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Colombia

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Monetary policy transparency in Colombia*

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Abstract

Transparency is often emphasized as a key element for central bank independence and the effectiveness of monetary policy. Between 2018 and 2019, the Central Bank of Colombia (Banco de la República) undertook a significant overhaul of its monetary decision-making process, which led to significant changes in how the bank works to design its monetary policy and communicate its outlook on the economy and its interest rate decisions to the public. This paper assesses how these changes may have impacted monetary transparency over time. To this end, we compute the Dincer-Eichengreen-Geraats (DEG) Transparency Index (Dinçer et al., 2019) and the Central Bank Transparency-Inflation Targeting (CBT-IT) Index (Al-Mashat et al., 2018) and find that the implemented changes led to an increase in monetary policy transparency, which, to a large degree, closed the gap with respect to the leading central banks with IT regimes and highest transparency ratings.

Keywords: Monetary policy, Inflation targeting, Central bank transparency.

JEL Codes: E0, E4.

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La transparencia de la política monetaria en Colombia*

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Abstract

La transparencia es un elemento clave para la independencia de la banca central y la efectividad de la política monetaria. Entre 2018 y 2019, el Banco de la República emprendió una revisión significativa de su proceso de toma de decisiones monetarias, lo que condujo a cambios importantes en cómo se trabaja para diseñar la política monetaria y la forma en que se comunica y explica las perspectivas de la economía y las decisiones sobre las tasas de interés al público. Este documento evalúa cómo estos cambios han impactado la transparencia monetaria a lo largo del tiempo. Para ello, calculamos el Índice de Transparencia de Dincer-Eichengreen-Geraats (DEG) (Dinçer et al., 2019) y el Índice de Transparencia para Bancos Centrales con Inflación Objetivo (CBT-IT) (Al-Mashat et al., 2018) y encontramos que los cambios implementados llevaron a un aumento en la transparencia de la política monetaria, que, en gran medida, cerró la brecha con respecto a los bancos centrales líderes con regímenes de inflación objetivo y las calificaciones más altas de transparencia.

Palabras clave: Política monetaria, inflación objetivo, transparencia de la banca central.

Códigos JEL: E0, E4.

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1 Introduction

Since the late 1990s, the emphasis on transparency in monetary policy, particularly in inflation-targeting (IT) central banks, has markedly increased ([Dinçer and Eichengreen, 2007](#); [Fornero et al., 2021](#); [Dassatti and Licandro, 2023](#); [Kostanyan et al., 2022](#)). In addition, the expansion of central banks' mandates and the evolution of their operational toolkits, especially during the post-2008 Global Financial Crisis and during the COVID-19 pandemic, have added layers of complexity and challenges to monetary policy implementation, making transparency a crucial element of central bank communications and forecasting and policy analysis systems.

Transparency, defined as reducing information asymmetry between policy-makers and economic agents ([Geraats, 2002](#)), is crucial for ensuring accountability and effective decision-making. As outlined in [IMF \(2023b\)](#) and [IMF \(2023c\)](#), transparency not only involves the dissemination of information from the central bank to its stakeholders but is also integral to the broader governance and accountability framework of the central bank. In that sense, transparency encompasses disseminating relevant information and macroeconomic assessments made by the central bank, allowing the public to better understand the context of monetary policy decisions, improving monetary policy transmission, and strengthening central bank accountability.

In this context, there have been several approaches to measuring transparency over the last two decades. This document focuses on two of the most widely cited in the recent literature. Firstly, the DEG transparency index proposed by [Dincer and Eichengreen \(2014\)](#), which was later extended in [Dinçer et al. \(2019\)](#) and [Dincer et al. \(2022\)](#) and secondly in the Central Bank Transparency-Inflation Targeting (CBT-IT) index proposed by [Al-Mashat et al. \(2018\)](#).

The DEG index provides a general framework to assess monetary policy transparency. This index consists of five subindices capturing (1) political, (2) economic, (3) procedural, (4) policy, and (5) operational transparency. The overall index equals the sum of scores across all items. The most recent enhancements proposed in [Dinçer et al. \(2019\)](#) capture a more detailed procedural and policy transparency description. All the questions in this index pertain to publicly available information in English.

On the other hand, the Central Bank Transparency-Inflation Targeting (CBT-IT) Index proposed by [Al-Mashat et al. \(2018\)](#) establishes a granular analysis for assessing transparency practices of inflation-targeting (IT) central banks. This approach is especially pertinent in central banks' current uncertain environments. The CBT-IT index covers three broad aspects consistent with the theoretical underpinnings of an inflation targeting framework: (a) Transparency about Objectives, (b) Transparency about the Forecasting and Policy Analysis System, and (c) Transparency about the

Policy Process. Thus, the CBT-IT Index establishes a benchmark for transparency assessment, where no central bank is expected to reach the maximum score. In addition, this approach is a handy tool for identifying factors that affect transparency gaps in the different categories of the index and differentiating the transparency levels among IT central banks.

In the context of central bank transparency assessment, its determinants, and benefits, the contribution of this paper is twofold. First, we document the significant changes in the central bank's communication strategy and decision-making process over the last five years, highlighting the essential improvements in monetary policy communication in Colombia, including the changes made in the quarterly monetary policy report, the publication of technical methodologies, relevant macroeconomic information, and forecasts, and the discussion of the macroeconomic environment. Second, we compute the DEG and the CBT-IT transparency indices for Colombia's central bank to assess how these changes in its communication and its forecasting and policy analysis framework may have improved transparency measures.

The paper is structured as follows: Section 2 delves into the significance and relevance of monetary policy transparency, discussing the methodological approaches to compute transparency indices and some of its limitations; Section 3 discusses the changes made to monetary policy decision-making and communication in Colombia over the last five years; Section 4 reviews the DEG and the CBT-IT methodologies; Section 5 computes the indexes for Colombia and how they changed over time as changes were implemented; Section 6 offers concluding remarks.

2 Literature review

2.1 The importance of central bank transparency and its measurement

As pointed out by [Freedman and Laxton \(2009\)](#), two main factors underpin central banks' drive toward greater transparency. First, there is a relationship between transparency and the efficacy of monetary policy. Second, a direct connection exists between transparency and central bank accountability.

For the first factor, there is evidence indicating that monetary policy is more effective when central banks successfully influence market expectations, a key component in policy transmission ([Blinder, 2001](#))¹. [Dinçer and Eichengreen \(2007\)](#) suggest

¹Some early empirical studies and surveys showed mixed results regarding the impact of central

that central bank transparency significantly affects inflation and output variability. However, the effect found in its preliminary study was relatively weak. [Van Der Cruijsen and Demertzis \(2007\)](#) find evidence that transparency helps fix private sector inflation expectations in a group of developed economies. [Kia \(2017\)](#) also supports the importance of central bank transparency in reducing the risk and volatility of the money market in the US. [Papadamou et al. \(2014\)](#) conducted a study using a panel of 40 countries and found a positive relationship between stock price stability and the level of transparency, measured by the Dincer and Eichengreen index ([Dincer and Eichengreen, 2007](#)). Subsequently, in 2015, the same authors ([Papadamou et al., 2015](#)) conducted another study using a panel of 23 emerging economies. They found that a higher level of transparency makes the transmission channel of monetary policy more effective. The authors suggest this could be because transparency helps the public identify whether policy shocks are temporary or permanent.

More recently, [Adrian et al. \(2018\)](#) discuss the essential principles of transparency in IT regimes and argue that transparency helps anchor long-term inflation expectations by improving the efficacy of the monetary policy transmission mechanisms. In countries with transparent central banks, real interest rates of different maturities adjust more rapidly to achieve the central bank's inflation objectives. In addition, endogenous adjustment of the exchange rate and financial asset prices become important *shock absorbers* that help prevent the economy from falling into high or low inflation traps. In short, transparency makes the transmission mechanisms more effective. The success of an IT regime hinges on policy credibility and, specifically, if long-term inflation expectations are anchored to the target, reflecting a higher level of credibility. Higher credibility makes it easier for central banks to meet their inflation targets, as inflation expectations are a significant driver of inflation².

Furthermore, [Adrian et al. \(2020\)](#) and [Adrian et al. \(2023\)](#) highlight the importance of transparency in facilitating accountability and detailing central bank performance and compliance with mandates. In addition, transparency is a pivotal element in facilitating "more effective communication between central banks and their various stakeholders, including lawmakers, news media, academics, and the public." In that sense, transparency helps central banks adjust their communication tools, channels, and messages to the needs of the targeted audiences, reducing uncertainty and contributing to better policy choices ([Adrian et al., 2023](#)).

Finally, a comprehensive meta-analysis by [Cepeda et al. \(2023\)](#) reveals that central bank transparency boosts policy effectiveness by 69% in foreign exchange interventions, 59% for capital inflows, and 14% in conventional policy. In this regard, improvements in monetary policy frameworks—especially those enhancing central

bank transparency ([Geraats, 2002](#); [Van Der Cruijsen and Demertzis, 2007](#)).

