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The Role of Central Bank Forecasts in Shaping Analysts' Expectations in Malaysia

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The Role of Central Bank Forecasts in Shaping Analysts' Expectations in Malaysia

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Abstract

Central banks use economic forecasts to shape expectations and enhance the effectiveness of monetary policy. By sharing economic insights and providing guidance on potential economic trajectories, they aim to improve public understanding of policy rationales and implications. This, in turn, helps anchor expectations, aligning private sector decisions with policy objectives. Utilising Malaysian forecast data from the Asia Pacific Consensus Forecasts, this study examines the relationship between changes in analysts' expectations and the initial forecast gap between Bank Negara Malaysia (BNM) current-year official forecasts and those of analysts. The findings indicate that BNM current-year forecasts have a significant impact on analysts' current-year projections, particularly during periods of economic shock. However, the absence of explicit next-year forecast guidance from BNM limits its influence on analysts' next-year projections. This lack of a next-year perspective may lead to herding behaviour among analysts and an increased reliance on other macroeconomic factors in forming next-year outlooks.

Keywords: Forecast, Central bank communication, Monetary policy

JEL classification: E31, E52, E58

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1. Introduction

Central banks strategically leverage economic forecasts to shape market expectations and enhance monetary policy transmission.[2] By disseminating their insights and providing forward guidance on potential economic trajectories, they can cultivate an understanding of the rationale behind policy decisions. This communication enables the public and financial markets to anticipate future policy strategies, fostering predictability and reducing uncertainty. Consequently, private sector actions are more likely to align with the central bank's monetary policy objectives and prevailing economic conditions, thereby improving policy effectiveness. This process hinges on the credibility of forecasts and the clarity of communication, as these factors determine how effectively market participants internalise and act upon the conveyed information.

For policymakers, understanding the extent to which central banks influence expectations is crucial for assessing and refining communication strategies to achieve desired policy outcomes. Effective communication requires central banks to consider a broad spectrum of stakeholders, including the public, media, government, parliament, and financial market participants. By engaging these groups, central banks strengthen monetary policy transmission, enhance accountability, promote financial literacy, and facilitate coordination with other policymakers (Casiraghi and Pio Perez, 2022).

Building on this understanding, our study investigates the influence of BNM forecasts on analysts' inflation and GDP growth expectations. Utilising Malaysian forecast data from the Asia Pacific Consensus Forecasts, we assess how changes in analysts' expectations are associated with the gap between BNM and analysts' forecasts. This analysis aims to provide empirical evidence on the effectiveness of BNM's communication strategy in shaping market expectations within the Malaysian context.

Our findings show that BNM current-year forecasts significantly influence analysts' current-year projections, especially during economic shocks. However, the lack of explicit next-year forecast guidance from BNM limits their impact on analysts' next-year projections. This absence of a next-year perspective may lead to herding behaviour among analysts and increased reliance on other macroeconomic factors when forming their next-year outlook. As a result, forecasts may align with group consensus due to reputational or financial incentives in the absence of clear directional guidance from BNM. Overall, these results suggest that while BNM current-year forecasts can effectively shape market expectations, the effectiveness

[2] Gürkaynak, Sack, and Swanson (2005), Swanson (2006), and Orphanides and Wieland (2008) provide empirical evidence that the forecasts of Federal Reserve policymakers help predict future policy decisions while also conveying additional information and policy signals to the public.

of their communication – through the publication of these forecasts – may depend on the economic context and the availability of next-year forecast guidance.

This study contributes to a well-established body of research examining the influence of central bank forecasts on private sector expectations. Much of this literature links the influence of central banks to informational asymmetries, suggesting that central banks may hold superior information (Romer & Romer, 2000; Sheng, 2014). While efficient private forecasters should incorporate central bank projections, the literature suggests that private forecasters often exhibit inefficiencies (Nordhaus, 1987). General research in this area investigates how rationality and disagreement shape private forecaster behaviour (e.g., Clements, 2009, 2010; Capistrán & Timmermann, 2009; Engelberg et al., 2009), and assesses how central bank communication strategies and transparency impact these behaviours (e.g., Faust & Svensson, 2001; Geraats, 2005; Jansen & de Haan, 2007). Early contributions in this area found that central bank forecasts could influence private sector expectations and reduce forecast dispersion (Fujiwara, 2005; Ehrmann et al., 2012), although the degree of this influence tends to vary across countries (Hubert, 2015).

More recent literature delves deeper into the transmission mechanisms, confirming that central bank forecasts often act as anchors or significant informational signals for private forecasters (e.g., Hubert & Labondance, 2017; Mellina & Schmidt, 2018). The strength of this influence appears contingent upon the mode and clarity of central bank communication (Blinder et al., 2017; Coibion et al., 2020), the prevailing economic context, and the credibility of the central bank itself (Dovern, 2015). Reflecting this, many contemporary studies explicitly model how private sector forecast revisions respond directly to central bank communications (Binder, 2017; Coibion et al., 2018).

Studies conducted within specific country contexts are particularly relevant to our investigation of expectation formation among Malaysian analysts, although the literature in this area remains relatively limited. Pedersen (2015), using data from Chile, showed that central bank forecasts had a stronger influence on professional forecasters' current-year inflation expectations compared to their expectations for the following year. The study also noted that the central bank's GDP growth forecasts gained more traction later in the year, potentially due to perceptions of the central bank's informational advantage regarding future data revisions. Similarly, Hattori et al. (2016) found that forecasts from the Bank of Japan significantly shaped private-sector inflation expectations for the current year. This effect persisted even after Japan adopted an explicit inflation-targeting regime. Like our study, these papers examine how professional forecasters adjust their expectations in response to central bank forecast releases.

Building on these insights, this paper introduces several innovations in analysing expectation updates among analysts. To our knowledge, this is among the first empirical studies to examine the influence of central bank forecasts on analysts' expectations in the context of a non-inflation-targeting central bank. In particular, we extend prior findings by investigating how the impact of BNM's forecast publications—an integral aspect of central bank communication—varies across different economic contexts, distinguishing between periods of relative stability and episodes of economic shocks. The analysis also accounts for potential herding behaviour among analysts, enabling a more precise identification of the independent effect of BNM's projections on expectation formation.

The remainder of the paper is organised as follows: Section 2 describes the data, Section 3 presents the methodology, Section 4 demonstrates the results and discussion, Section 5 provides the robustness analyses, and Section 6 concludes.

2. Data

2.1 Data Source

The analysts' forecasts for inflation and GDP growth in Malaysia are sourced from the Asia Pacific Consensus Forecasts by Consensus Economics, which cover a monthly period from 2005 to 2024. This dataset includes approximately 20 analysts who provide projections for the average annual rate of inflation and GDP growth for both the current and following calendar years, resulting in fixed-event forecasts.

