# Communicating and managing uncertainty: the case of Costa Rica

Central Bank of Costa Rica (BCCR)

## 1. Introduction

Costa Rica is a small and open economy, both commercially and financially integrated into global markets. This openness makes it particularly sensitive to external shocks, such as fluctuations in commodity prices, shifts in global demand and changes in international financial conditions.

The central bank's primary mandate, as established by law, is to maintain low and stable inflation, consistent with long-term price stability. To fulfil this objective, the Central Bank of Costa Rica (BCCR) has operated under a flexible inflation targeting regime since 2018, aiming for a medium-term inflation rate of 3%, with a tolerance band of ±1 percentage point (pp).

To manage inflationary pressures stemming from excess aggregate demand, the BCCR employs a forward-looking approach. Its main policy instrument is the Monetary Policy Rate (MPR), which is adjusted based on the projected path of inflation and its macroeconomic drivers.

The MPR signals the monetary policy stance and is designed to influence inflation expectations and aggregate demand. As a short-term interest rate, it anchors the cost of overnight liquidity in the domestic market and helps guide other interest rates along the yield curve.

Periods of heightened uncertainty – such as the Covid-19 pandemic, the Russia-Ukraine war and global supply chain disruptions – have tested the resilience of Costa Rica's monetary policy framework. These shocks have influenced the dynamics of inflation, delayed its convergence to the target and posed challenges to policy transmission. In response, the BCCR has strengthened its analytical tools, enhanced communication channels and improved institutional transparency, underscoring its commitment to sound and credible policymaking under uncertainty.

This chapter explores two key questions regarding the BCCR's communication strategy in times of elevated uncertainty. First, how does the central bank incorporate uncertainty into its models and analytical tools for monetary policy decisions? Second, how has its communication strategy evolved to address the challenges posed by an increasingly uncertain environment?

The chapter is structured as follows: It first describes the decision-making process at the BCCR and the communication strategy. Section 3 provides a brief overview of inflation dynamics in Costa Rica. Section 4 refers to how the central bank incorporates uncertainty into its economic analysis, while section 5 addresses the communication of monetary policy. Finally, section 6 presents a recap of the main lessons on communication processes.

## 2. The monetary policy decision-making process

Monetary policy decisions in Costa Rica are made by the Board of Directors of the central bank, which convenes on a preannounced schedule approximately every six weeks. The annual meeting calendar is approved and published each December. Although the dates are fixed, the Board may hold extraordinary sessions and take policy decisions when macroeconomic conditions require timely intervention.

Since December 2023, the BCCR has adopted a two-day meeting format to enhance the depth and rigour of its analysis and decision-making process:

- **Day 1:** The technical staff, led by the Chief Economist, presents a comprehensive assessment of domestic and external conditions, the inflation forecast and its key drivers. The analysis incorporates probabilistic elements and expert judgment, with discussions focusing on both the central scenario and the risks that could cause inflation to deviate from its expected path. This includes a risk balance exercise, potential shocks to inflation and the output gap and, when relevant, alternative scenarios.
- **Day 2:** The Board revisits the key points from the previous day, addresses outstanding questions and evaluates the policy recommendation submitted by the Chief Economist. Following deliberation, each member states their position and rationale before voting on the MPR.

After the Day 2 meeting, once markets have closed, the BCCR holds a press conference led by the President to announce the decision and explain its rationale. A press release is published simultaneously to ensure consistency across communication channels.

This press conference format was introduced in March 2024. Initially held virtually and co-hosted by the President and the Chief Economist, it has been conducted in person and led solely by the President since September 2025.

## 3. Inflation dynamics in Costa Rica

In 2019, prior to the onset of international shocks, inflation in Costa Rica hovered around 2%. Inflation expectations, particularly those from the survey, remained at 3%, consistent with the target, while the output gap remained negative. In this context, the monetary policy stance was expansionary: the BCCR reduced the MPR by 450 basis points (bp) over 15 months, while the reserve requirements in local currency were reduced by 3 pp.