²See [Al-Mashat et al. \(2018\)](#) for a discussion on this point, and [Van Der Cruijsen and Demertzis \(2007\)](#) for empirical evidence.

bank independence and transparency—and better communication strategies can increase the proportion of forward-looking learners in the economy, thereby boosting monetary policy effectiveness (Dincer et al., 2022). In addition, there is a close link between monetary policy transparency, as conducted by inflation-forecast-targeting central banks, and the anchoring of inflation expectations (Ascari et al., 2017; Bems et al., 2021; IMF, 2023d).

The second factor relates transparency to accountability, which is closely linked to central bank independence. As mentioned Dincer et al. (2022), openness about the basis and justification for their decisions is a way for central bankers to explain how their actions are consistent with that mandate. Transparency is, in this sense, integral to their autonomy and independence. Adrian et al. (2018) distinguish between formal and informal accountability. Both forms enhance the monetary authority's impact on expectations and credibility. Formal accountability involves the central bank's relationships with government entities or parliament, while informal accountability encompasses the bank's duty to explain its intentions and actions to the public. This includes clarifying its goals, how its actions align with these goals, and the reasoning behind any shortcomings. In addition, as mentioned by Dincer et al. (2019), transparency can help sustain support for the central bank's independence and is a way of solving time inconsistency problems. In sum, transparency is crucial for independent central banks to explain how their actions are consistent with their mandates and, over time, foster accountability. In turn, accountability reinforces independence, a virtuous cycle.

2.2 Are There Limits to Central Bank Transparency?

Although transparency is generally viewed as beneficial for central banks, some research suggests that excessive openness may have drawbacks. Providing empirical evidence for this perspective, Van der Cruysen and Eijffinger (2010) analyzed data from approximately 100 central banks and discovered a non-linear relationship between the degree of transparency and the persistence of inflation. Their findings indicate an optimal intermediate level of transparency, warning that too much transparency may overwhelm markets with information, leading to increased confusion and uncertainty.

Expanding on the concept of an optimal level of transparency, Walsh (2007) and Cornand and Heinemann (2008) proposed that central banks should consider disseminating information selectively rather than uniformly to all market participants. This selective approach aims to improve the average accuracy of private agents' expectations while minimizing the impact on higher-order expectations, thereby reducing the risk of market overreaction.

The concern about private agents overreacting to public information is further highlighted by [Morris and Shin \(2002\)](#) and [Angeletos and Pavan \(2007\)](#). They argued that excessive reliance on public signals could amplify any inaccuracies those signals may contain and cause agents to undervalue their private information. This tendency occurs because agents often have incentives to align their actions with others; in scenarios like investing in emerging sectors that require significant collective investment to succeed, deviating markedly from the majority can be disadvantageous.

From another viewpoint, [Cukierman \(2009\)](#) discussed the limitations of transparency in terms of feasibility and strategic considerations. Feasibility issues stem from central banks having limited knowledge and facing high uncertainty regarding variables like potential output, making complete transparency challenging. Strategically, Cukierman suggested that while there is broad agreement on the benefits of full transparency concerning the inflation target and the weighting of objectives like output versus inflation, there is less consensus on revealing details such as output targets, forecasts of economic shocks, or internal disagreements within monetary policy committees. The key trade-off involves balancing the advantages of transparency with the need for central banks to retain flexibility in responding to unforeseen issues.

3 Changes in the Monetary Policy Report and communication at the Central Bank

In 2018 and 2019, Banco de la República significantly reviewed its monetary policy decision-making process. This process is the sequence of activities performed by the staff in interaction with the Monetary Policy Committee (MPC) that leads to (i) a monetary policy interest rate decision by the MPC, (ii) a policy recommendation to the MPC written by the staff; (iii) the Monetary Policy Report (MPR)³, and (iv) a set of communication instruments through which the MPC seeks to explain its decisions to the public and the staff presents its outlook on the economy.

During the process, which lasts about two months each quarter, the staff answers four questions: (1) what is the initial state of the economy (e.g., inflation above target, positive output gap, and contractionary stance of monetary policy), and what are the shocks that have led us to this point?; (2) given the initial state of the economy, forward-looking assumptions on exogenous variables, and new high-frequency information, what is the forecast for the economy?; (3) what is an interest

³The MPR is a document of the staff and not of the MPC. This process may be in part due to the institutional arrangement of Colombia, in which the finance minister is part of and presides over the MPC. The MPC members may disagree with the staff's forecast and views

rate path that, given the answers to (1) and (2) would make the economy converge to the goals in the mandate of the central bank, that is, inflation getting to target (3%) and output being at its long-run, sustainable level, in a horizon of two to three years?; (4) what are the risks around the forecast, and how would they affect the adjustment of the economy and the required monetary policy response?

The process of re-engineering had several goals. First, it improved the quality and depth of the staff's economic analysis for the Board, thus helping the MPC have better input and foundations to support its decisions. Second, it provided markets and agents in the economy with more timely, relevant information and a more detailed perspective of the economy. Finally, these changes focused on better explaining monetary policy decisions to the general public.

All these goals would result in the ultimate objective of increased central bank credibility and, consequently, a better transmission of monetary policy to the economy over time. The following were the main changes implemented as a result of the review of the decision-making process:

1. Reduction from 12 to 8 meetings per year in which the MPC would consider changing interest rates. This change gave the staff more time to process new information better, understand its implications in terms of the four questions it aimed to answer, and also have time to work on longer-term issues, improving existing tools and models and developing new ones. Moreover, most central banks with IT schemes have 8 MP meetings or fewer (See Appendix A.4), so this change would move Banco de la Republica closer to the practice of its peers.
2. Changes in the way the MPR, macroeconomic information, and forecasts are presented. Before 2019, the MPR gave detailed information on observed data and explained the economy's recent behavior. At the same time, it offered a forecast for inflation and GDP growth, which was presented graphically but not numerically. The report was not written prospectively. After October 2019, the report started to be written around the staff's forecast and much less about recent events, becoming more forward-looking. In addition, the report began to present, publicly, numerical forecasts for more key variables (GDP growth, output gap, headline inflation, core inflation, food inflation, the current account, among others) and also values for key assumptions on external variables (e.g., oil prices, of the FED's rate) and for unobservable variables such as potential GDP growth and the real neutral interest rate, which are central to determine the monetary policy rate.
3. Change in the structure of the MPR. The different sections changed to reflect the new forward-looking nature of the report so that Chapter 1 would contain a forward-looking overview of the likely evolution of the economy for the next two years, while Chapter 2 would develop in detail the forecast for inflation,

economic activity and the different components of aggregate demand, and a discussion of the risks around the projected central scenario. The information about observed data, which made up the bulk of the previous report, was relegated to Chapter 3.

4. Information about the interest rate path implicit in the forecast. The staff introduced a section in the MPR in which there is a qualitative comparison between the interest rate path implicit in the staff's forecast and the interest rate path expected by the median analyst survey by the central bank in its Monthly Expectations Survey. This addition had the purpose of being able to tell a complete macroeconomic story and some indication of the implications for monetary policy without explicitly putting the interest rate path of the staff's forecast, which could be wrongly interpreted by the public as forward guidance or that could be in disagreement with the MPC members' assessment of the economy and the appropriate monetary policy response.
5. Change in the communication scheme. The MPC decided to change the bank's communication of monetary policy decisions. The goal was to release information more timely to markets, better explain its decisions and views, and the staff's outlook on the economy. Specifically, if the MPC meeting occurs on business day t , the communication instruments and their times were defined to be the following⁴:
 - Press conference of the central bank's Governor and the Finance Minister on day t
 - Publication of the staff's MPR $t + 2$
 - Publication of Board's minutes $t + 3$
 - Public presentation of MPR by the chief economist $t + 4$

Before the changes, the staff's MPR would not have a pre-defined release date, and delays that ranged from 15 to 45 days were published. This delay meant that the report would be outdated as new information came out and, as some evidence in (Melo et al., 2022) suggests, made it of little informational value. Also, the MPR could be written after the MPC meeting to contain differences concerning the analysis that the staff presented to the MPC. Regarding the minutes, the release delay was shortened from 8 business days to 3. Finally, the public presentation of the MPR was a new instrument to explain better the staff's assessment and outlook on the economy.

6. Change in the activities and meetings schedule leading to the MPR. Finally, the shortened times for writing and releasing the MPR, plus the need to better

⁴The timing of some these communication instruments was initially slightly different, but they changed as the bank fine-tuned its process

explain the forecast and its changes to the public, required a redesign of the schedule of meetings in which the staff prepares the forecast and receives feedback from the MPC. The success of the process required strict adherence to a tight schedule, which would be determined around the release of crucial data (mainly GDP and inflation) and constrained by the dates of the MPC's decision meetings. Figure 1 presents a timeline of the quarterly process, and Figure 2 contains a list of all meetings and their purpose.

In sum, reviewing the decision-making process for monetary policy decisions resulted in a change in the timing and instruments of communication used by the Board and the staff. The MPR and minutes are released to the public more timely, and an MPR that is more forward-looking contains critical information on numerical forecasts, assumptions, and key variables. In addition, in the MPR, the public reads the same document that the MPC received from the staff⁵. Even though increasing transparency was not the main objective of the review, all these changes should be reflected in increased transparency measures.

