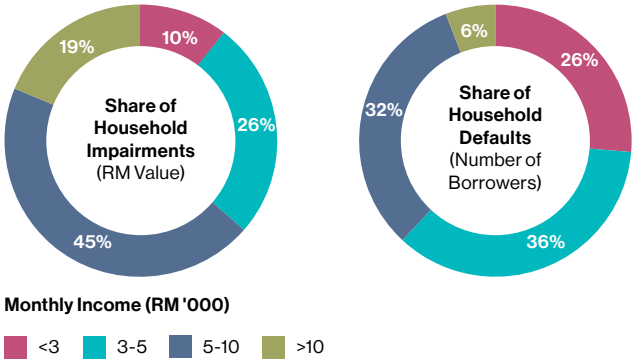


p Projected

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

Source: Bank Negara Malaysia

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



Note: Figures may not add up due to rounding.

Source: Bank Negara Malaysia

[21] Refers to borrowers with high debt service ratio of more than 60%.

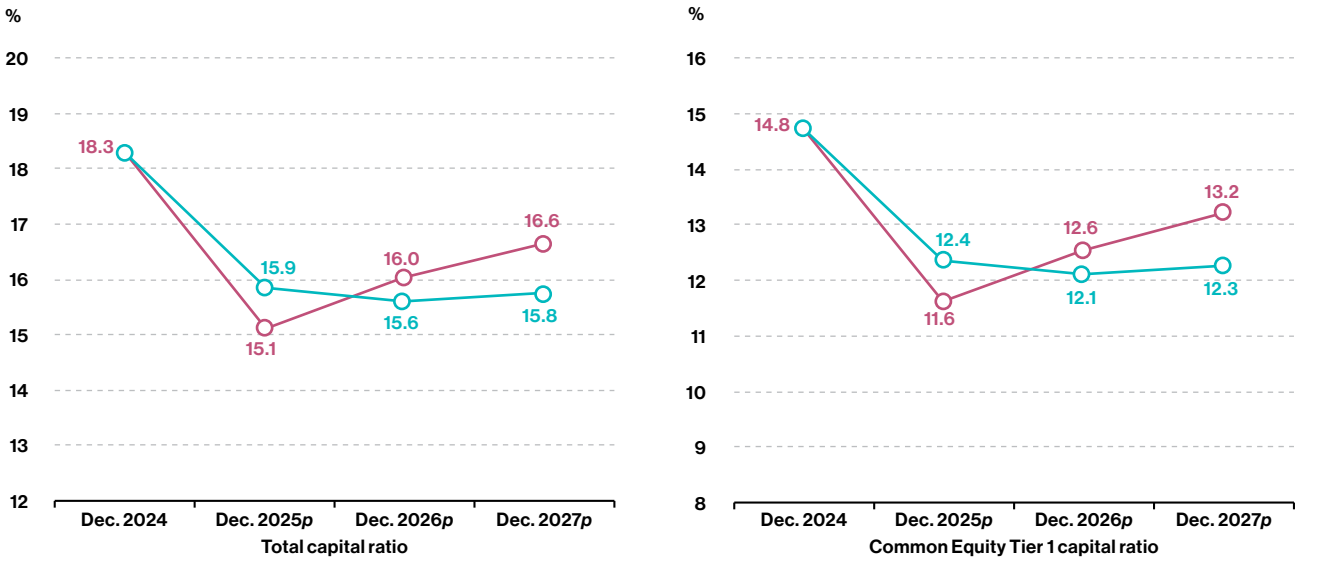
(Chart 2.30). However, the impact on individual banks varies depending on their risk profiles. Three banks,[22] accounting for only 2% of total banking system assets, are projected to breach minimum regulatory capital requirements across both adverse scenarios. These banks exhibit common characteristics of higher leverage levels and weaker profitability, coupled with a higher share of FVOCI bonds exposed to revaluation losses (Chart 2.31). Under AS2, an additional ten banks could require additional capital to maintain their internal capital targets. However, they would be able to continue meeting the minimum regulatory capital requirements.

Banks facing persistent financial weaknesses[23] or whose capital ratios dipped below regulatory minima are also assumed to experience an additional liquidity shock[24] in the form of adverse deposit outflows. Under this scenario, nine banks would see their LCR[25] levels drop below 100% but all banks maintain sufficient stock of unencumbered HQLA to meet the heightened cashflow demands. This reflects the strong starting liquidity position of banks with the banking system LCR currently at 171% as of December 2024.

The solvency stress test exercise along with the additional liquidity stress test continue to affirm that banks remain highly resilient in the face of severe macroeconomic, financial and liquidity shocks. The banking system is expected to have sufficient capacity to maintain lending to the economy, even during downturns.

The macro solvency stress test for insurers incorporates additional insurance-specific assumptions. These assumptions are largely similar to those applied in the 2024 exercise.[26] Overall, the insurance sector's aggregate CAR is assessed to remain above the regulatory minimum (Chart 2.32). Market risk remains the key driver of losses for both life and general insurers due to their significant holdings of bond and equity investments (Chart 2.33). Increased bond yields coupled with the weak equity market performance under both scenarios continued to affect the investment performance of insurers. Life insurers are expected to experience sustained net underwriting losses throughout the stress horizon under AS2 due to the impact from assumed benefit payouts, including those for medical claims and

