

Looking Beyond DSR to Assess Households' Debt-Servicing Capacity

Introduction

Debt service ratio (DSR) is a common indicator used to assess borrowers' debt-servicing capacity.¹ It refers to the portion of a borrower's monthly net income (gross income minus tax and other statutory deductions) that is used to pay the borrower's total debt obligations. Borrowers with high DSRs can point to household debt vulnerabilities as a large portion of borrowers' monthly net income is being used to pay their monthly debt obligations, leaving little for other expenditures or savings. Given this, several countries, including Malaysia, have regulations in place that mitigate risks from lending to all or a segment of borrowers beyond a certain DSR threshold.² This is to ensure borrowers are not overburdened by debt and to contain the potential build-up of household debt vulnerabilities.

In general, borrowers with high DSRs are likely to be more susceptible to repayment stress as they have a smaller income buffer to cushion them from financial shocks that can arise from the loss of income, increases in cost of living or higher loan repayments due to rising interest rates. This is corroborated by Bank Negara Malaysia's (BNM) macro solvency stress test results³ which show that household borrowers with DSR exceeding 60% (hereafter referred to as high-DSR borrowers) are significantly less resilient to severe unemployment and income shocks. Under such scenarios, high-DSR borrowers are up to 5.5 times more likely to default on their loan obligations compared to low-DSR borrowers (borrowers with DSR below 60%).

This article provides further insights into household debt vulnerabilities by examining trends in Net Disposable Income (NDI) as an additional indicator to complement assessments of borrowers' debt-servicing capacity based on DSR.

Why the need to look beyond DSR when assessing debt-servicing capacity?

The assessment of household vulnerabilities based on DSR alone suffers from several drawbacks.

Firstly, it overlooks other factors that are also relevant in assessing loan affordability. This includes factors such as the consideration of differences in the expenditure needs, stock of financial buffers or wealth of borrowers across different income segments, demographics and locations, among other things. High-DSR borrowers that successfully obtain loans tend to be those who also have higher absolute income that enable them to sustain the higher debt burden. They may also have other sources of wealth that can be pledged as collateral, thereby lowering credit risks for financial institutions.

Secondly, the availability of repayment assistance through financial institutions and Credit Counselling and Debt Management Agency (AKPK) has helped support loan repayments during periods of financial distress. This is more notable for high-DSR borrowers that typically account for a larger share of borrowers that take up loan repayment assistance programmes (Chart 1), and explains why even during periods of severe economic and financial distress such as that experienced during the COVID-19 pandemic, the quality of borrowings remained stable among high-DSR borrowers.⁴

These factors are borne out by evidence from household loan performance in Malaysia across periods of both normal and stressed economic conditions. There is little differentiation in the performance of borrowings held by high- and low-DSR borrowers. During periods of stress, borrowings held by high-DSR borrowers are associated with lower incidents of missed loan repayments compared to borrowings held by low-DSR borrowers (Chart 2).

¹ Exact computation can differ across countries. In Malaysia, DSRs are computed using net income while in other countries such as the UK and Singapore, DSRs are computed using gross or pre-tax incomes. Coverage of debt can also vary across countries. DSR computation in Malaysia considers loans taken from banks and non-banks, whereas in some countries, the coverage of debt in computation of DSRs is confined to banking system loans.

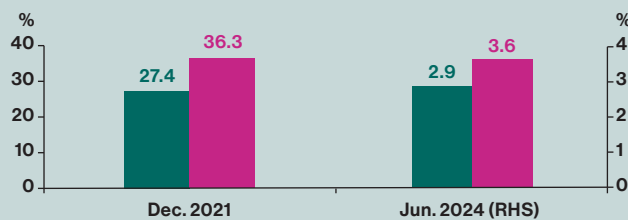
² DSR thresholds varies across countries based on the Committee on Global Financial System's paper on 'Macroprudential policies to mitigate housing market risks' (2023).

³ Refer to Financial Stability Review Second Half 2021 on 'Assessing the Resilience of Financial Institutions'.

⁴ Quality of borrowings during this period was also supported by the extraordinary support measures taken by the Government and relevant agencies to contain the impact of the COVID-19 pandemic. These include moratorium on loan repayments, cash transfers for individuals, and wage subsidies to encourage businesses to retain employees.

Given these observations, relying on non-differentiated⁵ DSR measures alone may be insufficient to fully explain borrowers' debt-servicing capacity – both during periods of normal and stressed economic conditions.