Furthermore, during the last few years, the staff has built new models [Guarin et al., 2020](#), tools for describing and measuring the balance of risks ([Méndez-Vizcaíno et al., 2021](#)), and has published the corresponding papers, which, besides improving the quality of the analysis in the MPR, make public the details of some of the tools used by the staff in writing the report, and may also result in improved transparency measures. In section 5, we compute the transparency indexes of section 4 to measure how all the changes that we have described that the central bank undertook may have impacted transparency, which, as shown by ([Cepeda et al., 2023](#)) is positively related with better transmission of monetary policy.

⁵Only some parts of the report are not made public: the staff's recommendation, the exact interest rate path, and some risk scenarios

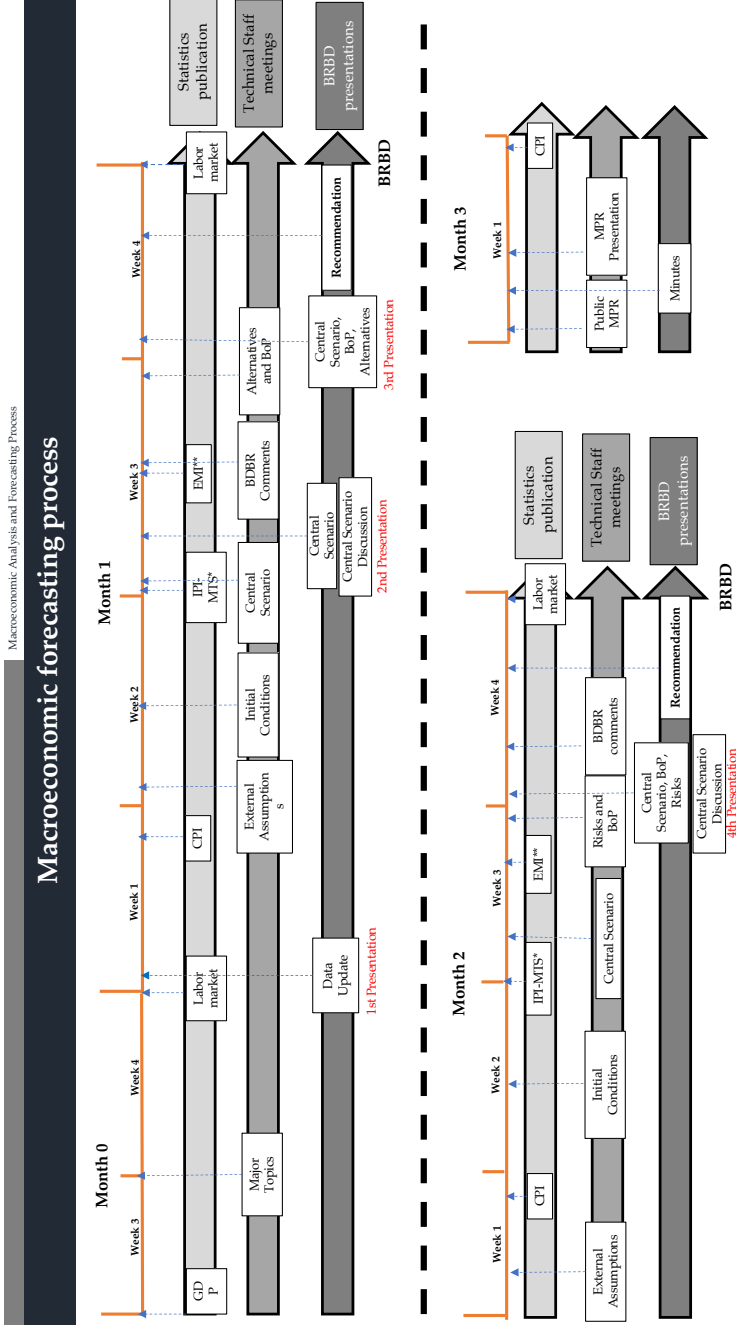


Figure 1: Note: IPI= Industrial production index, MTS= Monthly Trade Survey ** EMI= Economic monitoring indicator. Source: Banco de la República.

Meetings (#)	Time before the nearest BRBD meeting/time before the the publishable MPR	Details
Major Topics BRBD	t- 6 weeks / t-10 weeks	The relevant topics between the TS and BRBD are addressed during the forecast round, and a medium-term research agenda is defined.
Major Topics Technical Staff	t-4 weeks / t-8 weeks	TS defines relevant topics and delegation of tasks to address them during the forecast round, as well as defines the research agenda.
Neutral real interest rate methodological updates	t- 4 weeks / t-8 weeks	Presentation of methodological advances of the neutral interest rate observatory.
Output gap and potential GDP methodological updates	t- 4 weeks / t-8 weeks	Presentation of methodological advances of the output gap and potential GDP observatory.
1st BRBD presentation: Data Update	t- 4 weeks / t-8 weeks	TS presents the most recent information and economic indicators.
Local financial conditions	t- 4 weeks / t-8 weeks	TS shows the monitoring and presentation of the Colombian financial market update.
External Assumptions	t-3 weeks / t-7 weeks	TS presents the external context and assumptions of the external variables relevant to the forecast for a horizon of 8 quarters.
Short-run CPI forecasts	t-3 weeks / t-7 weeks	Presentation and discussion of short-term forecasts (3 quarters ahead) for inflation.
GDP Nowcast	t-3 weeks / t-7 weeks	Presentation and discussion of short-term economic activity forecasts (12 quarters ahead).
Neutral real interest rate results	t-3 weeks / t-7 weeks	Presentation and definition of the local and external neutral interest rates relevant for general equilibrium models.
Output gap results (Nowcast)	t-3 weeks / t-7 weeks	Presentation and discussion of the short-term output gap estimation.
Central Scenario	t-2 weeks / t- 6 weeks	Discussion of the current state of the economy, relative prices, construction of the central scenario, discussion of judgments, and definition of the macroeconomic forecast for 8 quarters.
2nd BRBD presentation: Central scenario	t-1 weeks / t-5 weeks	Presentation of external assumptions, short-term forecasts, and the central scenario of the forecast for 8 quarters.
Central scenario discussion BRBD	t-1 weeks / t-5 weeks	Discussion with the BRBD about the forecast scenario: discussion of judgments, risks, and definition of alternative scenarios.
BRBD comments	t-1 weeks / t-5 weeks	Review of the comments from the BRBD on the central scenario and discussion of the risks for defining alternative scenarios.
Alternative scenarios	t-1 weeks / t-5 weeks	Construction of alternative scenarios that account for possible deviations and risks from the central scenario.
Balance of payments	t-1 weeks / t-5 weeks	Discussion of the balance of payments projection.
2nd BRBD presentation: risks and BoP	t- 4 days / t- 4 weeks	Presentation of alternative scenarios that account for possible deviations and risks from the central scenario and presentation of the balance of payments forecast.
Recommendation	t- 2 days / t- 4 weeks	Reading of the recommendation on the monetary policy interest rate by the TS to the BDBR.
External Assumptions	t-3 weeks	Update of the external context and assumptions of the relevant external variables for the forecast over an 8-quarter horizon.
Short-run CPI forecasts	t-3 weeks	Update and discussion of short-term forecasts (3 quarters ahead) for inflation.
GDP Nowcast	t-3 weeks	Update and discussion of short-term economic activity forecasts (12 quarters ahead).
Output gap results (Nowcast)	t-3 weeks	Update and discussion of the short-term output gap estimation.
Central Scenario	t-2 weeks	Update on the current state of the economy, relative prices, construction of the central scenario, discussion of judgments, and definition of the macroeconomic forecast for 8 quarters.
Risk balance	t-1 weeks	Construction of predictive densities that capture the balance of risks on the forecasts of the central scenario.
Balance of payments	t-1 weeks	Update and discussion of the balance of payments projection.
4th BRBD presentation: Central scenario update, risk balance and BoP projection	t-1 weeks	Presentation of the central scenario, its possible variations and risks, and discussion of the balance of payments forecast.
Central scenario discussion BRBD	t-1 weeks	Discussion with the BRBD on the forecast scenario: discussion of judgments and risk balance.
BRBD comments	t-1 weeks	Review of the BRBD comments on the central scenario, the risk balance, and discussion of the monetary policy recommendation.
Recommendation	t-2 days	Reading of the recommendation on the monetary policy interest rate by the TS to the BRBD.

Figure 2: Note: TS refers to the technical staff, and BRBD stands for Banco de la República Board. Source: Banco de la República.

4 How to measure central bank transparency?

There have been several approaches to measuring transparency over the last twenty years. However, in this section, we focus on two of the most widely cited in the recent literature from which this section borrows. Firstly, the methodology proposed by [Dincer and Eichengreen \(2014\)](#), which was later extended in [Dinçer et al. \(2019\)](#) and [Dincer et al. \(2022\)](#), and secondly in the CBT-IT index proposed by [Al-Mashat et al. \(2018\)](#). In this section, we briefly discuss these methodologies that will be later used to evaluate the central bank communication changes discussed in Section 3.