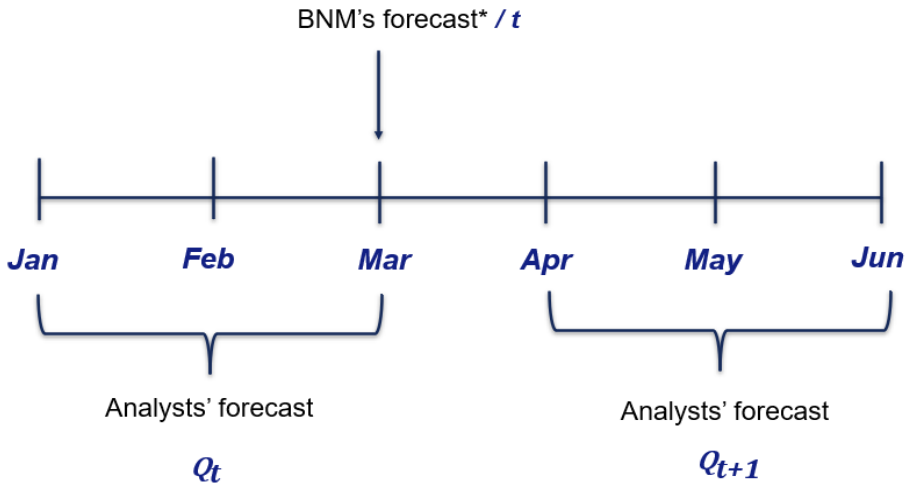
For the BNM forecast, we rely on projections published in its official publication of the Economic and Monetary Review, typically released at the end of March each year. It is important to note that BNM publishes forecasts only for the current calendar year and does not offer projections for the subsequent year at this stage. Since BNM communicates its inflation and GDP growth projections in the form of ranges, we use the midpoint of each range as a proxy for the central bank's point forecast. While BNM provides qualitative guidance on upside or downside risks through narrative statements accompanying its forecasts, it does not publish full probability distributions or fan charts. As such, using the midpoint offers a practical and consistent approximation for empirical analysis. We acknowledge that this approach abstracts from the directional risk assessments embedded in BNM's communication, which could introduce bias. To address this, we conducted additional robustness checks that incorporate risk-adjusted forecasts, drawing on BNM's qualitative risk guidance. The results from this exercise confirm that our key findings remain consistent with the baseline, reinforcing the robustness of the main conclusions.

To ensure alignment with quarterly GDP growth and maintain stability in our analysis, we utilise quarterly data derived by averaging the monthly figures.

2.2 Timing

Four predictions are analysed in this paper, namely inflation and GDP growth forecasts for the current year and the following year, respectively. The timing of the process analysed is illustrated in Chart 1. The influence of the BNM forecast is assessed by examining the revisions made by analysts in the second quarter compared to the first quarter. The changes in these expectations may be due to a number of factors, namely the publication of the BNM forecast, the herding dynamics among analysts, data released in the first and second quarters, and the state of the economy.

Chart 1: Timeline to showcase the observations of BNM and analysts' forecast



*This refers to the BNM forecasts published annually in the Economic and Monetary Review.

2.3 State of the economy

To analyse the varying impact of BNM forecast on analysts' expectations across different economic contexts, we have identified specific years as periods of economic shock between 2005 and 2024. These years are 2008, 2014, 2015, 2018, 2020, and 2022, while the remaining years are categorised as stable. These shock periods are primarily driven by supply shocks, except for the COVID-19 pandemic in 2020, which is characterised by both supply and demand shocks to the economy.

Below is a brief description of these shock periods:

- 2008: Elevated global commodity prices and the onset of the global financial crisis.

- 2014: A crash in global oil prices, accompanied by the depreciation of the USD/MYR exchange rate.
- 2015: Implementation of the Goods and Services Tax (GST).
- 2018: Introduction of the domestic fuel price ceiling and the repeal of the GST, replaced by the Sales and Service Tax (SST).
- 2020: The COVID-19 pandemic.
- 2022: A surge in global commodity prices amid the Russia- Ukraine conflict.

2.4 Summary Statistics

Table 1 presents the summary statistics for inflation and GDP growth forecast data, comparing average values and standard deviations across stable and shock periods. In particular, higher forecast variability, indicated by higher standard deviations, is observed for both inflation and GDP growth forecasts during shock periods, regardless of whether they pertain to the current year or the next year. This suggests that economic shocks introduced greater uncertainty into forecasting.

Table 1: Summary statistics of inflation and GDP growth forecast data

	Inflation			
Period	**Current year**		**Next year**	
	Average	Standard Deviation	Average	Standard Deviation
Stable	2.36	0.30	2.44	0.50
Shock	2.30	0.70	2.80	0.65

Source: Asia Pacific Consensus Forecast and author's estimates.

	GDP Growth			
Period	**Current year**		**Next year**	
	Average	Standard Deviation	Average	Standard Deviation
Stable	4.56	0.48	5.00	0.61
Shock	4.13	1.21	4.97	0.91

Source: Asia Pacific Consensus Forecast and author's estimates.

3. Methodology

Analysts are hypothesised to be influenced by BNM forecasts if they believe BNM possess an informational advantage, especially under conditions of imperfect information.[3]

To evaluate the influence of BNM forecast on analysts' projections, we employ a quarterly general panel econometric model adapted from Pedersen (2015), specified as follows:

$$\Delta X_{i,t+1} = \alpha_i + \beta\,(Y_{t*} - X_{i,t}) + \omega\,(C_{t*} - X_{i,t}) + \gamma Z_t + \varphi\, 1_{econ\ shock} + \lambda\, 1_{econ\ shock} * (Y_{t*} - X_{i,t}) + \mu\, 1_{econ\ shock} * (C_{t*} - X_{i,t}) + \varepsilon_{i,t} \quad (1)$$

where:

- $\Delta X_{i,t+1}$: The difference in the analyst's annual forecast produced by the same institution between the first and second quarters of the year. We focus on this period of revision for several reasons. First, BNM releases its annual forecast in the *Economic and Monetary Review* at the end of the first quarter, making the second quarter the earliest point at which analysts can react to this outlook for the year. This makes the second quarter a uniquely informative window for capturing analyst responses to a specific and newly released forecast ranges. Moreover, focusing on this early revision period helps isolate the impact of the BNM forecast from other information that may emerge in the later quarters, allowing for a cleaner identification of its influence.[4]
- $Y_{t*} - X_{i,t}$: The difference in the BNM annual forecast (calculated as the midpoint of the forecast range released) and the analyst's annual forecast produced in the first quarter, as adapted from Pedersen (2015), serves as a key component in capturing the influence of the BNM forecast.[5]
- $C_{t*} - X_{i,t}$: The difference in the average consensus and analyst's annual forecast produced in the first quarter, as adapted from Pedersen (2015), serves as a key component to capturing herding behaviour among analysts.[6]

[3] While BNM forecasts are hypothesised to provide a reference for analysts, there is no strong evidence that analysts' projections feed back into BNM's forecasting process. BNM's forecasting approach remains centered on its internal models and analytical framework rather than being shaped by private-sector forecasts. This approach is designed to ensure methodological rigour and consistency in BNM's projections.

