Household and firm heterogeneity in monetary policy decision-making – Malaysia's perspective

Bank Negara Malaysia

Introduction

Heterogeneity among households and firms is an important component embedded in the Bank Negara Malaysia's (BNM) economic surveillance for monetary policy decision-making. Information on heterogeneity serves two purposes. First, it informs economic outlook assessments such as the trajectories of private consumption and private investment growth. Heterogeneous responses to various shocks and policy interventions reveal potential vulnerabilities and underlie the sustainability of economic growth. Second, it sheds light on the effectiveness of monetary policy transmission. Alongside stylised observations on the structural characteristics of households and firms, preliminary empirical estimations suggest that the aggregate effect of monetary policy action on specific transmission channels may mask some varying effects across heterogeneous groups. Further, surveillance of bank and borrower behaviours shows that heterogeneity may influence responses to shocks depending on the state of the economy, as increased risk aversion during downturns, which can have implications for policy efficacy. While the distributional impact of monetary policy (ie the overall effect on inequality outcomes) does not directly influence policy interest rate decisions, such information, to the extent that it is obtainable, is important for understanding the potential unintended consequences of the overall transmission mechanism and thus serves to inform communication strategies as well as complementary policies.

The first part of this note provides a comprehensive overview of the monetary transmission mechanism in Malaysia at the aggregate level, highlighting the relative strength of different channels. The second part delves into the role of household and firm heterogeneity in monetary policy analysis. The final part touches on the relevance of distributional effects of monetary policy and discusses heterogeneity concerns more broadly in the context of BNM's other mandates.

Part I: The monetary transmission mechanism in Malaysia

Monetary policy transmission has remained effective with the adoption of an interest rate-based monetary policy framework and amid supportive structural developments in the economy and financial system.

Five years after the Asian financial crisis,[1] following significant reforms and the strengthening of Malaysia's economic and financial sector fundamentals, BNM transitioned towards a new market-based interest rate targeting framework through the introduction of the New Interest Rate Framework (NIRF) in April 2004. This followed extended periods of monetary targeting in the 1980s and early 1990s and the adoption of the three-month intervention rate in 1998 to facilitate policy signalling and immediate transmission of policy rate changes to banks' base lending rates (BLRs).[2] Since 2004, under the current NIRF, the monetary policy stance is signalled by the Overnight Policy Rate (OPR), the target for the average overnight interbank rate. A flexible exchange rate regime was also subsequently adopted in July 2005. This monetary policy framework remains in place today.

Amid this evolution in the design of the monetary policy framework, the transmission mechanism has remained effective. For example, estimates based on a sample from Q2 1991 to Q2 2023 assessing the impact of a monetary policy shock on real GDP growth and core inflation were found to be higher in a subsample beginning in 2007.[3] Nevertheless, the transmission lag of policy has remained steady, with peak transmission to real GDP growth and inflation occurring at two and three quarters, respectively, after a policy shock.

The stronger transmission (policy impact) likely stems from the alignment of the NIRF's characteristics with domestic structural trends. For example, targeting the shortest market rate ensured the highest degree of controllability of the policy target by the central bank. The NIRF also entailed greater emphasis on communications to guide expectations.[4] At the same time, key changes had taken place in the domestic economy and financial system. These include increased access to financial services for

1 For discussion on the monetary policy framework in the lead-up to and during the Asian financial crisis, refer to BNM (1999).

2 At the same time, to support monetary autonomy, a fixed exchange rate regime and selective exchange controls were introduced in September 1998. The latter was removed in stages thereafter.

3 This currently unpublished BNM internal staff assessment was conducted using a DSGE model, MyGPS (Malaysia's Generalised and Parsimonious Simulation Model), adopted from the Bank of England's COMPASS (Central Organising Model for Projection Analysis and Scenario Simulation) and calibrated to Malaysia. Further findings will be released in an upcoming publication. The impact of a monetary policy shock on aggregate macroeconomic variables is assumed to be symmetric in this model. For more details, please refer to Burgess et al (2013).