4.1 The DEG Index

The Dincer-Eichengreen-Geraats (DEG) Index ([Dincer and Eichengreen, 2014](#); [Dinçer et al., 2019](#); [Dincer et al., 2022](#)) consists of five subindices capturing (1) political, (2) economic, (3) procedural, (4) policy, and (5) operational transparency, with each subindex consisting of three items that receive a score of 0, 1/2, or 1. The DEG index equals the sum of scores across all items, ranging from 0 to a maximum score of 15.

In the DEG Index, political transparency refers to openness about monetary policy objectives involving a formal statement of objectives, an explicit prioritization in case of multiple goals, quantifying the primary objective(s), and explicit institutional arrangements. Economic transparency focuses on the economic information employed for monetary policy. This subindex includes economic data, the model of the economy the central bank employs to construct forecasts or evaluate the impact of its decisions, and the internal forecasts (model-based or judgmental) that the central bank relies on ([Dinçer et al., 2019](#)).

Procedural transparency concerns the way monetary policy decisions are made. It involves an explicit monetary policy rule or strategy that describes the monetary policy framework, an account of monetary policy deliberations, and how the monetary policy decision was reached. Policy transparency means prompt disclosure of monetary policy decisions. It includes an explanation of the decision and an explicit policy inclination or indication of likely future policy actions. Finally, operational transparency concerns implementing the central bank's monetary policy actions. It involves a discussion of control errors in achieving its main monetary operating target(s) and (unanticipated) macroeconomic disturbances that affect monetary policy transmission—furthermore, the evaluation of the macroeconomic outcomes of monetary policy in light of its objectives.

Although this index has proved highly useful, it does not allow differentiating between various types of inflation-targeting central banks and the state of their

forecasting and policy analysis systems. For example, as shown in Figure 3, when comparing exchange rate regimes and monetary policy frameworks (IMF, 2023a), it is clear that the DEG transparency index clearly distinguishes the different transparency levels across different monetary regimes. ⁶ However, it does not necessarily differentiate between various types of inflation-targeting central banks and the state of their forecasting and policy analysis systems.

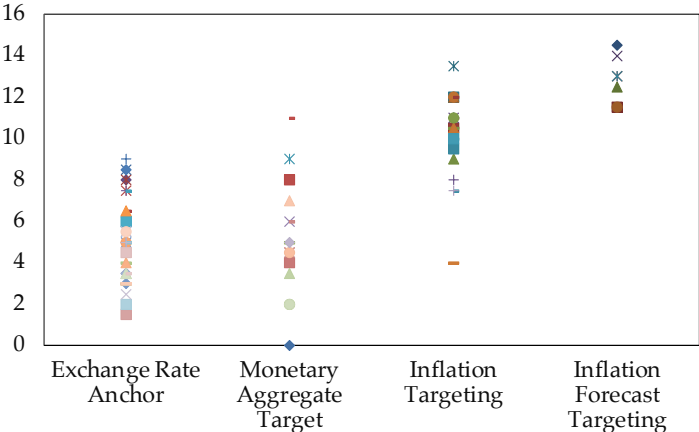


Figure 3: The graphs show the scores of the DEG Index for several countries (y-axis) vs. their exchange regime and monetary policy frameworks. Authors' computations based on Al-Mashat et al. (2018). Source: Data from Dincer et al. (2022); IMF (2023a).

4.2 The CBT-IT Index

The CBT-IT Index, conceived by Al-Mashat et al. (2018) in 2018, is explicitly tailored for inflation-targeting (IT) central banks, providing a better distinction of the maturity of forecasting and policy analysis systems across inflation-targeting central banks. This index stands out as it encompasses financial stability issues within its analytical framework. Adhering to inflation-targeting transparency principles, the CBT-IT Index establishes a benchmark for transparency assessment, where no central bank is expected to reach the maximum score. Consequently, this makes it a handy tool for identifying gaps and differentiating the transparency levels among IT central banks. Some interesting applications of the CBT-IT index are Al-Mashat et al. (2018) for the Czech Republic, Fornero et al. (2021) for Chile, Dassatti and Licandro (2023) for Uruguay, and Kostanyan et al. (2022) for a group of IT central banks.

The CBT-IT index assesses transparency in inflation-targeting (IT) central banks, including FPAS and non-FPAS banks. These banks generally place a high

⁶To further distinguish between more "developed" or higher-ranked inflation-targeting central banks, we separate them into the category of "inflation forecast targeting." These countries include Sweden, New Zealand, Hungary, Czech Republic, Israel, Norway, and Chile.

emphasis on transparency and accountability as key to achieving their policy goals. In the particular case of FPAS central banks, these institutions present a macroeconomic forecast structured in the form of a baseline forecast developed through an analytical process that provides a precise reference for transparent communications (see [Kostanyan et al. \(2022\)](#)).

Under this framework, the CBT-IT index comprises 20 key variables organized into three main categories. These categories address IT central banks' specific needs and challenges, ensuring a thorough and relevant evaluation of their transparency practices. Each sub-category (different questions) corresponds to one point. The maximum (perfect) score a central bank can receive is 20, corresponding to the sum of the sub-components. The index is composed of three blocks as follows:

A. Transparency about Monetary Policy Objectives (4 Points). In this section, the CBT-IT methodology tries to specify if the central bank clearly states its policy objective and if this information is easily accessible to the public. Particularly, it aims to clarify the following elements regarding monetary policy objectives:

1. The central bank's primary objective should be controlling inflation. A perfect score requires a specific inflation target. If not, the bank should clearly define its inflation range and explain how this range guides policy decisions.
2. For banks with dual mandates, inflation must be the primary goal. Other goals like output and unemployment should align with inflation control.
3. Financial stability should not overshadow price stability. Banks focused on financial stability need adequate tools without compromising their inflation goals. Banks without this mandate should explain how they consider financial stability in their decisions.

B. Transparency of FPAS (9 Points). This section focuses on the Forecasting Analysis and Policy Systems (FPAS) in an inflation-targeting central bank. It focuses on whether the central bank has a clear FPAS with transparent policy decisions and processes. In addition, it evaluates if data and models are openly available and replicable. Explicitly, it aims to evaluate the following elements:

1. All data influencing decisions, including financial indicators, should be public. The main quarterly projection model must be accessible, with detailed documentation for public replication.
2. Policy rate forecasts should include confidence bands, indicating that forecasts employ current information and are subject to change.

3. Alternative scenarios should be as clearly presented as the baseline, detailing the FPAS's approach to forecasting risks and potential policy directions.
4. When forecasts are updated, the reasons for these changes should be communicated.

C. Transparency of Policy Process (7 Points). This section assesses if the policy and detailed decision-making process is communicated clearly, timely, and comprehensively. It centers on the following elements:

1. After announcing policy decisions, the central bank should hold a press conference to explain the decision and the economic factors influencing it. This information should be made accessible to various audiences. Minutes and related materials should be published, and the press conference should be available live and recorded.
2. Regular meetings with market analysts should be held to discuss the forecast, its rationale, and associated risks.
3. Publishing detailed minutes and voting results from Board meetings is crucial for transparency, showing the deliberations that led to decisions.
4. The policy framework should be reviewed periodically, ideally by external and independent bodies.

Figure 4 summarizes the main differences between the DEG index and the CBT-IT indices. While the DEG index provides a comprehensive overview of transparency across various dimensions, the CBT-IT index offers a nuanced analysis tailored to inflation-targeting central banks, focusing on FPAS. These indices present a holistic approach to understanding transparency in modern central banking. As we evaluate the communication changes within Colombia's central bank in Section 3, the insights gleaned from these indices will serve as a foundational lens through which we will evaluate the recent enhancements in transparency. The forthcoming analysis will not only illuminate the significant strides made by Colombia in this domain but also position its achievements within the global panorama of central bank transparency.

Dincer Eichengreen (2013)	Dincer-Eichengreen-Geraats (2022)	CBT-IT Index Al-Mashat et al. (2018).
It is applied to several monetary policy and exchange rate regimes.	Applied to several monetary policy and exchange rate regimes.	Designed specially for IT central banks
It does not cover financial stability issues.	Focuses on monetary policy. It does not cover financial stability issues.	Covers financial stability issues
It does not go into depth about how they use forecasts to communicate monetary policy.	Tighter criteria for procedural transparency. More demanding criteria with respect to forward guidance about the likely timing, direction, size, or pace of future monetary policy actions. Does not go into depth about how they use forecasts to communicate monetary policy	Includes the role of the forecast, forecasters and policy-makers in policy-making
Inflation-forecast-targeting central banks are close to a maximum score of 15. It is not very useful for identifying transparency gaps.	Inflation-forecast-targeting central banks are close to a maximum score of 15. It is not very useful for identifying transparency gaps.	Uses IFT transparency principles to design the new index No central bank would be close to the maximum score Useful for identifying transparency gaps

Figure 4: Based on [Dincer and Eichengreen \(2014\)](#); [Dincer et al. \(2022\)](#); [Al-Mashat et al. \(2018\)](#); [Kostanyan et al. \(2022\)](#).