[4] Other than the forecasts released by BNM, the Ministry of Finance of Malaysia releases its projections for GDP growth and inflation for the following year in the fourth quarter, during the annual budget announcement.

[5] Due to the absence of next year's forecast from BNM, we will use the current year's forecast gap to ensure consistent estimations for next year. This gap is estimated as the deviation of analysts' current-year forecasts from BNM's current-year projections.

[6] The literature provides ample evidence that forecasters are influenced by the (past) consensus and the anticipated views of their peers due to reputational (Scharfstein and Stein, 1990; Hong et al., 2000), informational (Gallo et al, 2002) and strategic reasons, leading to herding behaviour.

- Z_t : Outturn of related variables that may cause changes in the annual forecast produced in the second quarter, which include the year-on-year change of the first quarter of the variable of interest, Brent, USD/MYR, and the level of average weighted overnight interest rate[7].
- $1_{econ\ shock}$: dummy variable controls for periods of economic shocks, with 1 indicating an economic shock period and 0 otherwise.
- $1_{econ\ shock}$*(Y_{t*} - $X_{i,t}$), $1_{econ\ shock}$*(C_{t*} - $X_{i,t}$): interaction between dummy variables and components capturing the influence of the BNM forecast and herding behaviour, respectively, during periods of economic shocks.
- $\varepsilon_{i,t}$: variations in the forecast that cannot be explained by the variables included in the model.

The estimation strategy focuses on forecast revisions from the second quarter relative to the first, using these revisions as the dependent variable. The core variable of interest, capturing the influence of BNM forecast, is the gap between BNM annual forecast and individual analysts' annual forecasts from the first quarter, represented by the coefficient β. The coefficient λ, representing the interaction between an economic shock dummy and the gap with BNM forecast, helps assess whether BNM influence strengthens or weakens during economic shocks compared to stable periods. Additionally, to analyse herding behaviour, we examine coefficient ω, which indicates how the gap between the average consensus forecast and an individual analyst's forecast from the prior quarter affects current-quarter adjustments. Finally, the coefficient μ, which interacts with the economic shock dummy with the consensus gap, reveals the extent of herding behaviour under economic shock relative to stable conditions.

For the next-year estimations, we adopt a similar approach to evaluate the influence of BNM forecasts on analyst forecast revisions, with a few key differences. First, in the absence of BNM's next-year forecasts, we use the deviation between analysts' forecasts and BNM's current-year forecasts to assess the persistence of BNM's influence. Second, to analyse herding behaviour, we apply the same method as in the current-year estimations. Specifically, we examine how the gap between the previous quarter's consensus forecast and an individual analyst's forecast affects adjustments in the current quarter. Third, for all relevant macroeconomic variables, we incorporate macroeconomic data from the previous current-year quarter to account for developments that may explain changes in analyst forecasts.

[7] The outturn of quarterly inflation and GDP growth are sourced from the Department of Statistics, Malaysia (DOSM). Brent and USD/MYR data are sourced from Bloomberg. The average weighted overnight interest rate is sourced from BNM.

Lastly, we assign the economic shock dummy variable based on the year in which the next-year forecast is produced.

4. Results and Discussion

This section examines the extent to which analysts align with BNM's forecasts, beginning with an analysis of the dispersion in analysts' forecasts, highlighting variations across periods of stability and economic shocks. These visualisations are followed by scatter plots that illustrate key relationships of interest. We then complement these insights with empirical results that assess the influence of BNM's projections on analyst expectations.

4.1.1 Visualising Dispersion of Analysts' Expectations

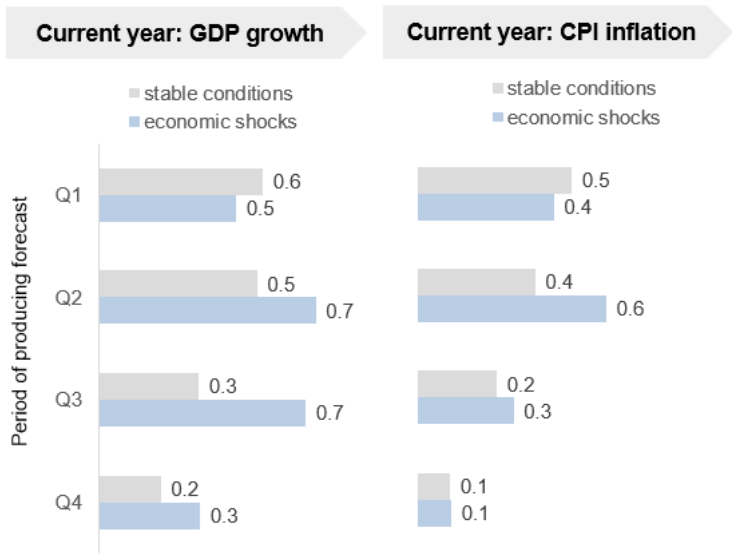
Charts 2 and 3 show the standard deviation of analysts' forecasts for current-year and next-year GDP growth and CPI inflation, respectively. During periods of economic stability, forecast dispersion for the current year tends to decline over time, reflecting a growing consensus as more information becomes available. In contrast, economic shocks lead to a sharp increase in dispersion, indicating heightened uncertainty and more divergent views.

Interestingly, during periods of economic shocks, the dispersion of analysts' current-year forecasts increased in the second quarter, even after BNM had released its official projections in the first quarter. Typically, one would expect greater forecast convergence following the release of new information. This unexpected rise in dispersion, however, appears to be concentrated in a few episodes marked by heightened uncertainty, most notably the 2020 COVID-19 pandemic and the 2008 Global Financial Crisis. When these outlier episodes are excluded, the standard deviation of analysts' current-year forecasts during shock periods falls to 0.4 percentage points (ppt) for GDP growth and 0.3 ppt for CPI inflation, lower than the first-quarter dispersion in those same periods. This suggests that BNM's forecasts may help stabilise expectations during typical shock scenarios, though this stabilisation may become less effective during rare episodes of extreme uncertainty. In such periods, heightened volatility and rapidly evolving conditions could contribute to wider differences in analyst interpretations and projections, resulting in greater dispersion despite the presence of official guidance.