4 BNM's Monetary Policy Committee (MPC) began issuing the Monetary Policy Statement (MPS) in May 2004.

businesses (including micro, small and medium enterprises (MSMEs))[5] and households and the maturation of Malaysia's financial system, in which financing from a more diversified and competitive banking system continued to expand alongside deeper and more liquid equity and bond markets. This stronger transmission has occurred despite global structural phenomena, such as the (pre-Covid-19) flattening of Phillips curves, in which standard prescriptions for monetary policy may prove to be destabilising (Beaudry et al (2024)), or the stronger co-movements of business cycles between countries, potentially influencing domestic monetary policy autonomy as central banks have to align their responses to global economic shifts (Bräuning and Sheremirov (2023)).

The strength of monetary policy transmission reflects relative high sensitivity to the cash flow channel driven by broad reliance on floating rate bank financing.

The overall impact of monetary policy on key aggregate macroeconomic variables in Malaysia, while efficacious, subsumes differing influences across individual transmission channels. A key feature of the monetary transmission mechanism is the relative strength of the cash flow channel. This channel is particularly relevant in Malaysia given the high level of financing provided by the banking system (accounting for 79.3% of overall financing in Malaysia).[6] Furthermore, this bank-based financing is characterised by a high share of floating rate loans, which has increased over time (accounting for around 80% and 75% of outstanding household and non-financial firms' loans, respectively).[7] This means that a significant portion of Malaysian households and firms experience changes in cash flows following the repricing of bank loans due to adjustments in the OPR.

The BNM's introduction of the Standardised Base Rate (SBR) in August 2022, as part of the revised Reference Rate Framework, reinforces the strength of the cash flow channel. The SBR serves as the main reference rate for all new retail floating rate loans and moves in tandem with the quantum of OPR adjustments. This not only ensures that OPR changes are uniformly reflected in retail BLRs across banks, but also provides households with greater predictability and transparency regarding borrowing costs.

Further efforts to contrast the cash flow channels for households and firms indicate that the cash flow channel for firms is slightly less potent. While MSMEs, which are reliant on bank-based financing, made up 96.9% of firms and 39.1% of GDP

[5] Micro, small and medium enterprises (MSMEs) were defined at the 14th National SME Development Council (NSDC) Meeting in July 2013. The criteria are based on either sales turnover or the number of full-time employees: for the manufacturing sector, MSMEs are defined as firms with sales turnover not exceeding MYR 50 million or no more than 200 full-time employees; for the services and other sectors, MSMEs are defined as firms with sales turnover not exceeding MYR 20 million or no more than 75 full-time employees.

[6] As at September 2024, Malaysia's credit-to-GDP ratio stood at 148% (133% as at March 2005). Credit refers to outstanding loans to households and non-financial corporations from the banking system and development financial institutions (DFIs) and outstanding corporate bonds issued by non-financial corporations (including short-term papers). Figures computed based on BNM (2024) and DOSM (2024a).

[7] As at September 2024 (compared with 61% and 62%, respectively, in January 2013).

in 2023,[8] business loans are priced based on a wider set of reference rates, such as Kuala Lumpur Interbank Offered Rates (KLIBOR) and banks' internal cost of funds,[9] due in part to the varied and less homogeneous nature of business credit facilities, and also include a slightly higher share of fixed-rate agreements. Additionally, larger firms tend to have access to more diverse sources of funding, such as retained earnings and bond issuances (with fixed coupon rates throughout a bond's duration).