5 Computing transparency Indices for Colombia

The previous methodologies provide helpful approaches to assess the changes in central bank communication strategy over the last five years. Notably, they provide clear metrics to assess in which areas there have been specific improvements and how these changes translate into a more transparent monetary policy-making in Colombia. The results of both methodologies are presented in the following subsections.⁷

5.1 The DEG Index for Colombia

The trajectory of Colombia's score on the DEG transparency index over the past few decades illustrates the Central Bank's improvements in the transparency of its operational framework. As shown in Figure 5, the DEG index showed low transparency at the close of the 1990s. Nonetheless, the index reflects gradual yet significant improvements in transparency practices. By the early 2000s, this score had doubled to approximately 6, evidencing early efforts to improve openness in monetary policy

⁷The detailed questionnaires for the two methodologies are shown in Appendixes [A.1](#) and [A.2](#).

operations. The momentum of these reforms continued, with the score reaching eight around the 2010s. It is essential to consider that the DEG index only considers information published in English, and the translation of the reports and communiqués only started during these years.

However, the most notable surge in transparency occurred in 2019, when the score leaped to 11. This jump can be attributed to substantive changes in the monetary policy report alongside the publication of central scenario forecasts, comprehensive risk assessments, and the core models used by the central bank. These enhancements signify a pivotal shift in the bank’s approach to transparency, aligning more closely with global best practices and providing stakeholders with deeper insights into the bank’s decision-making processes and economic outlook.

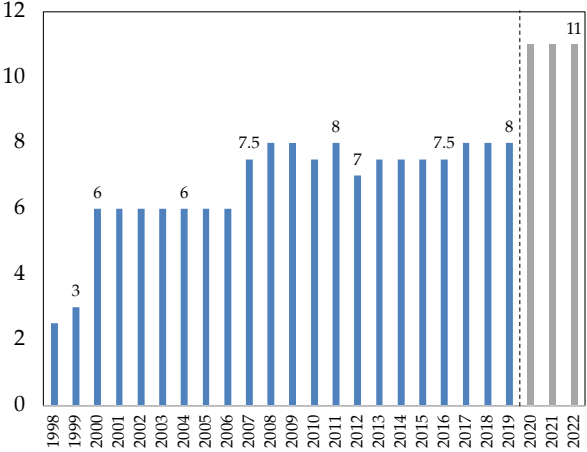


Figure 5: The graphs show the scores of the DEG Index for several countries during 2019 and Colombia for both 2019 and an updated version for 2022. Source: Data from [Dincer et al. \(2022\)](#) and authors’ computations for the Colombia index in 2022.

The analysis of the DEG index’s components reveals that this remarkable improvement in Colombia’s transparency score is predominantly due to increased economic transparency, as presented in Figure 6. This dimension encompasses the clarity and availability of economic data, models, and forecasts that underpin monetary policy decisions. The Central Bank of Colombia has substantially reduced information asymmetry between policymakers and economic agents by openly publishing its central scenario forecasts and the models guiding its policy analysis.

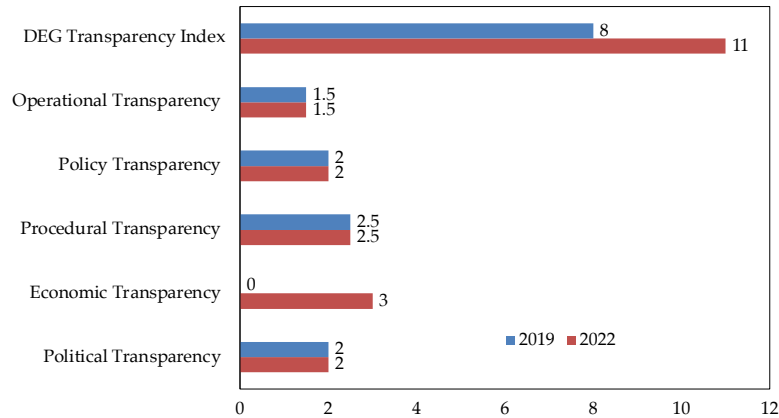


Figure 6: The graphs show the scores of the DEG Index for several countries during 2019 and Colombia for both 2019 and an updated version for 2022. Source: Data from [Dincer et al. \(2022\)](#) and authors' computations for the Colombia index in 2022.

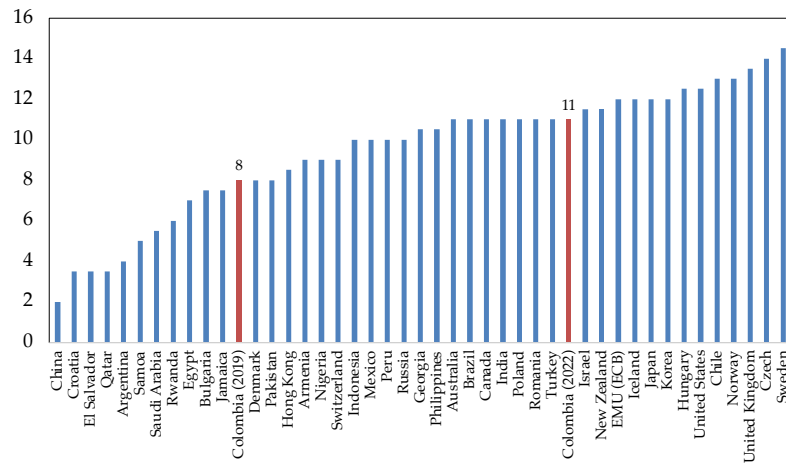


Figure 7: The graphs show the scores of the DEG Index for several countries during 2019 and Colombia for both 2019 and an updated version for 2022. Source: Data from [Dincer et al. \(2022\)](#) and authors' computations for the Colombia index in 2022.

As illustrated in Figure 7, the transparency scores computed by [Dinçer et al. \(2019\)](#) for 2009 set a benchmark against which the remarkable progress made by Colombia in 2019 and 2022 can be measured. With the score increasing from 8 to 11, Colombia has ascended in its ranking position, reflecting a significant enhancement in its transparency practices. This improvement is further contextualized in Figure 8, which compares the average scores of the DEG index across several countries. Initially positioned below the mean, Colombia has moved slightly above the average.

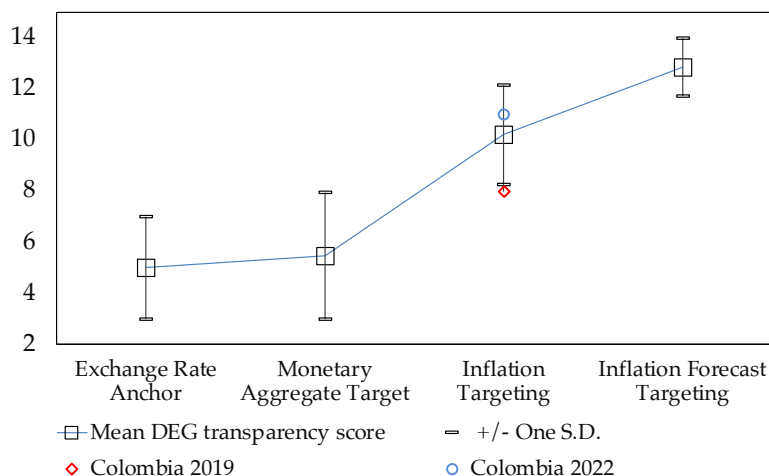


Figure 8: The graphs show the scores of the DEG Index for several countries (y-axis) vs. their exchange regime and monetary policy frameworks for 2019 given data availability. Colombia DEG index score correspond to 2019 and 2022. Authors’ computations based on Al-Mashat et al. (2018). Source: Data from Dincer et al. (2022); IMF (2023a).

5.2 CBT-IT results for Colombia

Regarding the CBT-IT, we compute this index for the last five years, from 2017 to 2022⁸. As shown in Figure 9, there has been a significant improvement in the CBT-IT index since 2019. Notably, the changes introduced in 2019 in the Monetary Policy Report improved transparency, particularly as the primary economic data relevant to the conduct of monetary policy publicly and forecasts were made available in a downloadable format from the central bank’s website. In addition, the central bank started to present its regular forecast updates with the Q&A session to journalists, analysts, and market participants. In 2020, the methodology and structure of the core quarterly projection model⁹ was publicly available, further improving the score. In 2021, there was an additional and essential increase in the score since the underlying methodology for constructing the forecast densities (predictive densities) was made available. These forecast densities started to be published quarterly to communicate the forecast uncertainty regarding inflation, GDP, and the output gap.

⁸In appendix A.3 we present an example of the computation of this index for Colombia.

⁹This corresponds to the 4GM model, one of the models used for policy-making at Banco de la República.

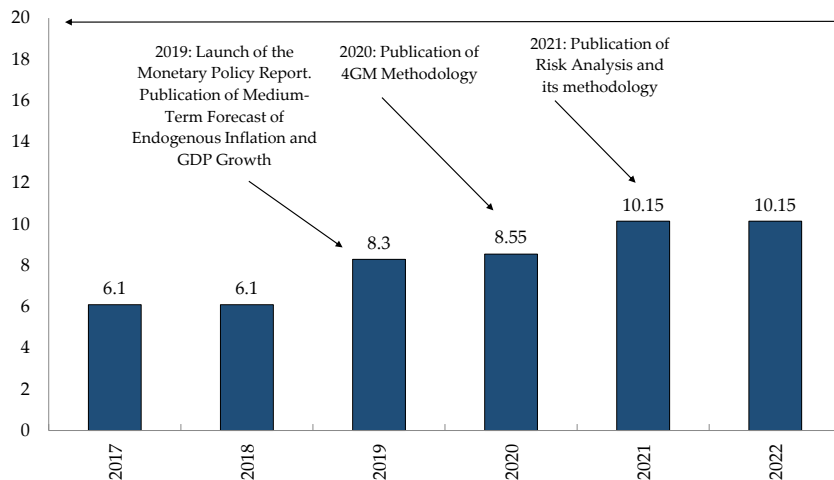


Figure 9: CBT-IT Index for Colombia. Source: Authors' computations.