Chart 3 reveals a distinct pattern in the behaviour of next-year forecasts. Under stable conditions, the standard deviation remains relatively flat across quarters, indicating limited convergence even as the forecast horizon shortens. This likely reflects the absence of formal next-year guidance from BNM, which leads analysts to rely more heavily on their own models, assumptions, and judgement, resulting in a wider dispersion of expectations. By contrast, during periods of economic shocks, forecast dispersion increases sharply, consistent with

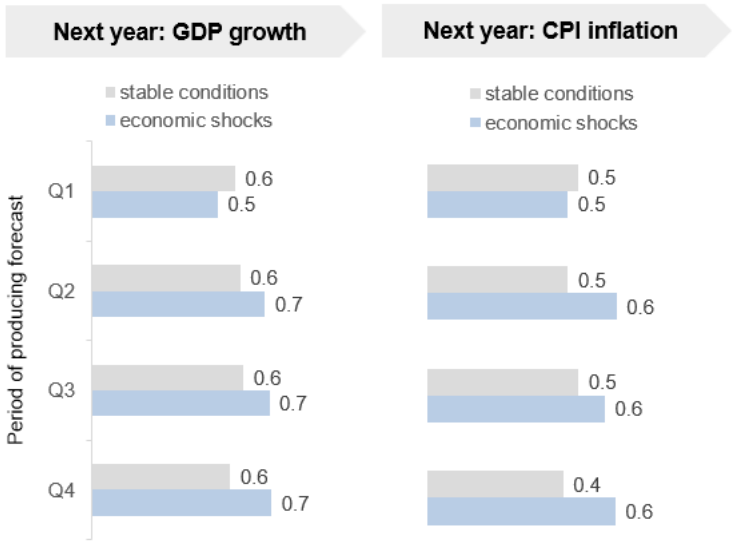
heightened uncertainty and divergent views on the medium-term outlook. The widening spread suggests that instability affects not only near-term assessments but also amplifies disagreement about future conditions, particularly when central bank guidance is unavailable or less specific. These findings highlight the role of BNM's forecasts in shaping short-term expectations and underscore the challenges analysts face in forming consistent views during times of elevated uncertainty.

Chart 2: Standard deviation of current-year GDP growth and CPI inflation



Source: Asia Pacific Consensus Forecast and author's estimates.

Chart 3: Standard deviation of next-year GDP growth and CPI inflation



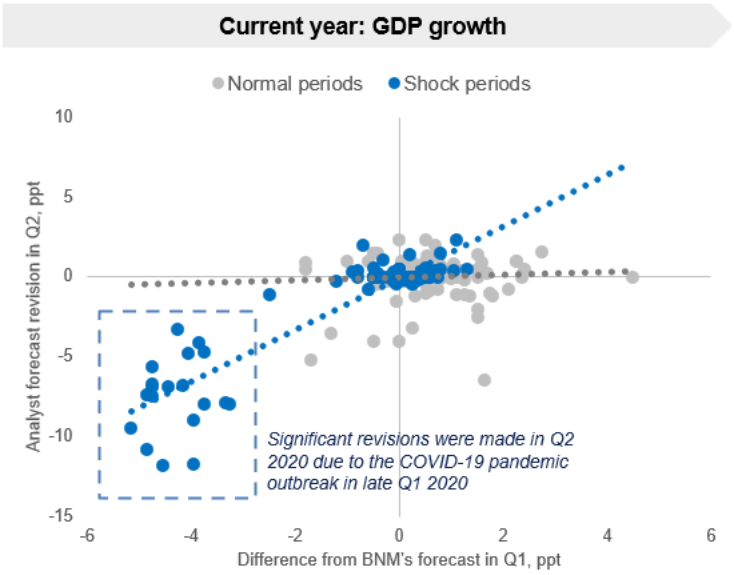
Source: Asia Pacific Consensus Forecast and author's estimates.

4.1.2 Visualising Analysts' Forecasts Alignment with BNM Forecast

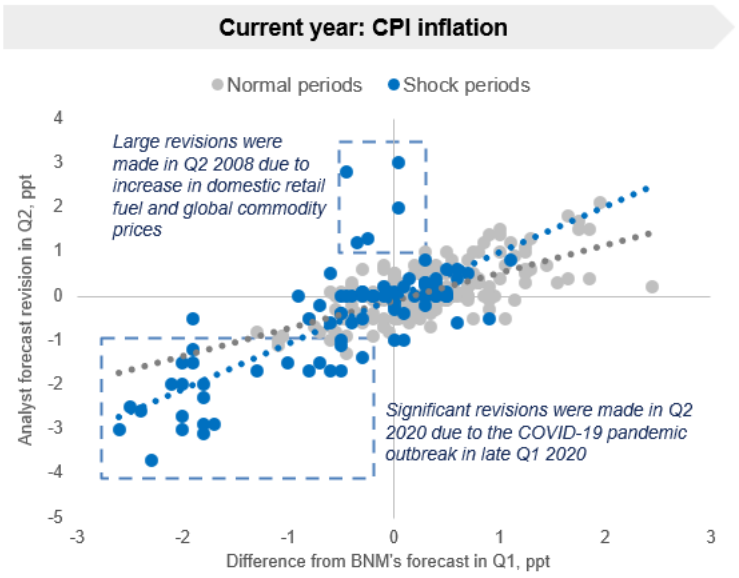
Chart 4 shows an upward trend, indicating that analysts adjust their inflation and GDP growth forecasts to align with BNM forecasts when their initial estimates differ. If the BNM forecast is higher, analysts tend to revise their predictions upward in the next quarter. This trend is particularly pronounced during periods of economic shocks. The correlation is especially strong for GDP growth, suggesting that BNM forecasts serve as a crucial reference point for analysts in times of economic turbulence. However, the deviations observed during these shocks may also reflect other influencing factors, such as the magnitude and complexity of the shocks, which are not addressed in this basic correlation analysis.

Chart 5 illustrates a downward-sloping trendline for next-year analysts' forecasts based on the current-year BNM forecast, suggesting a correction in the following year's forecast due to the observed gap in the current-year forecast. The logic is that if the BNM forecast for the current year is higher than analysts' projections, this translates into a higher base in the year-on-year calculation for the next year, resulting in a downward revision in analysts' next-year forecasts for GDP growth and inflation. Hence, a negative slope is expected if analysts are responding to BNM forecasts. These observations align with expectations.