While changes in interest rates significantly influence the disposable income available to households and firms – and thus aggregate demand – through the cash flow channel, intertemporal behavioural responses to save and invest appear more muted in Malaysia. Adjustments to monetary policy have a moderate effect on households' marginal decision on when to consume or save, likely given a non-trivial share of financially constrained households.[10] Findings from BNM's monthly Consumer Sentiment Survey (CSS) show that about 40% of households claim to face difficulties making ends meet.[11] These households are likely less sensitive to changes in deposit rates, for instance, given low savings and capacity to save to begin with. According to the CSS, only about 37% of financially constrained households can sustain their spending for three months or longer in the event of loss of income sources (in contrast to approximately 66% of non-financially constrained households). A similar pattern can be observed among firms with regard to the relevance of OPR changes. Engagements by BNM's Regional Economic Surveillance (RES) teams indicate a relatively small role played by interest rates in affecting (mostly large) firms' investment decisions. Firms tend to be more influenced by other economic and business factors, such as the overall economic outlook and general uncertainty about the future.

The dominant role of banks as financial intermediaries amplifies the impact of monetary policy on loan market outcomes. This confirms the presence of the credit channel, a combination of both the balance sheet and bank lending channels in Malaysia. Leveraging data from Malaysia's central credit registry,[12] internal research suggests that contractionary monetary policy shocks reduce both the volume and value of new loans across all major segments (households, MSMEs and larger firms).

Beyond the channels described above, through which the banking system plays a key role, the expectations channel of monetary policy transmission also directly

[8] See DOSM (2024b).

[9] While other reference rates are also influenced by the OPR as well as prevailing market conditions, the transmission of the OPR to the SBR is relatively more direct as the SBR moves directly in tandem with the OPR.

[10] Financially constrained/lower-income households' consumption is relatively more affected by indirect cash flow channel effects on employment and wages, while intertemporal substitution effects work through unconstrained/wealthier households which are more able to save and smooth their consumption.

[11] This qualitative survey question aims to understand how households perceive their financial condition based on the ease with which they can get through any given month on their monthly income (on a scale from difficult to very easy). The share of households facing difficulties making ends meet is calculated by adding up the shares of households which chose a response of "Not Very Easy" and "Difficult" to the survey question.

[12] The Central Credit Reference Information System (CCRIS) is Malaysia's credit registry, which consists of loan- and borrower-level information on loans and financing facilities extended by – but not limited to – banks, DFIs and non-bank financial institutions (NBFIs).

affects the economy, especially through household expectations. Recent research has established the role of household inflation expectations in transmitting monetary policy adjustments. For instance, a contractionary monetary policy shock was found to have reduced households' expectation of future inflation, which in turn reduces current consumer spending and actual inflation. Although significant, the effect was found to be somewhat dampened among financially constrained households.

Meanwhile, the exchange rate channel has a more limited role in transmitting domestic monetary policy adjustments to the economy. This is notwithstanding Malaysia's status as a highly open economy (with a trade-to-GDP ratio of 145%).[13] Changes in the OPR have limited impact on the ringgit, and only marginally more so post-NIRF implementation, which coincides with the adoption of the managed float exchange rate regime. Further, the little implication for growth from this channel is also due to the relatively inelastic exchange rate sensitivity of exports, which may reflect the combination of various factors, including that Malaysia is a price taker amid dominant currency pricing, as well as significant integration into global supply chains.

Some gaps remain in understanding monetary policy transmission channels.

Assessments of monetary policy transmission in Malaysia have thus far focused on establishing the presence and absolute strength of individual channels. Efforts to disentangle the different transmission channels or rank their relative strengths have been challenging, due mainly to current limitations on the availability of comprehensive and high-quality data, such as:

- The unavailability of reliable household- or firm-level balance sheet data across time: This has posed difficulties in disentangling the extent to which the credit channel operates through revaluations of borrowers' balance sheets that affect their creditworthiness (balance sheet channel) or shifts in banks' willingness to extend credit (bank lending channel). Existing firm-level balance sheet data in Malaysia are thus far limited to large publicly listed firms, whereas granular data for MSMEs are incomplete.
- Insufficiency of data sources regarding firms' inflation expectations across Malaysia: While internal assessments have been carried out for Malaysian households by leveraging available household inflation expectations data from the CSS, the use of a similar approach to empirically model the expectations channel for Malaysian firms, ie whether changes in monetary policy affect firms' inflation expectations or economic outlook, has been particularly challenging.