In January 2020, in a context where macroeconomic forecasts were relatively favourable: economic activity was recovering; projected inflation – both headline (measured by the consumer price index) and core – remained within the tolerance range around the target, albeit closer to the lower bound; and public finances were gradually strengthening,[1] the central bank[2] announced the initiation of an analytical

[1] Driven by the implementation of the Public Finance Strengthening Law (9635).

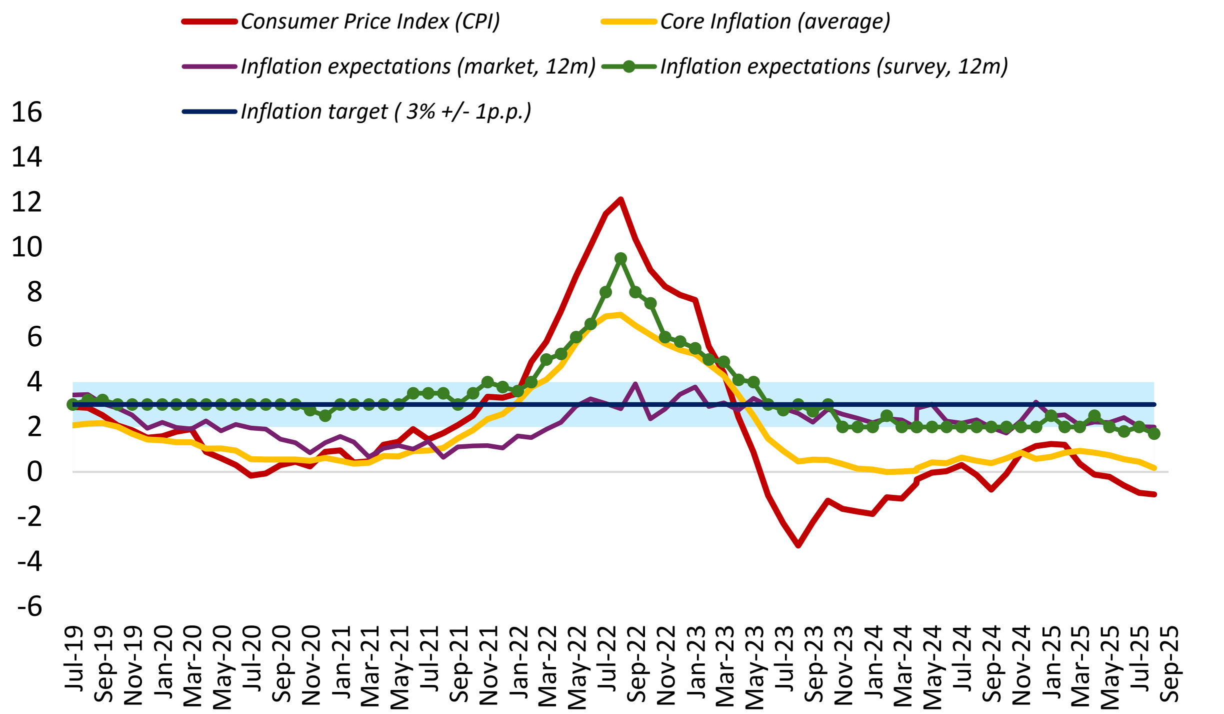
[2] See BCCR (2020).

and consultative process to assess the appropriateness and timing of revising its inflation target. However, the outbreak of the Covid-19 pandemic drastically altered these macroeconomic projections, leading to the postponement of the inflation target review.

In September 2020, the BCCR granted a credit facility for financial intermediaries for an amount close to USD 1.4 billion, with a favourable interest rate and terms.[3] Intermediaries, in turn, could channel these resources to the private sector – namely households and businesses affected by the pandemic – under favourable financial conditions.

Costa Rica: CPI inflation, core inflation and expectations

Year-over-year, in percentages — Graph 1




Sources: BCCR; INEC.

In 2022, in response to the international shock to oil and grain prices, local inflationary pressures manifested primarily in fuel and food prices (see Graph 1). Higher prices for raw materials imported by Costa Rica led to an increase in demand for foreign currency, which, along with increased demand from pension fund managers, generated strong pressures on the foreign exchange market.