Chart 4: Current-year forecasts: Revisions in Q2 against the gap from BNM's forecasts in Q1

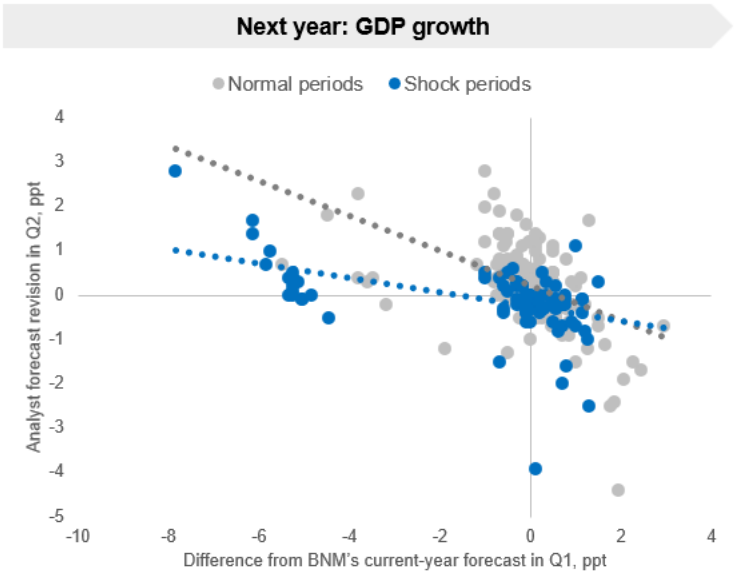


Source: Asia Pacific Consensus Forecast and author's estimates

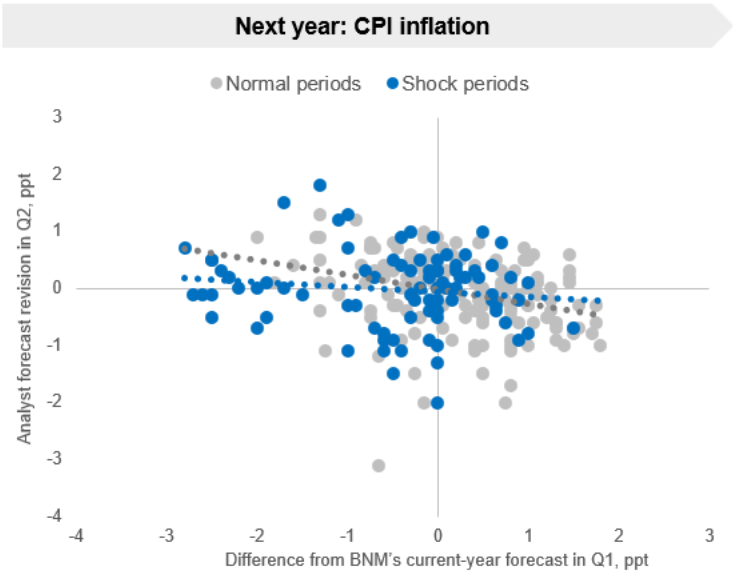


Source: Asia Pacific Consensus Forecast and author's estimates

Chart 5: Next-year forecasts: Revisions in Q2 against the gap from BNM's forecasts in Q1



Source: Asia Pacific Consensus Forecast and author's estimates



Source: Asia Pacific Consensus Forecast and author's estimates

4.2 Empirical Results and Discussion

Current-year forecast

Table 2 illustrates the influence of BNM projections on analysts' current-year inflation and GDP growth forecast. Overall, the empirical results align with the scatter plot, showing the significant influence of the BNM forecast and its interaction with the economic shock dummy.

On average, a 0.10 percentage point (ppt) divergence[8] between BNM and analysts' forecasts in the first quarter is associated with upward forecast revisions in analysts' forecasts of 0.07 ppt for inflation and 0.05 ppt for GDP growth in the second quarter. During periods of economic shock, the influence of BNM forecasts is notably stronger, resulting in additional upward forecast revisions of 0.07 ppt for inflation and 0.11 ppt for GDP growth compared to stable conditions. This effect is evident from the significant interaction terms between the shock dummy and the discrepancy between the BNM annual forecast and analysts' first-quarter forecasts.

Beyond BNM's influence on the revision of analysts' expectations for the second quarter, herding behaviour (C_{t*} - $X_{i,t}$) does not appear to significantly contribute to the revisions of analysts' current-year inflation and GDP growth forecasts in the second quarter, likely due in part to the strong influence of BNM projections. Additionally, adjustments to inflation forecasts

[8] The differences between the mid-point of BNM projections and analysts' forecasts have varied over time; however, a 0.1 percentage point (ppt) difference aligns with the average difference observed across the entire sample.

are associated with year-on-year Brent crude oil prices from the previous quarter. In contrast, growth forecast revisions are linked to all relevant macroeconomic variables from the previous quarter.

These findings underscore BNM's influential role in shaping analysts' expectations, with broader implications for economic stability and policy effectiveness. In this regard, it is crucial for BNM to ensure the accuracy of its published forecasts by leveraging the best available information. Beyond accuracy, publishing alternative scenarios alongside the central forecast enhances transparency by clarifying policy rationales, highlighting forecast risks, and demonstrating the resilience of policy plans amid economic uncertainties.[9] Timely and clear forecasts, particularly during periods of economic shocks, help guide market expectations and foster alignment among stakeholders. This alignment reduces uncertainty, supports informed decision-making, and facilitates smoother policy transmission. Ultimately, BNM's strategic communication—including the use of alternative scenarios—can enhance its credibility and mitigate destabilising market behaviour.

Next-year forecast

Table 3 shows the estimated impact of BNM forecasts on analysts' next-year inflation and GDP growth projections. In line with the observation in the scatter plot, the influence of the current-year BNM forecast shows a negative sign and is insignificant on analysts' next-year projections. This evidence suggests that analysts' next-year inflation and GDP growth forecasts are only weakly influenced by BNM current-year predictions, indicating the limited relevance of the current year's outlook for the following year. Consequently, the current-year forecasts have minimal impact on predictions for the next year. Moreover, the current-year shock dummy and its interaction with key variables capturing the effect of BNM projections during shock periods are statistically insignificant at the 5% level. This implies that the limited influence of BNM's forecasts on the next-year inflation and GDP growth forecast revisions in the second quarter, or the lack thereof, remains consistent across both shock and stable periods.

Nevertheless, the results indicate that herding behaviour and macroeconomic variables significantly drive revisions in medium-term inflation and GDP growth projections during the second quarter. This suggests that medium-term forecasts are primarily shaped by these factors, with herding behaviour exerting a greater influence.

[9] Bernanke (2024) emphasises the importance of communicating uncertainty through scenarios, which helps policymakers and the public understand a range of potential outcomes (Lombardelli, 2024). It also underscores the need for greater transparency in forecasting.

The limited influence of BNM's forecasts on next-year predictions, likely due to the absence of publicly available projections beyond the current year, highlights a potential information gap that could affect market expectations and potentially lead to herding behaviour among analysts.[10] This raises the question of whether BNM should consider publishing longer-term forecasts, even if less precise.