BNM recognises the need to address such data limitations over the longer term in order to enhance monetary policy analysis given that the heterogeneity of households and firms could result in differing impacts of monetary policy across the distribution of households or firms, thereby strengthening or undermining the efficacy of the monetary transmission mechanism.

[13] As at 2023 (the average for 2015–19 was 124.9%). While the trade-to-GDP ratio has increased relative to its pre-pandemic level, more recent figures have experienced some fluctuations. Figures computed based on DOSM (2024c) and DOSM (2024d).

Part II: The role of heterogeneity in monetary policy analysis

Heterogeneity across households and firms is considered by BNM as part of its economic surveillance, primarily to inform two key aspects in the formulation of monetary policy strategy: first, it informs economic outlook assessments, and second, it sheds light on the effectiveness of monetary policy transmission. Accounting for the heterogeneous nature of households and firms contributes to forming the basis for an overall aggregate assessment of the outlook for domestic activity and inflation and, consequently, the appropriate monetary policy actions moving forward.

Incorporating household heterogeneity into monetary policy analysis has proven to be insightful and highly relevant for policy considerations.

A recent illustrative experience of the key role of heterogeneity in assessing Malaysia's economic outlook took place in early 2024: BNM's Monetary Policy Committee (MPC) discussed varying scenarios of macroeconomic impacts arising from the Malaysian government's planned subsidy rationalisation measures, including on retail fuel prices. Amid growing conversations on the possibility of the government complementing such measures with targeted cash transfers, staff analysis of households' fuel expenditures, savings buffers and marginal propensity to consume across income quintiles – that is, heterogeneity across disposable income – contributed significantly to the development of potential trajectories of private consumption growth and, by extension, the growth of the Malaysian economy (private final consumption as a percentage of current GDP was 62.7% as at Q3 2024).

A key insight from the analysis was that the contractionary impact from subsidy rationalisation measures on private consumption was expected to be subdued, partially due to limited changes in consumption by middle- to high-income households, specifically the top three income quintiles, which accounted for around 80% of private consumption expenditure.[14] These households were relatively more able to smoothen their consumption over time amid less binding financial constraints and greater latitude in substituting across goods and services, consistent with prior research that showed diminishing marginal propensity to consume as income increased.[15] This supported the view that private consumption growth would remain sustainable, thereby shaping – alongside prospects for overall economic activity and inflation – the strategic considerations for monetary policy during the year.

Beyond helping to formulate a better assessment of the economic outlook, dimensions of heterogeneity can provide critical information on the efficacy of monetary policy transmission. Notably, the challenges BNM faced in navigating the Covid-19 crisis highlighted the role of household heterogeneity in influencing state-dependent sensitivity to monetary policy. A BNM survey of banks in the second half

[14] Staff estimates using DOSM (2023).

[15] See Suah (2024). Although this study suggests that the contractionary impact from subsidy rationalisation is expected to be greater for low-income households due to their higher marginal propensity to consume, this impact would be partly mitigated by the support to consumption provided through cash transfers.

of 2020 proved useful in gauging potential shifts in risk aversion amid the transition to a state of elevated economic uncertainty. For example, the study found that banks were more willing to extend credit to households with stable and formal employment given the stability of their incomes relative to those working in informal sectors, such as gig economy workers, who experienced greater variability and risk in their incomes. There were also indications that credit costs were likely to increase somewhat, especially for personal loans, amid uncertainty about the economic outlook. Even without tightening credit standards, credit supply was expected to be affected by the deterioration in prospective borrowers' balance sheets. Thus, although the cumulative reduction in the OPR during the year had generally led to lower lending rates, the study suggested that there were partially countervailing credit constraints for certain borrower segments that risked a negative feedback loop. Backed with this richer view of the potency of monetary policy in the downturn amid Covid-19, monetary policy was calibrated to ensure the appropriate degree of monetary stimulus for the macroeconomy. This was coordinated with a range of more targeted fiscal measures and financial reprieve initiatives, such as loan repayment moratoriums and targeted repayment assistance.