In response to the acceleration of inflation expectations, and to control second-round effects, the BCCR aggressively increased the policy rate by 825 bp in 11 months and the reserve requirements in local currency by 3 pp.

[3] This measure aimed to alleviate the pandemic's economic effects on consumption, production and employment, thereby helping to minimise the long-term consequences of the crisis on society and the productive sector. Ultimately, it sought to support the survival and medium-term recovery of solvent companies.

In September 2022, inflationary pressures began to ease, driven both by the unwinding of international shocks and the timely implementation of contractionary monetary policy by the central bank. At the same time, pressures in the foreign exchange market also moderated.

In March 2023, with both inflation and inflation expectations still exceeding the tolerance range around the target, the central bank initiated a gradual reduction of the MPR and reaffirmed its commitment to making policy adjustments in a prudent, gradual and orderly manner.

A less restrictive monetary policy stance – combined with a slower decline in international commodity prices and rising shipping costs – contributed to a gradual increase in inflation starting in September 2023. Nevertheless, for most of the period since June 2023, inflation has remained negative.

As of late 2025, the central challenge is to restore inflation to positive levels and guide it towards convergence with the established target.

## 4. Capturing and quantifying uncertainty in economic analysis

Uncertainty is addressed at various stages of the BCCR's analytical process. The cornerstone of its economic forecasting is a semi-structural macroeconomic model developed in house,[4] which provides a coherent medium-term projection of inflation, output, and other key macroeconomic variables.

To better capture the dynamics of inflation projections for the short term (one to three months), the macro model is informed with projections from a set of short-term satellite models. This allows for improved quality of inflation and economic growth projections for the monetary policy horizon.

Central forecast paths for headline and core inflation generated by the model are supplemented with probabilistic fan charts and confidence intervals to illustrate the potential range of outcomes. These charts quantify the likelihood of alternative inflation outcomes around the baseline projection (see Graph 2) and illustrate the expected timing of convergence towards the 3% target and its ±1 pp tolerance range.

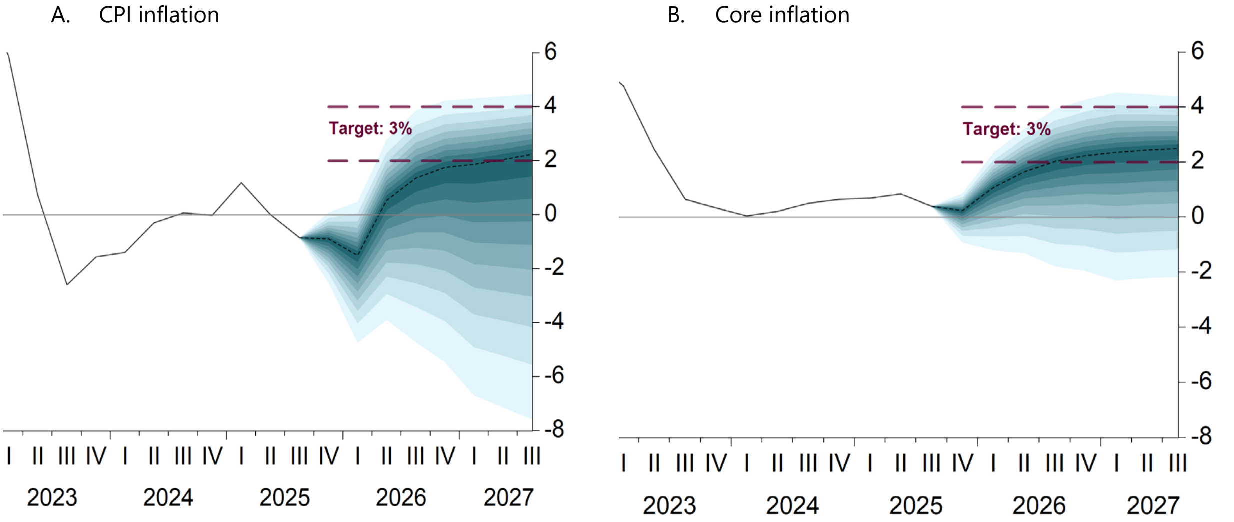
These fan charts are characterised by asymmetrical confidence bands. Their purpose is to provide the most comprehensive assessment by the central bank of the pressures affecting the forecasted variable, as well as the degree of uncertainty surrounding those pressures (Rodríguez Vargas (2010)).