While such forecasts could provide additional guidance and help anchor expectations more effectively, several factors must be carefully weighed. For instance, publishing longer-term projections might inadvertently signal policy targets, particularly if misinterpreted as commitments rather than indicative scenarios. Additionally, central banks must balance the benefits of greater transparency against the risk of introducing uncertainty or amplifying forecast errors, particularly in the face of economic shocks or volatile conditions.

A deeper exploration of these trade-offs is necessary to determine whether providing longer-term forecasts would meaningfully enhance market stability or reduce risks associated with forecast misalignment.

[10] A comprehensive comparison of the benefits derived from herding behaviour versus central bank forecast influence necessitates an assessment of their respective impacts on analysts' forecast accuracy (Pedersen, 2015; Hubert, 2015). While the direct effects of these influences on forecast accuracy are not within the scope of the present study, it is important to consider that, in an environment characterised by imperfect information, analysts may benefit from incorporating central bank projections into their forecast, provided that these projections offer supplementary, non-overlapping information (Hubert, 2015).

Table 2: Results of the influence of BNM's projection estimations for the current-year forecast

	current-year CPI inflation forecast	current-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	**0.67***** (0.08)	**0.48***** (0.14)
$(C_{t*}$ - $X_{i,t}$)	0.08 (0.09)	0.06 (0.12)
CPI_t / GDP_t	0.02 (0.03)	**0.21***** (0.03)
$Brent_t$	**0.01***** (0.001)	**0.01***** (0.002)
USD/MYR_t	0.005 (0.01)	**0.03***** (0.01)
$AOIR_t$	0.002 (0.002)	**-0.01*** (0.003)
$1_{econ\ shock}$	0.10 (0.08)	**-0.14*** (0.08)
$1_{econ\ shock}$ *$(Y_{t*}$ - $X_{i,t}$)	**0.68***** (0.08)	**1.05***** (0.21)
$1_{econ\ shock}$ *$(C_{t*}$ - $X_{i,t}$)	**-0.93***** (0.23)	**-1.30***** (0.29)
constant	**-0.25***** (0.07)	**-1.20***** (0.18)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

Table 3: Results of the influence of BNM's projection estimations for the next-year forecast

	next-year CPI inflation forecast	next-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	-0.06 (0.06)	-0.004 (0.07)
$(C_{t*}$ - $X_{i,t}$)	**0.47***** (0.09)	**0.24*** (0.13)
CPI_t / GDP_t	0.03 (0.03)	0.03 (0.02)
$Brent_t$	**0.004***** (0.001)	**-0.002**** (0.001)
USD/MYR_t	**0.02***** (0.01)	**-0.01**** (0.005)
$AOIR_t$	**0.004***** (0.001)	**-0.003*** (0.002)
$1_{econ\ shock}$	**0.12***** (0.06)	**-0.16**** (0.06)
$1_{econ\ shock}$ *$(Y_{t*}$ - $X_{i,t}$)	-0.06 (0.09)	**-0.15*** (0.09)
$1_{econ\ shock}$ *$(C_{t*}$ - $X_{i,t}$)	-0.03 (0.18)	**0.64***** (0.21)
constant	**-0.14**** (0.06)	-0.04 (0.09)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

5. Robustness and sensitivity analyses

This section presents a series of robustness checks to assess the sensitivity of our findings to alternative assumptions. Specifically, we test variations in the measurement of the forecast gap, the sample period, the identification of economic shocks influencing both BNM's projections and analysts' expectations, and the incorporation of risk-adjusted forecasts based on BNM's qualitative guidance. Across all these specifications, the results remain consistent with our baseline findings, reinforcing the robustness and credibility of our conclusions.

5.1 Standardised forecast gap

We standardised the forecast gap by dividing it by its standard deviation, a method adapted from the Asian Development Bank (2024). This technique provides several key benefits in statistical analysis and interpretation: it ensures the gap is measured on a consistent, unit-

independent scale, thereby enabling direct comparisons across different periods, regardless of varying volatility levels.

Tables 4 and 5 demonstrate the estimation findings using a standardised forecast gap. By and large, using the standardised forecast gap does not significantly alter the baseline estimates of the influence of the BNM forecast. A more pronounced influence of the BNM projections is observed during periods of economic shock for both inflation and GDP growth in the current year. Conversely, a weaker influence of the BNM forecast is observed in the next year.

Table 4: Standardised forecast gap - Robustness results of the influence of BNM's projection estimations for the current-year forecast

	current-year CPI inflation forecast	current-year GDP growth forecast
$(Y_{t*} - X_{i,t}) / \sigma_{(Y_{t*} - X_{i,t})}$	**0.29***** (0.04)	**0.08**** (0.06)
$(C_{t*} - X_{i,t}) / \sigma_{(C_{t*} - X_{i,t})}$	0.02 (0.03)	**0.14*** (0.07)
CPI_t / GDP_t	0.03 (0.03)	**0.17***** (0.03)
$Brent_t$	**0.01***** (0.001)	**0.01***** (0.001)
USD/MYR_t	0.004 (0.005)	**0.04***** (0.01)
$AOIR_t$	0.001 (0.002)	-0.004 (0.003)
$1_{econ\ shock}$	0.07 (0.08)	**-0.33***** (0.09)
$1_{econ\ shock}$ * $[(Y_{t*} - X_{i,t}) / \sigma_{(Y_{t*} - X_{i,t})}]$	**0.07**** (0.03)	**0.75****** (0.09)
$1_{econ\ shock}$ * $[(C_{t*} - X_{i,t}) / \sigma_{(C_{t*} - X_{i,t})}]$	**-0.15**** (0.06)	**-0.81***** (0.12)
constant	**-0.24***** (0.08)	**-0.91***** (0.15)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

Table 5: Standardised forecast gap - Robustness results of the influence of BNM's projection estimations for the next-year forecast

	next-year CPI inflation forecast	next-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$) / $\sigma_{(Y_{t*} - X_{i,t})}$	-0.06 (0.03)	0.01 (0.05)
$(C_{t*}$ - $X_{i,t}$) / $\sigma_{(C_{t*} - X_{i,t})}$	**0.26***** (0.04)	**0.12*** (0.06)
CPI_t / GDP_t	**0.05*** (0.03)	0.03 (0.02)
$Brent_t$	**0.01***** (0.001)	**-0.003**** (0.001)
USD/MYR_t	**0.02***** (0.01)	**-0.01**** (0.01)
$AOIR_t$	**0.004**** (0.001)	**-0.004*** (0.002)
$1_{econ\ shock}$	0.09 (0.06)	**-0.11*** (0.06)
$1_{econ\ shock}$ * [$(Y_{t*}$ - $X_{i,t}$) / $\sigma_{(Y_{t*} - X_{i,t})}$]	0.004 (0.03)	**-0.12**** (0.06)
$1_{econ\ shock}$ * [$(C_{t*}$ - $X_{i,t}$) / $\sigma_{(C_{t*} - X_{i,t})}$]	-0.02 (0.09)	0.20 (0.08)
constant	**-0.19***** (0.06)	-0.02 (0.08)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

5.2 Monthly time frame

To establish the effect of BNM's forecast more precisely, a shorter monthly timeframe is utilised. Specifically, March (when BNM publishes its forecast) and April (the month following the forecast announcement) are examined. As a result, the dependent variable in the regression is the monthly change, and other macroeconomic control variables are also measured on a monthly basis.