One of the notable strengths of the CBT-IT index is its capacity for pinpointing specific transparency gaps, as elaborated in section 3.1 of this paper. The index's structure allows for a detailed analysis of transparency in individual sections, enabling a comprehensive understanding of areas where central banks can improve.

According to the 2022 evaluation using the CBT-IT methodology (Figure 10), Section A, which evaluates the transparency regarding monetary policy objectives, it achieved a score of 75%

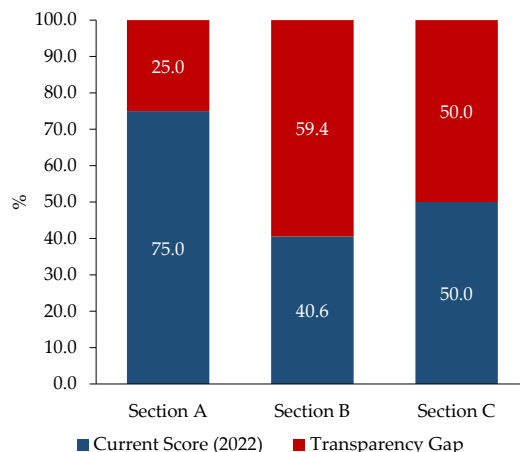


Figure 10: CBT-IT Score and Transparency GAP (%) for Colombia. Source: Authors' computations.

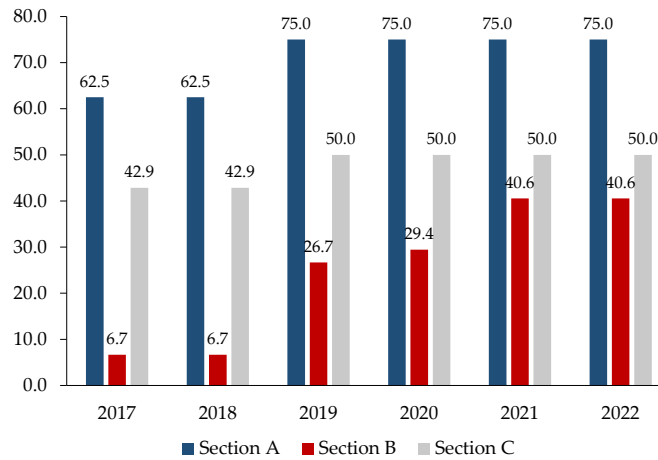


Figure 11: CBT-IT Score Evolution (%) for Colombia. Source: Authors' computations.

The evolution of the Central Bank Transparency-Inflation Targeting (CBT-IT) score for Colombia has shown a notable trajectory of improvement, reflecting the country's commitment to enhancing its monetary policy transparency. According to [Kostanyan et al. \(2022\)](#), in 2021, Chile, the Czech Republic, Sweden, and New Zealand countries were leading in central bank transparency. We show these results along with the evolution of the CBT-IT index for Colombia in Figure 12. Colombia's progress is particularly striking in the context of these global transparency leaders. From a score of 6.1 in 2018, Colombia's CBT-IT score surged to 8.9 in 2019 and 10.15 in 2021, illustrating a significant upward trend and a convergence towards the transparency levels of the highest-ranking central banks. This remarkable advancement underscores Colombia's strides in aligning its transparency practices with the leading central banks. A critical area of improvement contributing to this convergence is related to the improvements in Section B, as we discussed previously.

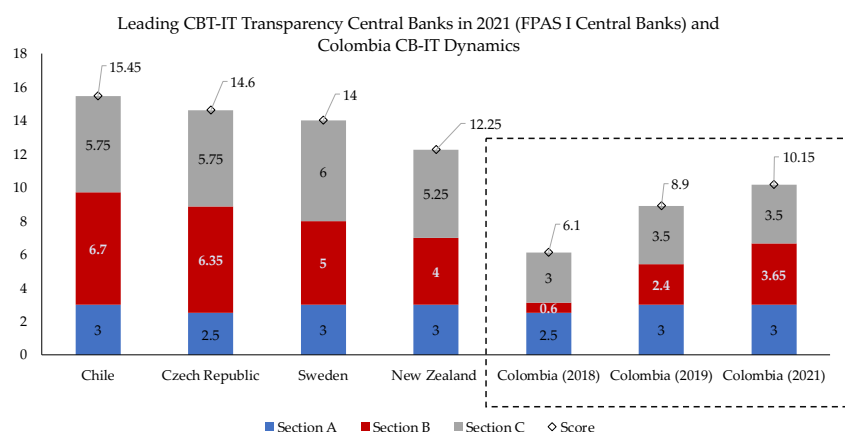


Figure 12: CBT-IT Score Comparison versus central banks with high transparency indices for 2021 given data availability. Source: Authors’ computations and [Kostanyan et al. \(2022\)](#).

5.3 A brief discussion around the level of transparency of monetary policy in Colombia

In the case of Colombia’s central bank, greater transparency has not been driven by the desire to meet specific benchmarks or achieve particular scores on transparency indices. Instead, it has been the result of an in-depth review of the forecasting and decision making process, the adoption of best practices from leading central banks in inflation targeting regimes, and the implementation of changes in communication to better convey the view of the staff and the Monetary Policy Committee to market participants and the broader public.

In this context, some considerations emerge when trying to assess whether the level of transparency achieved, as measured by the indices, is appropriate enough:

1. **Limitations of Transparency Indices:** Transparency indices often fail to fully capture important aspects of communication and disclosure beyond their defined metrics. For instance, while Colombia’s central bank releases in every MPR the staff’s estimates of the neutral real neutral interest rate, which is a key variable to determine the assessment on the stance of monetary policy, the transparency indices do not give credits for this.¹⁰ Similarly, the quarterly reports include a qualitative evaluation comparing the interest rate path implicit in the staff’s macroeconomic models with market expectations from the

¹⁰The real neutral interest rate projection is an assessment made by the staff, not by the Board or its individual members, as clarified in the Monetary Policy Report.

monthly survey of Banco de la República's economic analysts. This comparison provides valuable insight into the technical staff's view of the macroeconomic outlook and avoids potential misinterpretations of the future evolution of the policy stance. Finally, the staff releases detailed values for its estimates and assumptions on external variables, potential GDP growth and other key variables. Even if these disclosures do not necessarily improve transparency index scores, they offer the public a clear view on how the central bank expect these key variables to evolve in the future.

2. **Balancing Transparency with Communication Effectiveness:** Determining the appropriate level of transparency is ultimately the responsibility of the central bank's policy-making body, in this case, the Board of Directors of the Banco de la República. The Board must balance the benefits of greater transparency with the need for clear, assertive communication that enhances decision-making. Overexposing or releasing certain information or data that the public could easily misinterpret, may undermine the effectiveness of monetary policy and lead to unintended market reactions and/or credibility losses.
3. **Scaling back on transparency:** If full transparency is not optimal, as suggested by the literature discussed on subsection 2.2, achieving the right level of transparency from below may be better than being too transparent and later finding out that it is better to be less transparent: Reducing excess transparency, although desirable, may result in credibility losses of the central bank.

6 Concluding remarks

The literature has highlighted and supported the critical role of central bank transparency in effective policy-making and maintaining economic stability, especially during times of crisis. This paper studies the evolution of transparency measures of monetary policy in Colombia by computing the DEG and CBT-IT transparency indices following the implementation of changes in the monetary policy decision-making process and communication scheme of the central bank. We found a sizeable increase in transparency, mainly due to the changes in communication regarding the macroeconomic assessment, forecasting, and policy analysis. In addition, Central Bank transparency in Colombia has significantly converged to that of leading central banks, according to both transparency indexes.

Despite the measured increased transparency, three aspects are worth discussing. First, preserving the degree of transparency already achieved requires a continuous effort to maintain, refine, and improve all aspects of the forecasting and

communication process. For instance, publishing regular updates of the models used in the forecast is necessary to maintain the ratings. Second, improving communication with the broader public is necessary to reap the benefits of transparency. This challenge cannot be underscored enough, as being open does not guarantee being understood and believed, which is key to gain and enhance credibility and to manage expectations. Finally, transparency is not a goal in and of itself, and its benefits may be limited. As mentioned in section 2, there may be a virtuous cycle among transparency, accountability, independence, and effectiveness of monetary policy. However, this does not mean that more transparency is always necessarily desirable. There are limits to transparency that are worth keeping in mind. These include the perils/inconvenience of forward guidance in many circumstances, the adverse effects of some information on markets (e.g., specific scenarios that may be part of internal discussions on the balance of risks), and the institutional arrangements in which the central bank operates. Nonetheless, the methodologies used in this paper may help policymakers assess their own transparency levels, compare them across central bank's peers, and identify which aspects of their forecasting, decision making and communication processes can be changed or must be periodically revised in order to improve transparency or maintain the degree of it already achieved.