BNM intends to further explore how household heterogeneity influences the monetary transmission mechanism, ie whether there is meaningful variation across different segments that underlies how specific channels transmit policy action. For example, collaborative research under way[16] suggests that contractionary monetary policy has a dampening effect on mortgage credit allocation, but this effect varies among income groups. Higher-income households[17] experience consistent declines in loan application values and realised mortgage amounts, which suggest demand-driven flexibility in their own borrowing decisions rather than credit supply constraints.[18] These results pointing to relatively interest rate-elastic credit demand are intuitive as higher-income households tend to borrow more, including for property investments, thereby having greater exposure to the effects of higher interest rates on debt repayment and property prices. In contrast, middle-income households[19] do not experience a significant change in loan application values and realised mortgage amounts, though this group does show the most pronounced (albeit modest) decline in the probability of loan approval. In contrast to middle- to higher-income households, lower-income households exhibit relatively inelastic credit demand and the probability of loan approval is largely unaffected, which could point to necessity-based borrowing or the influence of targeted homeownership initiatives. The preliminary study also suggests that search activity (multiple applications) rises and is more pronounced for middle- to higher-income households.[20] Altogether, these results provide a snapshot of transmission specific to credit allocation, which borrower segments account for the potency of OPR

[16] See Ho et al (forthcoming). This study aims to answer the question of how a contractionary monetary policy shock affects new mortgages across income groups by exploiting high-frequency policy surprises alongside granular loan- and borrower-level data.

[17] Refers to the top four deciles.

[18] In terms of the probability of loan approval among higher-income households, findings suggest some small negative effects, but these are imprecisely estimated.

[19] Specifically, the 5th to 6th deciles.

[20] Refers to the above-median deciles.

adjustments, and how this may be influenced by disparities in financial inclusivity (with non-necessity-based borrowing more affected) and households' ability to acquire information (with higher-income borrowers potentially more able to seek out better loan terms).

The presence of both large firms and MSMEs is also a consideration for understanding economic outlook and policy impact.

Several interlinked dimensions of firm heterogeneity, namely size, business sector and financing sources, are integral to economic outlook assessments and are also considered when evaluating monetary policy transmission. These firm characteristics shape how the economy responds to macroeconomic developments and policies, influencing business decisions on investments and labour hiring, sectoral performance and overall economic growth prospects.

For example, like value added, private investment is dominated by large firms across export-oriented industries, such as commodities and manufacturing, and predominantly domestic-focused service sectors. Export-oriented large firms, which accounted for 87.8% of total exports in Malaysia in 2023, benefit from strong integration into global value chains (GVCs), leveraging economies of scale, international market access and foreign direct investments. Large firms also accounted for most of the employment in Malaysia (51.5%) in 2023.[21] As a result, surveys conducted by BNM's RES teams that focused mainly on large firms' expectations and outlook can well approximate key aggregate economic trends. Meanwhile, MSMEs are mainly domestically oriented, with some having backward linkages to the export-oriented industries supplying inputs, logistics and other services that support the export sector. Thus, MSMEs are relatively more sensitive to domestic shocks, in part due to structural characteristics such as comparatively low financial buffers, but simultaneously play a crucial role in employment generation and consumption-driven resilience. As such, where possible, analyses are also carried out for MSMEs, particularly with regard to access to financing and potential effects arising from shocks and policy interventions.