Chart 1: Household Sector – Share of Loans Under Repayment Assistance by Borrower Debt Service Ratio



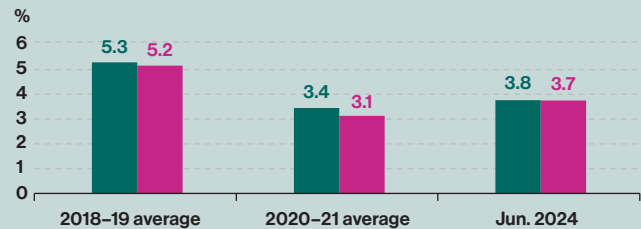
Borrower debt service ratio:

■ < 60 ■ > 60

Note: 1. Data refers to loans under restructured and rescheduled programmes offered by financial institutions as well as Debt Management Programme offered by Credit Counselling and Debt Management Agency.
2. Data refers to banking system and development financial institution (DFI) loans.

Source: Bank Negara Malaysia

Chart 2: Household Sector – Share of Missed Loan Repayments by Borrower Debt Service Ratio



Borrower debt service ratio:

■ < 60 ■ > 60

Note: 1. Data refers to loans with 1 month or more in-arrears.
2. Data refers to banking system and development financial institution (DFI) loans.

Source: Bank Negara Malaysia

The use of NDI alongside DSR to assess debt-servicing capacity

In practice, financial institutions rely on NDI, alongside DSR, in their loan affordability assessments and lending decisions. NDI is commonly calculated by deducting borrowers' total monthly loan repayments⁶ from their monthly net income to arrive at the residual income available to borrowers to cover their consumption expenditure. A borrower's consumption expenditure is in turn influenced by individual circumstances and lifestyle choices such as marital status, number of dependents, and location of residence.⁷

NDI enables financial institutions to better account for borrowers' income and consumption expenditure, as it is more easily adapted to borrower-specific circumstances. For example, in assessing loan affordability among borrowers with similar incomes and DSR levels, it would be appropriate to apply a higher NDI to a married borrower with children who is likely to face higher expenditures compared to an unmarried borrower without dependants. Correspondingly, borrowers with low NDI are more likely to be associated with low or negative financial margins,⁸ which in turn increases their susceptibility to distress.

Minimum NDI levels observed by financial institutions vary across institutions and may be differentiated by loan product, borrowers' income, risk profile, location and marital status. Financial institutions review these internal thresholds on a periodic basis, some as frequent as annually, to account for changes in the cost of living.

Based on an analysis of a sample of 21.1 million loan accounts (92% of outstanding household loan accounts) over a period of 12 months, BNM found that loan accounts held by borrowers with an NDI of RM1,000⁹ or less were more likely to experience distress¹⁰ by the end of the 12-month horizon compared to loan accounts held by borrowers with higher levels of NDI (Chart 3). By combining NDI and DSR indicators, clearer evidence of household vulnerabilities emerged as observed from the higher share of loan accounts in default and distress (Chart 4), compared to observations based on DSR alone.

⁵ E.g. to take into account differences in income levels and costs of living based on place of residence.

⁶ Total monthly loan repayments include the amount from new lending.

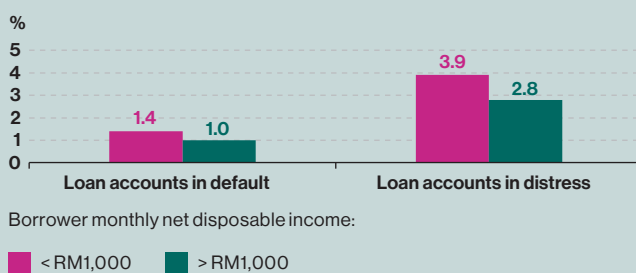
⁷ For example, cost of living is typically higher for borrowers living in urban locations.

⁸ Financial margin is defined as the residual of a borrower's monthly net income (defined as gross income less statutory deductions), debt repayments, and basic expenditures. More information about the use of financial margin by BNM can be found in the article 'Forecasting Households' Time to Default – Enhancements to the Financial Margin Framework' in BNM Financial Stability Review for First Half 2020.

⁹ For purposes of this analysis, a representative NDI threshold of RM1,000 was selected from a range of NDI thresholds that financial institutions use in loan affordability assessments. Staff analysis also finds a larger share of borrowers with NDI below RM1,000 having at least 1 loan account in default. As at June 2024, around 13% of household borrowers have NDI of RM1,000 and below.

¹⁰ Distress is defined as loan accounts in delinquency or default, as well as loan accounts under repayment assistance from financial institutions or AKPK. Default is defined as the loan accounts with three months or more in-arrears.