Overall, the key findings are consistent with the baseline results, with a noted stronger effect of BNM inflation forecast during shock periods for the next year's forecast. This indicates a more sustained influence of BNM inflation projections on analysts' expectations in such times.

This stronger effect during shock periods can be attributed to heightened uncertainty, which increases analysts' reliance on BNM's forecasts as an anchor for their projections. In times of economic volatility, the credibility and accessibility of central bank forecasts become particularly important as analysts seek reliable reference points to navigate through limited or conflicting market signals.

However, this sustained influence also raises important considerations. It may reflect analysts' tendency to adopt a cautious or herding behaviour during shocks, prioritising alignment with central bank projections to mitigate reputational risks or forecast errors. This behaviour could either enhance the role of BNM's guidance in stabilising market expectations or potentially create over-reliance, leading to less independent analysis.

Table 6: Monthly time frame - Robustness results of the influence of BNM's projection estimations for the current-year forecast

	current-year CPI inflation forecast	current-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	**0.50***** (0.07)	**0.16***** (0.18)
$(C_{t*}$ - $X_{i,t}$)	-0.02 (0.09)	**0.50**** (0.22)
CPI_t / GDP_t	**-0.08***** (0.02)	**0.05**** (0.02)
$Brent_t$	**-0.002**** (0.001)	**0.01***** (0.002)
USD/MYR_t	**0.02***** (0.003)	**-0.01***** (0.004)
$AOIR_t$	0.002 (0.001)	**0.01**** (0.004)
$1_{econ\ shock}$	**0.21***** (0.05)	-0.01 (0.05)
$1_{econ\ shock}$* [$(Y_{t*}$ - $X_{i,t}$)]	**0.34***** (0.12)	**1.15***** (0.16)
$1_{econ\ shock}$ * [$(C_{t*}$ - $X_{i,t}$)]	**-0.51***** (0.18)	**-1.34***** (0.26)
constant	0.05 (0.04)	**-0.34**** (0.13)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

Table 7: Monthly time frame - Robustness results of the influence of BNM's projection estimations for the next-year forecast

	next-year CPI inflation forecast	next-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	-0.01 (0.04)	-0.05 (0.04)
$(C_{t*}$ - $X_{i,t}$)	**0.19***** (0.07)	**0.20**** (0.09)
CPI_t / GDP_t	0.05 (0.02)	**0.02*** (0.01)
$Brent_t$	**-0.004***** (0.001)	**0.001*** (0.0005)
USD/MYR_t	**0.01***** (0.002)	0.002 (0.003)
$AOIR_t$	**-0.01***** (0.002)	**0.003***** (0.001)
$1_{econ\ shock}$	0.03 (0.03)	0.04 (0.03)
$1_{econ\ shock}$* [$(Y_{t*}$ - $X_{i,t}$)]	**0.24***** (0.06)	**-0.21***** (0.06)
$1_{econ\ shock}$ * [$(C_{t*}$ - $X_{i,t}$)]	-0.17 (0.10)	-0.21 (0.23)
constant	0.02 (0.04)	-0.09 (0.06)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

5.3 Salience of Economic Shocks

To test the robustness of our classification of economic shocks, we construct an alternative shock dummy based on the salience of economic shocks. Specifically, we standardise annual GDP growth and CPI inflation into z-scores, using the 2011–2019 period as the reference. We then apply cut-off thresholds at the 5th and 95th percentiles for each variable. Using this method, salient inflation shocks are identified in 2008 and 2020, while salient GDP growth shocks are observed in 2009, 2020, and 2022. This approach enables a more targeted identification of shock periods specific to each macroeconomic indicator.

Using this salience-based economic shock dummy yields results that are consistent with the baseline. The continued prominence of BNM's influence on analysts' current-year expectations—even during periods of large, salient shocks—suggests that the central bank's

projections remain a key reference point for near-term outlooks, even when uncertainty is elevated. This finding holds irrespective of the size of shocks identified, reinforcing the robustness of the baseline result. However, the influence does not extend to forecasts for the following year, likely reflecting the inherently short-term orientation of BNM's published forecasts and guidance. In volatile periods, while analysts appear to anchor their near-term views to the central bank's projections, they revert to their own independent assessments when forming longer-term expectations.

Table 8: Salience of economic shocks - Robustness results of the influence of BNM's projection estimations for the current-year forecast

	current-year CPI inflation forecast	current-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	**0.75***** (0.10)	**1.12***** (0.23)
$(C_{t*}$ - $X_{i,t}$)	-0.06 (0.12)	**-0.73***** (0.23)
CPI_t / GDP_t	0.02 (0.03)	**0.34***** (0.04)
$Brent_t$	**0.01***** (0.001)	**0.003***** (0.001)
USD/MYR_t	**0.01**** (0.005)	**0.02***** (0.005)
$AOIR_t$	0.003 (0.002)	**-0.01***** (0.003)
$1_{econ\ shock}$	**1.21***** (0.36)	**0.79***** (0.29)
$1_{econ\ shock}$* [$(Y_{t*}$ - $X_{i,t}$)]	**1.23***** (0.26)	**0.49**** (0.25)
$1_{econ\ shock}$ *[$(C_{t*}$ - $X_{i,t}$)]	-1.87 (1.23)	-0.28 (0.38)
constant	**-0.27***** (0.05)	**-2.04***** (0.27)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

Table 9: Salience of economic shocks - Robustness results of the influence of BNM's projection estimations for the next-year forecast

	next-year CPI inflation forecast	next-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	-0.03 (0.06)	0.26 (0.17)
$(C_{t*}$ - $X_{i,t}$)	**0.38***** (0.10)	**0.03**** (0.01)
CPI_t / GDP_t	0.02 (0.02)	**0.04*** (0.02)
$Brent_t$	**0.003**** (0.001)	0.001 (0.001)
USD/MYR_t	**0.02**** (0.01)	0.01 (0.005)
$AOIR_t$	**0.004**** (0.001)	-0.001 (0.002)
$1_{econ\ shock}$	**0.55*** (0.28)	-0.42 (0.14)
$1_{econ\ shock}$* [$(Y_{t*}$ - $X_{i,t}$)]	0.11 (0.16)	-0.52 (0.20)
$1_{econ\ shock}$ * [$(C_{t*}$ - $X_{i,t}$)]	0.23 (0.63)	**0.96***** (0.24)
constant	**-0.10*** (0.05)	**-0.24**** (0.12)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

5.4 Forecast with Risk Adjustment

To assess the sensitivity of our results to the balance of risks embedded in BNM's forecasts, we conducted a robustness check using a risk-adjusted forecast measure. Rather than relying solely on the midpoint of BNM's forecast range, we adjusted the forecast input based on the qualitative risk guidance provided in the accompanying narratives. This approach mitigates potential bias from arbitrarily selecting a single point within the forecast range and more accurately captures the directional signals communicated by the central bank.