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A Appendix

A.1 DEG Index questions

CENTRAL BANK TRANSPARENCY QUESTIONS

1. Political Transparency

(a) Is there a formal statement of the objective(s) of monetary policy, with an explicit prioritization in case of multiple objectives?

No formal objective(s) = 0. Multiple objectives without prioritization = 1/2. One primary objective, or multiple objectives with explicit priority = 1.

(b) Is there a quantification of the primary objective(s)?

No = 0. Yes = 1.

(c) Are there explicit contacts or other similar institutional arrangements between the monetary authorities and the government?

No central bank contracts or other institutional arrangements = 0. Central bank without explicit instrument independence or contract = 1/2. Central bank with explicit instrument independence or central bank contract although possibly subject to an explicit override procedure = 1.

2. Economic Transparency

(a) Is the basic economic data relevant for the conduct of monetary policy publicly available? (The focus is on the following five variables: money supply, inflation, GDP, unemployment rate and capacity utilization.)

Quarterly time series for at most two out of the five variables = 0. Quarterly time series for three or four out of the five variables = 1/2. Quarterly time series for all five variables = 1.

(b) Does the central bank disclose the macroeconomic model(s) it uses for policy analysis?

No = 0. Yes = 1.

(c) Does the central bank regularly publish its own macroeconomic forecasts?

No numerical central bank forecasts for inflation and output = 0. Numerical central

bank forecasts for inflation and/or output published at less than quarterly frequency = 1/2. Quarterly numerical central bank forecasts for inflation and output for the medium term (one to two years ahead), specifying the assumptions about the policy instrument (conditional or unconditional forecasts) = 1.

3. Procedural Transparency

(a) Does the central bank provide an explicit policy rule or strategy that describes its monetary policy framework?

No = 0. Yes = 1.

(b) Does the central bank give a comprehensive account of policy deliberations (or explanations in case of a single central banker) within a reasonable amount of time?

No or only after a substantial lag (more than eight weeks) = 0. Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments = 1.

(c) Does the central bank disclose how each decision on the level of its main operating instrument or target was reached?

No or only after a substantial lag (more than eight weeks) = 0. Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments = 1.

4. Policy Transparency

(a) Are decisions about adjustments to the main operating instrument or target announced promptly?

No or only after the day of implementation = 0. Yes, on the day of implementation = 1.

(b) Does the central bank provide an explanation when it announces policy decisions?

No = 0. Yes, when policy decisions change, or only superficially = 1/2. Yes, always and including forwarding-looking assessments = 1.

(c) Does the central bank disclose an explicit policy inclination after every policy meeting or an explicit indication of likely future policy actions (at least quarterly)?

No = 0. Yes = 1.

5. Operational Transparency

(a) Does the central bank regularly evaluate to what extent its main policy operating targets (if any) have been achieved?

No or not very often (at less than annual frequency) = 0. Yes but without providing explanations for significant deviations = 1/2. Yes, accounting for significant deviations from target (if any); or, (nearly) perfect control over main operating instrument/target = 1.

(b) Does the central bank regularly provide information on (unanticipated) macroeconomic disturbances that affect the policy transmission process?

No or not very often = 0. Yes but only through short-term forecasts or analysis of current macroeconomic developments (at least quarterly) = 1/2. Yes, including a discussion of past forecast errors (at least annually) = 1.

(c) Does the central bank regularly provide an evaluation of the policy outcome in light of its macroeconomic objectives?

No or not very often (at less than annual frequency) = 0. Yes but superficially = 1/2. Yes, with an explicit account of the contribution of monetary policy in meeting the objectives = 1.

A.2 CBT-IT Index questions

IT CENTRAL BANK TRANSPARENCY QUESTIONS

Category A: Transparency about Objectives:

A1. Is there a formal statement of the objectives of monetary policy emphasizing the dual mandate (or multiple objectives), and that inflation is the primary objective? Is it easily accessible on the central bank's website?

Single inflation objective or multiple policy objectives without prioritization =0. Inflation as the primary objective such that any other objective (output, etc.) cannot be inconsistent with the primary objective of anchoring inflation and inflation expectations =1.

A2. Is the inflation target defined clearly?

No medium-term numerical target over a horizon of 2-3 years or more (hereafter medium term) =0. Inflation target defined as a "tolerance" or "control range" target. Inflation target defined as a medium-term target, however, the meaning of the range or the band is not clear =0.5. Inflation target defined as a well-defined point target. If a band is used, it is clearly

communicated=1.

A3. Might financial stability objectives override the primacy of the inflation (price stability) objective? If the central bank does not have a financial stability responsibility, it should be explicit that it uses the policy interest rate tool to affect financial conditions to the extent that it affects the output gap and hence achieving the inflation target.

The borderlines between the monetary policy and financial stability tools are unclear. This creates confusion about the primary objective of price stability=0. The central bank has both monetary policy and macroprudential tools and it is clear how the central bank adjusts its tools to achieve its monetary policy and financial stability objectives=1.

A4. Does the central bank use a loss function evaluation to show how well it has been doing in managing the short-run output-inflation tradeoff?

No =0. Yes=1.

Category B: Transparency about the FPAS

B1. Are the basic economic data relevant for the conduct of monetary policy publicly available in a downloadable format from the central bank's website (could also include links to other statistical agencies)? For example, data reported in the monetary policy reports should be made available on the website.

No database is publicly available=0. A minimal set of series is publicly available, output gap or other ways of measuring capacity utilization, inflation, inflation expectations, wages, unemployment, and GDP=0.5. All series used in producing the MPR are published in a downloadable format, such as an Excel spreadsheet. These series include at least the seven series above (capacity utilization (preferably the output gap), inflation, inflation expectations, wages, unemployment, and GDP)=1.

B2. Is the core quarterly projection model (model used for policy-making) publicly available and documentation updated within the last 5 years?

No=0. Yes, in a "working paper" format only, i.e., irreproducible=0.25. Yes, in a working paper and with code= 0.5. Yes, in a working paper, with code, and web-based front-end to modify forecast assumptions=1.

B3. How transparent is the central bank about the reaction functions (or loss functions) that are used to compute the interest rate paths (or paths for other instruments when the policy rate is constrained by the ELB) in their regular projection exercises? Do the monetary policy reports include a reference to the core model documentation that has the reaction function or the loss function?

The central bank does not publish either the reaction function or the loss function=0. The central bank publishes the reaction function and/or loss function (with the coefficients) in an easily accessible place on the central bank's website=1.

B4. For what variables does the central bank publish a consistent endogenous-instrument (e.g., policy rate) quarterly macroeconomic projection over a horizon of at least two years?

None= 0.0. Inflation=0.2. Inflation and GDP growth= 0.4. Inflation, GDP growth, and the endogenous interest rate path= 0.6. Inflation, GDP growth, the endogenous interest rate path, and the output gap= 0.8. Inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate=1.0.

B5. Does the central bank regularly publish forecast densities (fan charts) to communicate forecast uncertainty?

No fan chart= 0.0. Fan chart for inflation= 0.2. Fan charts for inflation and GDP growth= 0.4 Fan charts for inflation, GDP growth, and the endogenous interest rate path= 0.6. Fan charts for inflation, GDP growth, the endogenous interest rate path, and the output gap=0.8.Fan charts for inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate=1.

B6. Is the underlying methodology constructing the forecast densities (fan charts) clear and easily accessible? For example, do the regularly published forecast densities (fan charts) reflect (i) monetary policy reaction to shocks (model-based stochastic simulations); (ii) historic experience (past forecast errors); (iii) judgment (e.g., magnitude of structural shocks versus measurement errors); and (iv) other constraints (e.g., effective lower bound)?

No fan chart, or the fan chart methodology is not explained=0.0. Fan charts published in all monetary policy reports and the methodology is clearly explained and/or links to a technical paper is provided=1.0.

B7. Does the central bank regularly publish an assessment of forecast revisions (decomposition of forecast changes vis-à-vis the previous forecast)?

No=0.0.For inflation only with a discussion of the underlying causes=0.2. For inflation and GDP growth with a discussion of the underlying causes= 0.4. For inflation, GDP growth, and the endogenous interest rate path with a discussion of the underlying causes=0.6. For inflation, GDP growth, the endogenous interest rate path, and the output gap with a discussion the underlying causes=0.8. For inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate with a discussion the underlying causes=1.0.

B8. Does the central bank publish alternative scenarios in their monetary

policy reports to illustrate key risk(s) in the baseline forecast? *No alternative scenario. 0.0 The major risk(s) is communicated in an alternative scenario(s). 1.0*

B9. Do the monetary policy reports include historical data and forecasts for financial variables? Financial variables include long-term government bond yields, consumer lending rates, mortgage rates, equity prices, property prices, credit aggregates, corporate risky spreads (e.g., BAA-AAA bond yields), and credit standards (e.g., loan officer surveys). All data should be available in downloadable format.