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

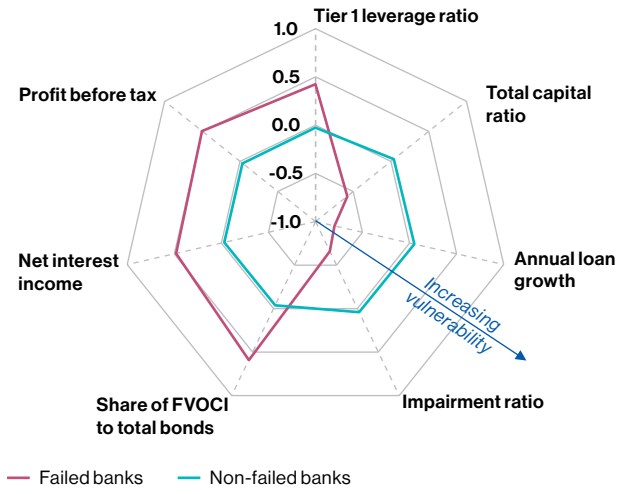


p Projected

Source: Bank Negara Malaysia

[22] Refers to the banking group or standalone bank if it does not belong to a larger banking group, as the case may be.
[23] Refers to banks that incurred at least two consecutive quarters of losses, or a minimum two years of annual losses.
[24] Stressed outflows applied on the deposits of each bank is assumed to be at least 16% based on benchmarking of recent global distressed banks' experience.
[25] LCR applied in the stress test refers to only Malaysian ringgit position.
[26] Refer to Table 2.2 in the section on 'Assessing the Resilience of Financial Institutions' in BNM's Financial Stability Review for Second Half 2023 for more details.

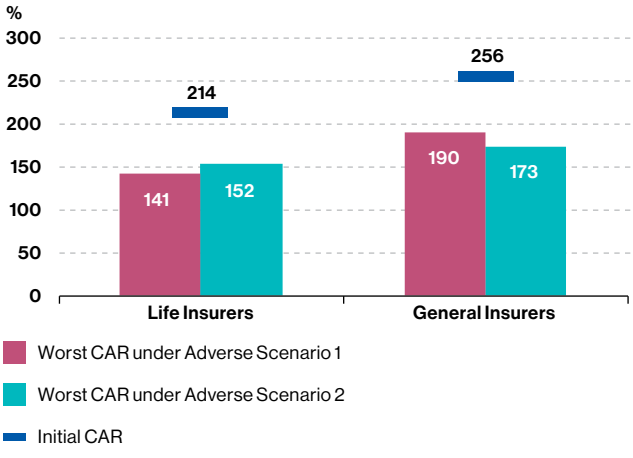
Chart 2.31: Macro Stress Test: Banking System – Common Characteristics of Failed Banks' Pre-stress Position (2024)



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

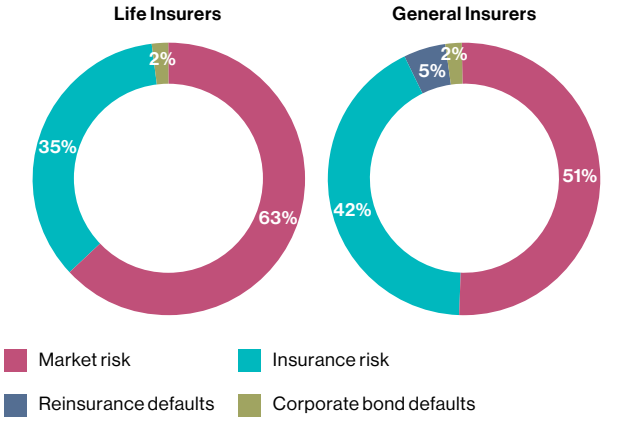
Source: Bank Negara Malaysia

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



Source: Bank Negara Malaysia

Chart 2.33: Macro Stress Test: Insurance Sector – Loss Drivers Under Adverse Scenario 1



Source: Bank Negara Malaysia

surrenders. Nonetheless, the downward revaluation of liabilities due to the increase in bond yields is expected to partly cushion the impact on their CAR.

Under AS1, two life insurers, accounting for less than 8% of total insurance assets, are projected to breach the regulatory minimum of 130% post-shock. Another ten insurers (making a total of 12 insurers) would also fall below their individual target capital levels (ITCL).[27] In the current stress test exercise, an assessment was also made on the potential impact from constraints on the ability of insurers to reprice existing medical insurance premiums throughout the stress horizon.[28] Such a shock is expected to increase the number of life insurers that are expected to fall below the ITCL over the stress horizon, relative to the baseline shock assumption. This includes a number of larger insurers that will incur medical losses that more than offset the improvements to their capital position from the economic recovery assumed in AS1. The capital shortfall to restore ITCL for all affected life insurers is estimated to be RM8.8 billion.[29] The ability to reprice improves the resilience of life insurers to stress, as it allows the revenue of life insurers to keep up with the cost of medical claims. Long-term reforms to contain medical cost inflation are therefore critical to ensure the sustainability of the medical insurance business.

[27] ITCL is the supervisory intervention level at which insurers are expected to activate their capital management plan to conserve and restore capital. This first intervention level is higher than the regulatory minimum.
[28] The additional shock applied is more severe than the December 2024 interim measures. Refer to BNM's press release dated 20 December 2024 on 'Interim measures to assist policyholders and to promote the continued access to suitable medical and health insurance/takaful products' for more details.
[29] The estimated total capital shortfall reflects the impact from severe macroeconomic conditions as well, and not specifically from medical-related shocks.

For general insurers, lower premiums from pricing competition in the motor and fire segments as well as higher claims due to more expensive motor repair costs and increased fraud incidents will continue to weigh on their CAR. Four general insurers accounting for less than 5% of total insurance assets are projected to breach the regulatory minimum CAR post-shock. The insurance macro solvency stress test also takes into account insurers' ability to meet short-term liquidity needs under stressed conditions. This is complemented by a liquidity assessment on insurers' ability to meet obligations such as higher policy benefit payouts for medical and surrenders, as well as flood claims. The liquidity assessment affirms that insurers have sufficient liquid assets and are able to fulfil these obligations.