[4] See Muñoz and Rodríguez (2022).

Costa Rica: general and core inflation forecast[1]

(Quarterly average, in per cent)

Graph 2




[1] The graph displays the inflation prediction bands based on CPI and core inflation over the projection horizon. These are conditional forecasts, meaning they incorporate potential monetary policy responses. The darkest band surrounding the central value represents a 10% probability of occurrence. Each successive pair of lighter-shaded bands adds an additional 10%, cumulatively reaching a 90% probability.

Source: BCCR (2025b).

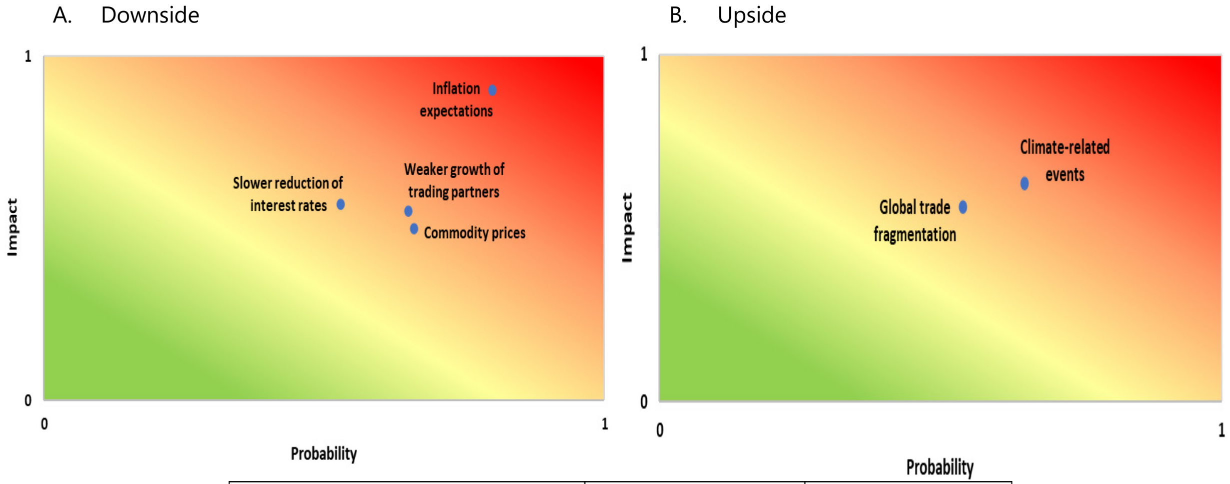
An essential input for the development of the fan chart is the systematic evaluation of the risks associated with the central inflation forecast. This assessment involves quantifying the probability that the actual values of key macroeconomic determinants and exogenous variables will diverge from those assumed in the baseline scenario. Such deviations may materially affect the trajectory of inflation and, consequently, the reliability of the central projection.

To ensure robustness in this process, the analysis incorporates the informed judgment of the team of economists engaged in the institution's regular macroeconomic forecasting and assessment exercises. Their expertise is critical in identifying potential sources of uncertainty and assigning probabilistic weights to alternative scenarios, thereby enhancing the analytical rigour and credibility of the risk assessment framework.

This balance of risks is subsequently presented and discussed with the Board of Directors during monetary policy meetings (see Graph 3). Where necessary, the assessment is adjusted to reflect the collective position of the Board prior to its inclusion in the Monetary Policy Report, ensuring alignment between staff analysis and institutional decision-making.

## Primary risks to the central scenario

(Quarterly average, in per cent) Graph 3




| Score | Impact | Probability |
|---|---|---|
| [0.00 - 0.25] | Low | Low |
| [0.26 - 0.50] | Low to medium | Low to medium |
| [0.51 - 0.75] | Medium to high | Medium to high |
| [0.76 - 1.00] | High | High |

Source: BCCR (2025b).