No data or forecast of financial variables are available. 0.0. Historical data on less than 5 of the above variables are available, and forecasts for less than 5 of the above variables are available. 0.1-0.9. Historical data on 5 or more of the above variables are available, and forecasts for 5 or more of the above variables are available. 1.0

Category C: Transparency about Policy Process

C1. Does the central bank publish a press statement immediately following the policy decisions?

The central bank does not publish a press statement immediately after the policy 0.0 decisions. The central bank publishes press statements in the native language only. 0.5 The central bank publishes press statements in English. 1.0

C2. Is the policy decision explained at a press conference immediately after it is announced? Are the presentations available in English? *No.0.0. Yes, after all policy meetings, at pre-announced dates and times. The press conference with the Q&A session is webcasted and the recording is then made available on the website. The presentations are available in downloadable form only in the native language. 0.5. Yes, after all policy meetings, at pre-announced dates and times. The press conference with the Q&A session is webcasted and the recording is then made available on the website. The presentations are available in downloadable form in English.*

C3. Does the central bank present its regular forecast updates with the Q&A session to journalists, analysts, and market participants? Are the presentations available in English?

No. 0.0 Yes. The presentation and Q&A are available only in the native language. 0.5. Yes. The presentation and Q&A are available in English. 1.0.

C4. Is there a public account of the policy deliberations (“minutes”) published in less than one month after the meeting?

No. 0.0. Yes, but condensed, non-attributed, and without voting results. 0.50. Yes, detailed and with voting results on the main policy instrument. Contributions by individual MPC members and votes are not attributed. 0.75. Yes, detailed and with voting results

on the main policy instrument. Contributions by individual MPC members and votes are attributed. 1.00.

C5. Is the role of staff and policymakers in the baseline forecast process communicated clearly?

No. 0.0. Yes. 1.0.

C6. Is the forecasting performance of the central bank reviewed at least once a year in the monetary policy reports or in a separate document?

No. 0.0. Yes. 1.0.

C7. When was the last time the central bank or the government held or invited an external evaluation of the policy framework and the FPAS, and made the results publicly available?

No evaluation in last 5 years. 0.0. Either policy framework or FPAS evaluation in the last 5 years. 0.5. Both policy framework and FPAS evaluation in the last 5 years. 1.0.

A.3 Abbreviated CBT-IT Index questions dashboard

	Question	Answers	
		Colombia 2021	
		Details	Scores
A1	Is there a formal statement of the objectives of monetary policy emphasizing the dual mandate (or multiple objectives), and that inflation is the primary objective? Is it easily accessible on the central bank's website?	The purpose of monetary policy in Colombia is to keep inflation low and stable and to achieve the highest sustainable level of output and employment. The mandate of price stability is in the Constitution.	1
A2	Is the inflation target defined clearly?	Yes. The inflation target has been set at 3% by the Bank's Board of Directors (BDBR) (with a permissible deviation of ± 1 percentage point). This target refers to consumer price inflation, which is measured statistically as the annual variation in the Consumer Price Index (CPI).	1
A3	Might financial stability objectives override the primacy of the inflation (price stability) objective? If the central bank does not have a financial stability responsibility, it should be explicit that it uses the policy interest rate tool to affect financial conditions to the extent that it affects the output gap and hence achieving the inflation target.	Among the instruments assigned by lawmakers, the Bank may adopt macro-prudential measures to be implemented in exceptional circumstances and temporarily when market failures and financial risks are evident, such as overvaluation in the price of assets. This is done to preserve the proper functioning of the payment system, as well as to support financial stability.	1
A4	Does the central bank use a loss function evaluation to show how well it has been doing in managing the short-run output-inflation tradeoff?	No. The models that are used in the forecasting and policy analysis process follow standard Taylor rules.	0
B1	Are the basic economic data relevant for the conduct of monetary policy publicly available in a downloadable format from the central bank's website (could also include links to other statistical agencies)? For example, data reported in the include links to other statistical agencies? For example, data reported in the monetary policy reports should be made available on the website.	Yes. The data and forecasts are available in the CB's webpage. Is in PDF and Excel. The information in pdf can be found in Annex 1 and 2 at https://www.banrep.gov.co/en/monetary-policy-report-january-2022 . The excel information can be found at https://repositorio.banrep.gov.co/bitstream/handle/20.500.12134/10269/principales-variables-del-pronostico-macroeconomico-enero-2022.xlsx?sequence=2&isAllowed=y	1
B2	Is the core quarterly projection model (model used for policy-making) publicly available and documentation updated within the last 5 years?	There are two models: The Patcon and the 4GM. The 4GM model document and explanation was published in 2020. The structural model Patacon technical document was published in 2011. No replication codes are available. 4GM Model https://www.banrep.gov.co/en/node/52225 4GM Explanation for general public https://www.banrep.gov.co/es/recuadro-2-el-modelo-4gm PATACON model https://www.banrep.gov.co/es/node/149	0.25
B3	How transparent is the central bank about the reaction functions (or loss functions) that are used to compute the interest rate paths (or paths for other instruments when the policy rate is constrained by the ELB) in their regular projection exercises? Do the monetary policy reports include a reference to the core model documentation that has the reaction function or the loss function?	The policy trade offs are described in "words" in different settings. The reference is made as "projections of the staff"	0
B4	For what variables does the central bank publish a consistent endogenous instrument (e.g., policy rate) quarterly macroeconomic projection over a horizon of at least two years?	Chapter II discusses the interest rate path in words. Other forecasts are published in Chapter II and in Annex II (also available in Excel in Spanish)	0.6
B5	Does the central bank regularly publish forecast densities (fan charts) to communicate forecast uncertainty?	Yes. This risk assessment is made using predictive densities and a description of the risks in the macroeconomic scenario in chapter II.	0.6
B6	Is the underlying methodology constructing the forecast densities (fan charts) clear and easily accessible?	Methodology is available. https://repositorio.banrep.gov.co/handle/20.500.12134/10223	1
B7	Does the central bank regularly publish an assessment of forecast revisions (decomposition of forecast changes vis-a-vis the previous forecast)?	Just the comparison of forecasts in chapter I (summary). This is done for headline inflation, core inflation, GDP growth and output gap.	0
B8	Does the central bank publish alternative scenarios in their monetary policy reports to illustrate key risk(s) in the baseline forecast?	No. Just a description of the risks	0
B9	Do the monetary policy reports include historical data and forecasts for financial variables? Financial variables include long-term government bond yields, consumer lending rates, mortgage rates, equity prices, property prices, credit aggregates, corporate risky spreads (e.g., BAA-AAA bond yields), and credit standards (e.g., loan officer surveys). All data should be available in downloadable format.	The monetary policy report includes information about consumer lending rates and mortgage rates.	0.2
C1	Does the central bank publish a press statement immediately following the policy decisions?	Yes. The press statement is immediately published. Press releases can be found at https://www.banrep.gov.co/en/press-releases-board	1
C2	Is the policy decision explained at a press conference immediately after it is announced? Are the presentations available in English?	Yes. The presentations are not available in English. https://www.banrep.gov.co/sites/default/files/publicaciones/archivos/presentacion-informe-politica-monetaria-enero-2022.pdf	0.5
C3	Does the central bank present its regular forecast updates with the Q&A session to journalists, analysts, and market participants? Are the presentations available in English?	Yes, the Technical Deputy Governor presents the Monetary Policy Report two days after its release. The presentation is not available in English	0.5
C4	Is there a public account of the policy deliberations ("minutes") published in less than one month after the meeting?	Yes. Minutes include overall voting. https://www.banrep.gov.co/en/minutes-banco-republicas-board-directors-meeting-january-28-2022	0.5
C5	Is the role of staff and policymakers in the baseline forecast	Yes. The MPR is a report published for the staff for the discussion at the Board. This	1
C6	Is the forecasting performance of the central bank reviewed at	No vet. A public evaluation started in The April 2023 Report.	0
C7	When was the last time the central bank or the government	NO	0
Sum A+B+C			10.15

A.4 Number of monetary policy meetings in selected IT central banks

Warsh (2014) emphasizes that the central bank's board might not benefit from revisiting its analyses and policies more frequently than the release schedule of crucial economic indicators, such as GDP or the Balance of Payments. Consequently, aligning the frequency of board meetings with the publication schedule of these required statistics ensures that each meeting is informed by the latest economic insights, enhancing the effectiveness of policy reviews and adjustments.

In this context, numerous central banks commonly adopt the decision to hold eight annual meetings, as it strikes a balance between responsive decision-making and the availability of new economic data as shown in Figure A.4. Frequent meetings, such as those monthly, may need more time to analyze medium to long-term trends comprehensively, potentially undermining the robustness of the policy decisions and their communication. Monetary policy inherently involves significant uncertainties, requiring a degree of persistence in data analysis to ensure that decisions are based on confirmed trends rather than short-term fluctuations.

Central Bank	Meetings
Switzerland	4
Sweden	5
New Zealand	7
European Central Bank	8
United States	8
England	8
Canada	8
Chile	8
Mexico	8
Brazil	8
Norway	8
Czech Republic	8
Russia	8
Japan	8
Australia	11
Peru	12
Turkey	12
Argentina	12

Source: Authors' calculations.