Specifically, we applied the 25th percentile of the range when downside risks were indicated, the 75th percentile when upside risks were noted, and the 50th percentile when risks were assessed as balanced. The results from this risk-adjusted specification remain consistent with our baseline findings, reinforcing the robustness of our conclusions. This suggests that the

influence of BNM's forecasts on analysts' expectations reflects the broader informational content of its communication, rather than being driven by the precise numerical point selected.

Table 10: Forecast risk asymmetries - Robustness results of the influence of BNM's projection estimations for the current-year forecast

	current-year CPI inflation forecast	current-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	**0.52***** (0.06)	**0.28**** (0.16)
$(C_{t*}$ - $X_{i,t}$)	**0.22**** (0.09)	**0.26**** (0.12)
CPI_t / GDP_t	0.03 (0.03)	**0.18***** (0.04)
$Brent_t$	**0.006***** (0.001)	**0.008***** (0.002)
USD/MYR_t	-0.005 (0.005)	**0.03***** (0.007)
$AOIR_t$	0.001 (0.001)	-0.005 (0.004)
$1_{econ\ shock}$	0.05 (0.08)	-0.03 (0.08)
$1_{econ\ shock}$* [$(Y_{t*}$ - $X_{i,t}$)]	**0.51***** (0.06)	**1.11***** (0.21)
$1_{econ\ shock}$ *[$(C_{t*}$ - $X_{i,t}$)]	**-0.78***** (0.23)	**-1.36***** (0.29)
constant	**-0.27***** (0.07)	**-0.98***** (0.17)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

Table 11: Forecast risk asymmetries - Robustness results of the influence of BNM's projection estimations for the next-year forecast

	next-year CPI inflation forecast	next-year GDP growth forecast
$(Y_{t*}$ - $X_{i,t}$)	-0.04 (0.05)	0.01 (0.07)
$(C_{t*}$ - $X_{i,t}$)	**0.45***** (0.09)	**0.23*** (0.12)
CPI_t / GDP_t	0.02 (0.03)	0.03 (0.02)
$Brent_t$	**0.004***** (0.001)	**-0.003*** (0.001)
USD/MYR_t	**0.02***** (0.01)	**-0.01*** (0.005)
$AOIR_t$	**0.004***** (0.001)	**-0.004*** (0.002)
$1_{econ\ shock}$	0.13 (0.06)	**-0.17*** (0.06)
$1_{econ\ shock}$* [$(Y_{t*}$ - $X_{i,t}$)]	-0.04 (0.07)	**-0.15*** (0.08)
$1_{econ\ shock}$ * [$(C_{t*}$ - $X_{i,t}$)]	-0.05 (0.17)	**0.63**** (0.21)
constant	**-0.13**** (0.05)	-0.03 (0.10)

Note:
1/ *indicates statistical significance at the 10% confidence level; **indicates statistical significance at the 5% confidence level; ***indicates statistical significance at the 1% confidence level.
2/ The heteroskedasticity and autocorrelation (HAC) consistent standard errors are reported in parentheses.
Source: Asia Pacific Consensus Forecast and author's estimates.

6. Conclusion

This paper examines the extent to which BNM forecasts influence analysts' forecasts for inflation and GDP growth in Malaysia. Our findings indicate that BNM's current-year forecasts significantly impact analysts' current-year projections, particularly during periods of economic shock. However, the absence of explicit next-year forecast guidance from BNM limits their impact on analysts' next-year projections. The observed convergence in next-year forecasts suggests potential herding behaviour, although the underlying mechanism warrants further examination. While analysts may observe and be influenced by one another's forecasts, the lack of next-year guidance from BNM likely increases uncertainty. This may result in convergence, as analysts draw on common information sources such as current-year forecasts, historical trends, or macroeconomic indicators, rather than direct imitation. Future research should investigate the dynamics of forecast revision and dispersion more closely to

determine whether such convergence reflects true herding or a rational response to uncertainty in the absence of a central bank guidance, an issue with important implications for forecast efficiency.

These findings underscore BNM's pivotal role in shaping market expectations, with broader implications for economic stability and policy effectiveness. Timely and clear forecasts, particularly in periods of heightened volatility, guide market expectations, reduce uncertainty, and support more informed decision-making. However, BNM's limited influence on next-year expectations, which is likely due to the absence of publicly available next-year forecasts, raises important considerations for future policy communication.

On one hand, providing such forecasts could enhance transparency and offer additional guidance, fostering a more informed and certain market environment. On the other hand, several challenges must be addressed. For example, longer-term forecasts may be misconstrued as implicit policy targets, potentially leading to misaligned market expectations. This is especially the case as BNM does not operate with an explicit numerical target, which may leave the precise policy anchor open to interpretation. Additionally, the inherent uncertainty of longer-term projections could risk undermining the credibility of central bank communication if forecasts deviate significantly from actual outcomes.

Future research could explore these trade-offs further, examining how central banks can strike a balance between enhancing transparency and maintaining flexibility in their forward guidance. Such research might also investigate how different communication strategies influence market perceptions and analysts' adjustments, particularly during periods of economic volatility. For example, studies such as Ehrmann et al. (2012) and Blinder et al. (2008) emphasise the role of clear communication strategies, such as regular press conferences, detailed forward guidance, and transparent policy frameworks in enhancing market responses to policy signals. These insights highlight the importance of a consistent and well-calibrated communication approach to shape market expectations.

In this context, it is important to consider how BNM's communication strategy has evolved over the years. For instance, the introduction of enhanced publication of economic reports and efforts to clarify the rationale behind policy decisions through different platforms have likely contributed to shaping market behaviour. Such efforts may explain some of the observed changes in the impact of BNM communications on analysts' forecasts, particularly during periods of economic shocks. However, further analysis is needed to quantify the effects of these changes and understand how BNM's evolving communication framework has influenced the market's reliance on central bank signals.

Ultimately, a proactive and adaptive communication strategy can strengthen BNM's credibility and effectiveness in achieving policy objectives. By shaping market expectations and fostering a stable economic environment, BNM's efforts in refining its communication practices remain critical in navigating the challenges of an increasingly complex economic landscape.

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