The coexistence of large firms and MSMEs influences the extent to which the efficacy of monetary policy may be affected by adverse economic conditions, as well as how changes to the OPR are transmitted across firms. As with the case of households discussed in the previous section, the same study of banks' behaviour during the pandemic, coupled with a firm survey on access to financing, helped contextualise for businesses the prevailing monetary accommodation and other supportive measures at the time. This, in turn, provided some guidance on the principles for responses going into 2021. For instance, the uncertain economic outlook at the time and sector-specific prospects meant that there was disproportionately greater risk aversion and tighter credit underwriting towards corporates given large ticket sizes and the unsecured nature of financing. While MSMEs were much more affected by credit tightening at the onset of the Covid-19 crisis, there was subsequently some loosening aided in part by access to financing schemes from BNM and the government and MSMEs' tendency to take on secured

[21] Figures for large firms' share of exports and employment calculated based on DOSM (2024b).

financing. Nevertheless, MSMEs could still be adversely affected to the extent that there was avoidance of new-to-bank customers on the credit supply side and a discouraged mindset on the demand side. Cumulatively, these observations suggested some dampening of the impact from easier funding conditions through monetary policy actions and regulatory flexibilities, and were thus factored into the continuous calibration of policies, which sought to balance economic recovery and longer-term sustainable growth.

Regarding how firm heterogeneity influences the various transmission channels of OPR changes, the lack of micro-level data across different firm characteristics precludes in-depth studies at this juncture. However, some empirical observations have provided a few insights. For example, the credit channel study mentioned in Part 1 of this note further suggests that for a +100bp shock to monetary policy, the probability of new loan approvals is dampened for corporates but not for MSMEs, while the amount of loans approved is reduced for MSMEs but not corporates. Some possible implications of these findings include that during an expansionary monetary policy phase, working capital loans are an important source of cash flow for MSMEs with established relationships with banks, but new-to-bank or at-the-margin MSMEs may still face barriers, including risk aversion, and thus represent a less potent conduit of monetary policy action. Taking a higher-level view of transmission channels, firm heterogeneity comes into play through firms' different funding profiles. Large firms typically rely on diverse sources of external funding, including bank loans, bonds and equity. Thus, these firms will also be affected through the asset price and expectations channels as financing for business investments will be influenced by bond risk premia and spreads and market valuations. In contrast, MSMEs have more limited alternative financing sources to bank loans and thus are generally more exposed to the credit channel and procyclical financing conditions.

Part III: Distributional effects of monetary policy

While the distributional impact of monetary policy does not directly influence OPR decisions, such information is important for understanding the transmission mechanism and informing communication strategies as well as complementary policies.

BNM is undertaking work to empirically evaluate the impact of monetary policy on key dimensions of inequality in Malaysia. Thus far, staff research has focused on analysing the distributional effects of monetary policy across households given available data on heterogeneity to aid such assessments. A preliminary study that allows for exposure across different transmission channels (both direct and indirect) finds that the relative impacts of a monetary policy shock on changes in real consumption across Malaysian households of different income levels tend to even out over time.[22] The variation in real consumption responses across income groups is

[22] See Goh (forthcoming). This study examines how monetary policy affects household consumption across different income, wealth and age groups through multiple transmission channels by using the

modest, and the impacts on higher-income households are somewhat larger. This study suggests that while low-income households are less affected by higher debt repayments due to limited access to credit, following a contractionary monetary policy shock, consumption effects transmit from their susceptibility to an earnings shock precipitated by changes in labour market conditions. High-income households, on the other hand, are harder hit through higher debt repayments, but their earnings are relatively resilient.

Nevertheless, more comprehensive studies are needed to establish robust assessments and conclusions. While addressing distributional effects falls outside BNM's monetary policy mandate, as the OPR is less suited as an instrument for targeting equity-related outcomes given its bluntness, the knowledge gained from these research efforts is still valuable for various purposes. Besides improving understanding of monetary policy transmission, especially via the interaction with heterogeneity, and helping to anticipate possible unintended consequences of monetary policy actions, it has been used to enhance the central bank's communications, inform the use of tools under its "non-monetary hats" and support its advisory role to the government especially when it comes to coordination with fiscal policies aimed at redistribution efforts, including targeted fiscal assistance.