To assess the degree of prevailing uncertainty, the BCCR also monitors a range of indicators, including short-term interbank market liquidity, financial market volatility, movements in external commodity prices, exchange rate pressures and forecast errors. During the Covid-19 pandemic and subsequent global disruptions, these indicators played a key role in identifying shifts in the economic environment and informing the risk assessments presented to the Board.

During periods of disruption in key input prices, the BCCR conducts alternative scenario analyses to evaluate the macroeconomic implications of such shocks. These exercises help assess how deviations in commodity prices – such as oil – could affect inflation, output and the external balance relative to the baseline projection.

Although alternative scenarios are not typically published, they have been employed in press conferences to visually illustrate the potential implications for the central inflation forecast should a relevant risk materialise. These scenarios serve as analytical tools to enhance public understanding of the sensitivity of inflation projections to specific shocks.

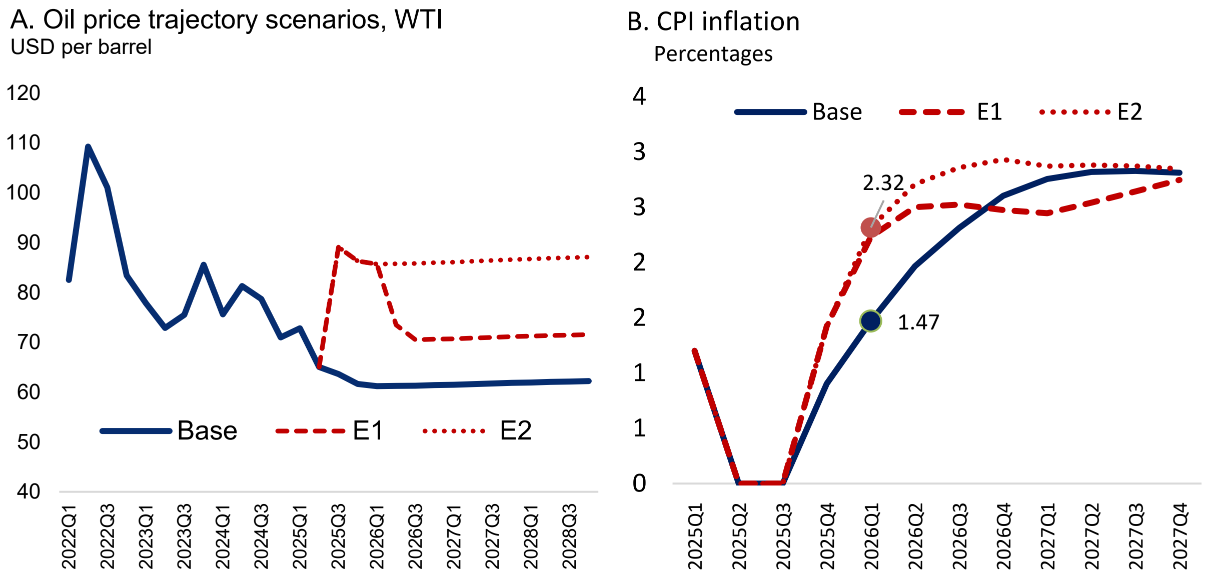
Graph 4 presents an exercise conducted in June 2025,[5] simulating both a temporary and a permanent upward shock to international oil prices. The graph illustrates the projected impact of each scenario on headline inflation. In this case, the central inflation forecast for the first quarter of 2026 was 1.47%, based on the oil price

[5] Presented during the press conference held that month.

assumptions embedded in the baseline projection.[6] Both scenarios assume a 37% increase in hydrocarbon prices during the first projected quarter. The dashed lines depict the potential inflation trajectories under each of the simulated shocks.

Scenario analysis, oil price shocks

From June 2025 monetary policy meeting Graph 4




E1: Transitory shock.
E2: Permanent shock.

Source: BCCR.

