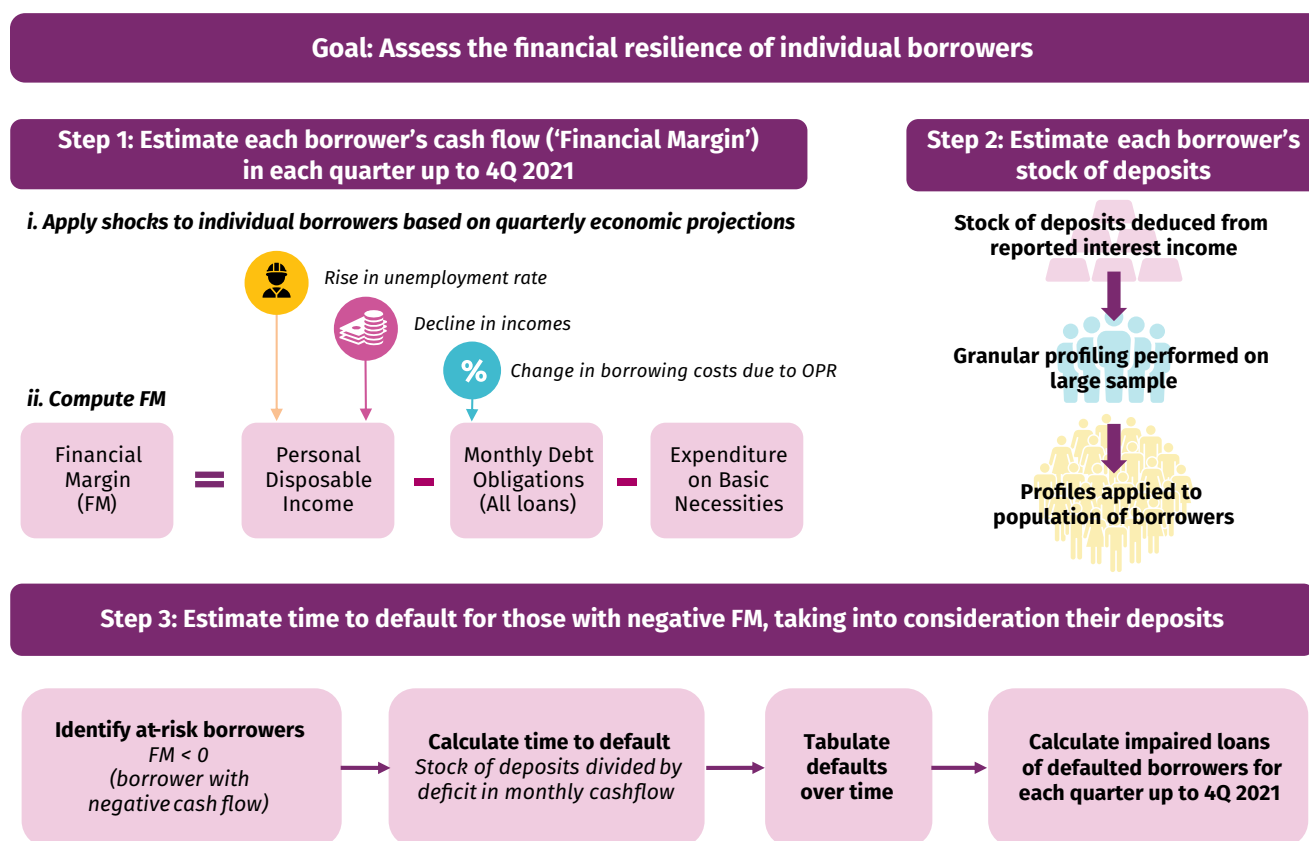


## Forecasting Households' Time to Default – Enhancements to the Financial Margin Framework

The financial margin framework is used in the Bank's in-depth assessments of households' financial health and resilience against hypothetical shocks, building off a rich set of individual borrower-level data. Previously, the framework ignores cumulative financial buffers that may be available to borrowers to meet shortfalls in monthly cashflows that are required to service debt and pay for essential expenditures. Borrowers are therefore presumed to default immediately when monthly cashflows are in deficit (i.e. negative financial margin), after accounting only for any positive cashflows from the previous month. This builds in a level of conservatism during normal times in order to capture tail-risks.

In the current environment, the Bank sought to further examine the ability of households to service their debt where more households may experience financial difficulties, but would be able to draw on financial buffers they have accumulated to sustain their debt repayments for a period of time. To this end, the financial margin framework was enhanced (Diagram 2.9) to account for the progressive draw down on deposits by households to meet shortfalls in monthly cashflows. Households are presumed to default only after their stock of deposits is depleted. The enhanced framework thus provides additional insights from a time dimension on the evolution of household default risk arising from income and unemployment shocks.

Diagram 2.9: Outline of the Enhanced Financial Margin Framework



Source: Bank Negara Malaysia

This framework only considers deposits as wealth. This is given the high uncertainty in estimating other forms of wealth<sup>24</sup> at an individual-level, and the easy accessibility to deposits in times of financial stress. A large sample of anonymised individual tax records and techniques<sup>25</sup> to measure wealth distribution was employed to estimate the stock of deposits held by individual borrowers.

Unlike the previous sensitivity analyses where one-off shocks were simulated, the enhanced framework simulates quarterly shocks. It also incorporates the effects of the automatic loan moratorium between April and September 2020 and the targeted assistance measures announced in July 2020.<sup>26</sup> During the automatic loan moratorium period, borrowers' debt obligations are set to zero. Subsequently, borrowers affected by simulated unemployment shocks are assumed to continue with zero debt obligations until end-2020, whereas all other borrowers' debt obligations are scaled by the quantum of income shocks simulated until the end of the targeted assistance period. With the gradual recovery in labour market conditions, the targeted assistance measures will continue to provide a measure of debt relief to borrowers who remain affected by the crisis. These measures are assumed to lapse after 1Q 2021. The enhanced financial margin framework does not include the impact of additional initiatives beyond the targeted assistance measures announced, such as banks' bespoke R&R efforts or programmes by the Credit Counselling and Debt Management Agency (Agensi Kaunseling dan Pengurusan Kredit, AKPK). Such additional support extended would further contain a rise in distress among households.

<sup>24</sup> Other forms of liquid financial assets include investment in equities and unit trust funds (fixed and non-fixed price). Valuations for some of these assets tend to be volatile, further complicating their measurement, and hence the deliberate omission from the computation.

<sup>25</sup> Saez and Zucman (2014), 'Wealth Inequality in the United States since 1913: Evidence from Capitalized Income Tax Data'.

<sup>26</sup> These measures include (i) an extended loan moratorium for unemployed borrowers in 4Q 2020 and (ii) a reduction in debt obligations proportionate to income declines over the period 4Q 2020 – 1Q 2021.