Failure in communicating the trade-offs of monetary policy actions – including their possible distributional implications – or perception of indifference to the welfare impacts of monetary policy actions on specific segments can lead to public discontent directed at the central bank, even if monetary policy objectives or targets are met. This is especially the case in periods when necessary monetary policy actions seemingly leave economic agents worse off (for example, through higher debt repayments and indirect earnings effects), in the absence of the counterfactual effects from even higher inflation that disproportionately affects low-income segments of the population. This potential erosion in credibility could have implications for the formation of expectations. However, at this juncture, such implications have yet to be quantified or empirically ascertained, ie whether distributional effects could affect BNM's credibility and in turn feed into the broader monetary policy transmission mechanism. Nonetheless, it has been recognised that if such effects are present, effective communication becomes key to mitigating them. For BNM, this means having a layered and tailored approach with the aim of reaching a heterogeneous audience.

As an example, BNM faced some public pushback during the monetary policy normalisation in 2022–23 following pandemic lows for the OPR, with concerns that the higher interest rates disproportionately affected low-income households and MSMEs which were still struggling in the economic recovery and would be further burdened by higher financing costs. Consequently, communication efforts were intensified and broadened, for example across different platforms including official publications, briefings and social media. Communication narratives were also crafted to address concerns more directly, highlighting available targeted assistance programmes via BNM and the government and advocating for structural reforms, alongside communications on monetary policy actions.

2022 Household Income and Expenditure Survey (HIES) to quantify the effects of various transmission channels based on households' balance sheet exposure.

Outside of its monetary policy remit focused on the aggregate goals of price stability and sustainable growth, BNM has other tools at its disposal to address distributional concerns.

Despite BNM's lack of an explicit mandate regarding distributional objectives, the Central Bank of Malaysia Act 2009 articulates the promotion of a sound, progressive and *inclusive* financial sector as a primary function of BNM. As such, BNM has pursued policies that aim to promote the financial inclusion of all segments of society, thereby indirectly addressing distributional disparities within the economy. These policies include initiatives that target vulnerable groups such as MSMEs and low-income households. One notable programme is iTEKAD, designed to assist low-income microentrepreneurs in strengthening their financial management and business acumen in order to generate sustainable income. By combining social finance instruments with microfinance and structured training, iTEKAD enables participants to access funding and develop essential skills, ultimately fostering economic resilience. Additionally, BNM has enhanced the MSME financing ecosystem through dedicated funds aimed at providing reasonable access to financing to MSMEs across all economic sectors. While the primary aim of these initiatives is financial inclusion, they inherently address distributional concerns by empowering underserved communities and promoting equitable economic growth, while also potentially contributing to the efficacy of monetary policy with the higher share of bankable economic agents.

Conclusion

Consideration of household and firm heterogeneity, to the extent that data and methods allow, contributes to a richer evaluation of economic prospects and understanding of monetary policy transmission. This is important, especially in the face of shocks or structural shifts whereby the interaction with heterogeneity may introduce vulnerabilities and dynamic feedback loops that ultimately affect aggregate outcomes that matter for the monetary policy mandate. It also allows for a more informed calibration of monetary policy and the use of complementary policies under BNM's "non-monetary hats" that indirectly support transmission while serving BNM's other mandates with respect to financial stability and financial inclusion. This whole-of-bank approach was particularly evident during the Covid-19 crisis. Agent heterogeneity also needs to be considered when developing effective communications for maintaining credibility. While a judicious approach was employed for policy rate increases in 2022–23, some segments (low-income households and MSMEs) were understandably perceived to be more adversely affected than others, requiring enhanced and targeted communications. This episode reinforces the need to work towards a more comprehensive picture of the interaction of heterogeneity with the transmission mechanism and, ultimately, a robust understanding of distributional impacts on heterogeneous groups of agents across direct and indirect channels.

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