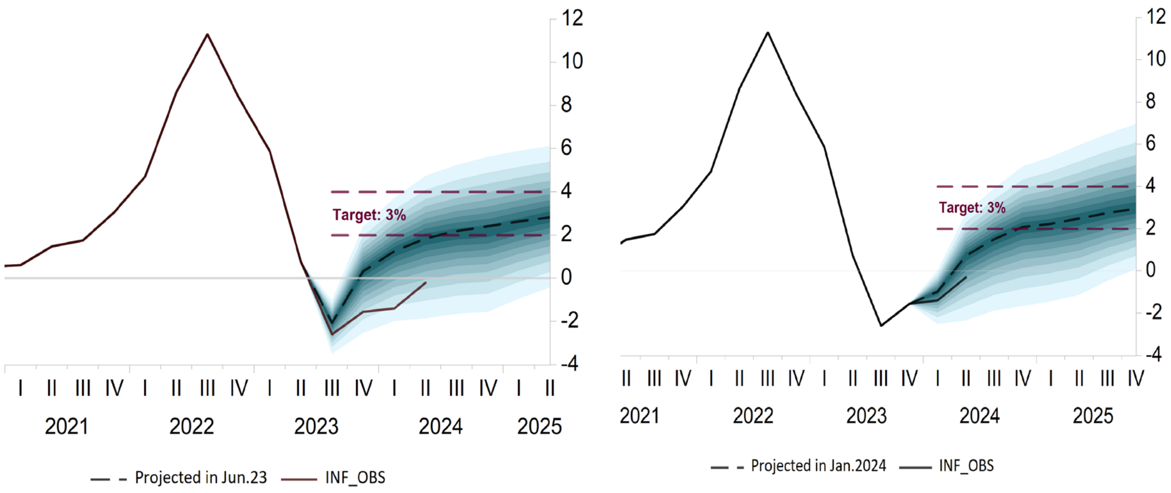
Graph 5 illustrates another example used by the BCCR to communicate uncertainty surrounding its forecasts – particularly when actual outcomes for key variables, such as commodity prices, diverge from the assumptions initially embedded in the projection. In this specific case, both the June 2023 and January 2024 forecasts estimated an inflation path in which inflation would return to positive values more rapidly than it actually did.

6 The assumed trajectory of international oil prices (futures) is sourced from Bloomberg.

Past inflation forecast and observed inflation

In percentages

Graph 5




Source: BCCR press conference, June 2024.

Inflation eventually returned to positive territory in the fourth quarter of 2024 (December) but reverted to negative levels in May 2025.

In addition, the BCCR has progressively expanded its use of high-frequency data, including card transactions, fuel consumption and port activity, to enhance real-time monitoring. While these data sources are valuable for identifying turning points in economic activity, they require careful interpretation due to their volatility and limited historical depth.

By integrating model-based projections, expert judgment and high-frequency indicators, the BCCR ensures that uncertainty is captured both quantitatively and qualitatively, providing the Board with a well-rounded assessment of risks to inflation and growth.

## 5. Monetary policy communication under uncertainty

The BCCR deliberately avoids making rigid commitments to predetermined policy trajectories. Instead, it articulates its reaction function with transparency, underscoring that future policy decisions will be contingent upon the evolution of incoming data, the projected inflation path and the prevailing balance of risks. This strategy mitigates the risk of fostering unrealistic expectations while reinforcing the institution's credibility.

The *Monetary Policy Report* (*Informe de Política Monetaria*, IPM), published quarterly, is the main vehicle for communicating forward-looking information. It presents baseline forecasts, fan charts, illustrating how inflation and core inflation could evolve under different shocks. During episodes of elevated uncertainty, the IPM explicitly discusses asymmetric risks, external factors and the expected time frame for inflation convergence to the tolerance range around the target (see Graphs 2 and 3).

In addition to the IPM, key messages are reinforced through press conferences, Board minutes and post-meeting statements. These communication tools aim to maintain consistency across channels while tailoring the level of detail to suit different audiences – from financial market participants to the public.

Communicating uncertainty to the public demands transparency and accessibility. Those are core pillars of the BCCR's communication strategy. Since 2023, it has made significant strides in strengthening institutional communication, including:

- publishing transcriptions of Board discussions, enhancing accountability and fostering public understanding;
- holding regular press conferences immediately following each policy decision, ensuring timely and direct communication;
- enhancing the IPM with fan charts, risk assessments and scenario analyses to better illustrate forecast uncertainty; and
- systematically communicating the balance of risks, both qualitatively and quantitatively, to help audiences interpret the uncertainty surrounding projections.