Chart 3: Household Sector – Share of Loan Accounts in Default and Loan Accounts in Distress by Borrower Monthly Net Disposable Income



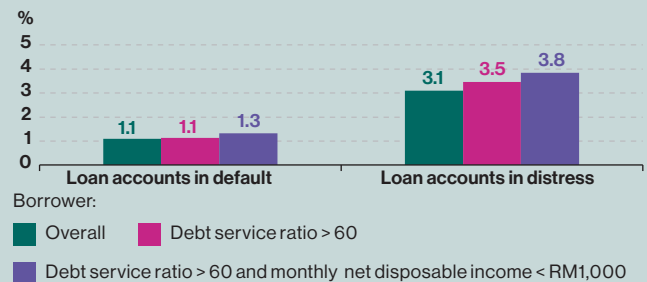
Borrower monthly net disposable income:

■ < RM1,000 ■ > RM1,000

Note: Data refers to banking system and development financial institution (DFI) loans.

Source: Bank Negara Malaysia

Chart 4: Household Sector – Share of Loan Accounts in Default and Loan Accounts in Distress by Borrower Debt Service Ratio and Monthly Net Disposable Income



Borrower:

■ Overall ■ Debt service ratio > 60
■ Debt service ratio > 60 and monthly net disposable income < RM1,000

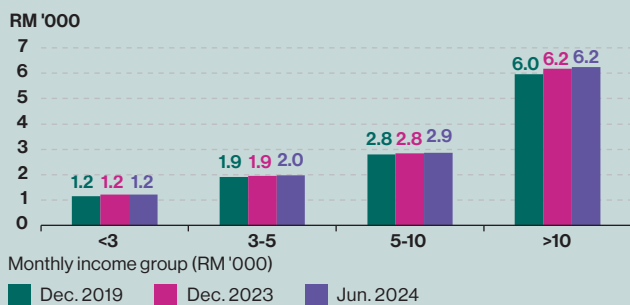
Note: Data refers to banking system and development financial institution (DFI) loans.

Source: Bank Negara Malaysia

Trends in NDI

Since 2019, the median NDI for newly approved loans has been broadly unchanged across all income groups. The median NDI for newly approved loans to the low-income borrower segment stood at around RM1,210 (Chart 5). While this is above the current NDI thresholds adopted by most banks, it is below the average expenditure¹¹ of between RM1,840 and RM2,440 guided by the Employees Provident Fund (EPF)¹² for single individuals to attain a reasonable and acceptable standard of living in major cities. This may suggest scope for further differentiation of NDI thresholds for specific borrower circumstances as part of ongoing efforts within banks to ensure that affordability assessments are sufficiently robust. Notwithstanding, it is worth noting that the share of borrowers with low NDI (as a measure of more vulnerable borrowers) is significantly lower than that suggested by measures of DSR alone (Chart 6), and drops further for borrowers that have both high DSR and low NDI. This further affirms current assessments of overall household resilience.

Chart 5: Household Sector – Median Borrower Monthly Net Disposable Income for Newly Approved Loans by Income Group



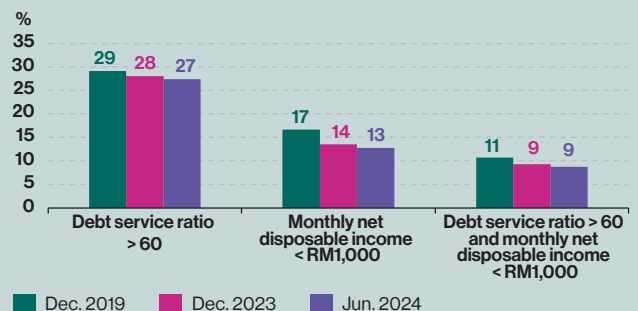
Monthly income group (RM '000)

■ Dec. 2019 ■ Dec. 2023 ■ Jun. 2024

Note: Data refers to banking system and development financial institution (DFI) loans.

Source: Bank Negara Malaysia

Chart 6: Household Sector – Share of Outstanding Borrowers by Borrower Debt Service Ratio and Monthly Net Disposable Income



■ Dec. 2019 ■ Dec. 2023 ■ Jun. 2024

Note: Data refers to banking system and development financial institution (DFI) loans.

Source: Bank Negara Malaysia

References

- Committee on the Global Financial System (2023). 'Macroprudential Policies to Mitigate Housing Market Risks'.
- Bank Negara Malaysia (2020). 'Forecasting Households' Time to Default – Enhancements to the Financial Margin Framework', Financial Stability Review for First Half 2020.
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- Employees Provident Fund (2023). 'Belanjawanku: Expenditure Guide for Malaysian Individuals and Families'.

¹¹ Expenditure comprises spending on basic necessities and discretionary expenses such as recreational activities, vacation, social events and allocation for savings.

¹² Based on EPF Belanjawanku 2023 Guide.