Communicating uncertainty remains a challenge – particularly with non-technical audiences, who tend to focus on point forecasts rather than probability distributions or risk balances. To address this, the BCCR incorporates visual aids and plain language explanations into its reports, clarifying the implications of uncertainty for inflation and policy. Technical notes are also included in the quarterly IPM to support deeper understanding.

The Bank's recent experience shows that acknowledging uncertainty enhances credibility rather than undermining it. By being transparent about the limits of knowledge and the conditional nature of forecasts, including the transmission mechanism from the policy rate to financial system rates, the BCCR reinforces its institutional commitment to data-driven and adaptive policymaking.

A notable example was the delayed return of inflation to the target range during 2023–25. The Bank clearly communicated that this delay was driven by external shocks – particularly in energy, food and freight costs and exchange rate pass-through – and illustrated this through fan charts and scenario comparisons (see Graph 5). This proactive communication helped anchor expectations and maintain confidence in the policy framework.

As previously noted, in 2020 the BCCR announced the launch of a review process for its inflation target. This initiative was temporarily suspended due to the pronounced volatility affecting both the global and domestic economies. The discussion resumed in 2025,[7] and in preparation for this process, the Bank has actively engaged in public communication through dedicated analytical boxes included in its IPMs. These publications have addressed key topics aimed at enhancing public understanding of inflation dynamics and the explicit inflation targeting framework,

[7] The July 2025 IPM stated that "The Central Bank (...) will continue with the detailed evaluation of the components of the current inflation targeting framework, an analysis that is already underway and which may lead to a redefinition of the inflation target or its characteristics".

with the objective of informing stakeholders about the scope and potential implications of the forthcoming review.[8]

## 6. Lessons learned and ongoing improvements

The BCCR's recent experience highlights several key lessons for central banks operating in environments of heightened uncertainty:

1. Transparency enhances credibility. Openly addressing risks and uncertainty helps manage expectations and reinforces public trust in monetary policy.
2. Communication is a policy instrument. Clear and effective communication can reduce the need for aggressive policy adjustments by shaping expectations and clarifying the central bank's reaction function.
3. Flexibility is essential. In uncertain contexts, the BCCR prioritises adaptability over precision, adjusting both the tone and content of its communications as conditions evolve.
4. Continuous improvement is vital. The Bank remains committed to enhancing accessibility, developing new analytical and visualisation tools and expanding the use of scenario analysis.
5. Integrate high-frequency data and qualitative insights. Monitoring real-time indicators and media narratives complements traditional macroeconomic analysis and strengthens situational awareness.
6. Forward guidance is context-dependent. While it is effective in anchoring expectations during periods of low uncertainty, its usefulness diminishes in highly uncertain environments – where flexibility becomes more important than precision.

Ultimately, uncertainty is structural rather than transitory. The experience of the BCCR highlights the importance of clear, transparent and adaptive communication for effective monetary policy in a small open economy. By balancing transparency with prudence, maintaining a forward-looking and data-dependent approach with flexibility, and combining analytical rigour with accessibility, the BCCR aims to strengthen policy credibility and foster greater public understanding in an increasingly complex global environment.

[8] As an example, Box 1 of the January 2025 IPM provided a detailed overview of the key elements considered when defining an inflation target.

# References

Central Bank of Costa Rica (BCCR) (2020): *Programa Macroeconómico 2020-2021*, January.

——— (2025a): *Informe de Política Monetaria*, July.

——— (2025b): *Informe de Política Monetaria*, October.

Muñoz Salas, E and A Rodríguez Vargas (2022): "El modelo de proyección macroeconómica (MoP) del Banco Central de Costa Rica", *Notas Técnicas*, no 007|2022, Departamento de Investigación Económica, Central Bank of Costa Rica.

Rodríguez Vargas, A (2010): "Construcción de gráficos de abanico con bandas asimétricas: una aplicación para el pronóstico de inflación en Costa Rica", *Documentos de Trabajo*, no 006|2010, Departamento de Investigación Económica, Central Bank of Costa Rica.