Universidade de Brasília

Faculdade de Administração, Contabilidade e Economia

Departamento de Economia

The Role of Media in Central Bank Communication: Evidence from a Survey-Based Experiment

João Pedro da Silva Nogueira

DISSERTAÇÃO DE MESTRADO

PROGRAMA DE PÓS-GRADUAÇÃO EM ECONOMIA

Brasília

2025

Universidade de Brasília
Faculdade de Administração, Contabilidade e Economia
Departamento de Economia

O Papel da Mídia na Comunicação do Banco Central: Evidências de um Experimento Randomizado

João Pedro da Silva Nogueira

Dissertação apresentada ao Programa de Pós-Graduação em Economia da Universidade de Brasília como requisito para a obtenção do título de Mestre em Economia.

Orientador: Prof. Dr. Michael Christian Lehmann

Brasília
2025

FICHA CATALOGRÁFICA

Nogueira, João Pedro da Silva.

The Role of Media in Central Bank Communication: Evidence from a Survey-Based Experiment / João Pedro da Silva Nogueira; orientador Michael Christian Lehmann. -- Brasília, 2025.

46 p.

Dissertação de Mestrado (Programa de Pós-Graduação em Economia) -- Universidade de Brasília, 2025.

1. Central Bank Communication. 2. Inflation Expectations. 3. Media. 4. Expectation Management. 5. Randomized Controlled Trial.I. Lehmann, Michael Christian, orient. II. Título.

Universidade de Brasília
Faculdade de Administração, Contabilidade e Economia
Departamento de Economia

The Role of Media in Central Bank Communication: Evidence from a Survey-Based Experiment

João Pedro da Silva Nogueira

Dissertação apresentada ao Programa de Pós-Graduação em Economia da Universidade de Brasília como requisito para a obtenção do título de Mestre em Economia.

Trabalho aprovado. Brasília, 19 de Fevereiro de 2025:

Prof. Michael Christian Lehmann
Orientador

Prof. Daniel Oliveira Cajueiro
Examinador interno

Profª. Camila Cardoso Pereira
Examinadora externa

Prof. Rafael Terra de Menezes
Examinador interno

Acknowledgements

I am grateful to my family for their love and support.

I am grateful to my advisor, Professor Christian Lehmann, for his guidance, which was instrumental in shaping this work. I also thank Professor Daniel Cajueiro for his comments and suggestions.

I am grateful to Professors Rafael Terra, José Guilherme de Lara Resende, Ana Carolina Zoghbi, Deborah Reis, Vander Lucas, and their students for providing the data used in this research.

I am grateful to the professors and the Department of Economics at UnB for the role they've played in my education over these past 2 years.

This study was financed in part by the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior - Brasil (CAPES) - Finance Code 001.

“Monetary policy is 98 percent talk and only two percent action.”
(Ben Bernanke)

Abstract

The aim of this paper is to understand how media reporting on Brazilian Central Bank (BCB) communication affects the inflation expectation formation process of members of the general public. While prior research has established that individuals tend to discount central bank communications when relayed through the media, the mechanisms underlying this phenomenon remain unclear. Using Natural Language Processing techniques, we generate identical messages that can be attributed to either the BCB or the media and implement an information-provision survey experiment, which allows us to disentangle these mechanisms. We elicit subjects' beliefs about the economy and then provide four information treatments. Our findings show that consumers exposed to media coverage of BCB communication revise their inflation expectations upwards by an average of 1.5% relative to those who directly read the BCB communication. Further analysis indicates that these differences are not driven by variations in informational content. Instead, the source of the information emerges as the primary factor influencing revisions in expectations.

Keywords: Central Bank Communication. Inflation Expectations. Media. Expectation Management. Randomized Controlled Trial.

Resumo

O objetivo deste artigo é entender como a cobertura da mídia sobre a comunicação do Banco Central do Brasil (BCB) afeta o processo de formação de expectativas de inflação dos membros do público em geral. Embora pesquisas anteriores tenham demonstrado que os indivíduos tendem a desconsiderar comunicações do banco central quando transmitidas pela mídia, os mecanismos subjacentes a esse fenômeno permanecem pouco claros. Utilizando técnicas de Processamento de Linguagem Natural, geramos mensagens idênticas que podem ser atribuídas tanto ao BCB quanto à mídia e implementamos um experimento de pesquisa com fornecimento de informações, o que nos permite desvendar esses mecanismos. Solicitamos aos participantes que revelassem suas crenças sobre a economia e, em seguida, fornecemos quatro tratamentos informativos. Nossos resultados mostram que os consumidores expostos à cobertura midiática da comunicação do BCB revisam suas expectativas de inflação para cima em uma média de 1,5% em comparação àqueles que leram diretamente a comunicação do BCB. Análises adicionais indicam que essas diferenças não são impulsionadas por variações no conteúdo informacional. Em vez disso, a fonte da informação emerge como o principal fator que influencia as revisões nas expectativas.

Palavras-chave: Comunicação do Banco Central. Expectativas de Inflação. Mídia. Gestão de Expectativas. Experimento Randomizado Controlado.

List of figures

List of tables

Contents

1 Introduction

Over the past decades, central banks around the world have become ever-increasingly likely to communicate their monetary policy decisions and the rationale behind them. While this process was initially motivated by the thought that institutions in democratic countries should be transparent about their actions, it has since come to also be justified by economic theory, with a large body of evidence suggesting that central bank communication can have a great impact on economic conditions through the expectations channel (Woodford, 2005; Blinder *et al.*, 2008).

The main target audience of this increased communication by central banks has, traditionally, been a group composed of financial market agents and other experts. This does not mean, however, that communication with the general public is of any less importance. There is ample evidence that inflation expectations play a relevant role in the economic and financial decisions of households (see, e.g., Armantier *et al.*, 2015; Malmendier and Nagel, 2015; Coibion *et al.*, 2023; Burke and Ozdagli, 2023). On the other hand, evidence also shows that households don't necessarily form their expectations in a manner which is compatible with the way central banks make monetary policy. van der Cruijsen, Jansen, and de Haan (2010) survey Dutch households and find that knowledge about the European Central Bank's (ECB) objectives is low - despite better knowledge being correlated with more accurate inflation expectations - and Carvalho and Nechio (2014) find that only a few of U.S. households form their expectations in a way that is consistent with a Taylor rule, for instance. This gap in knowledge could have important implications: if household expectations are unresponsive to central bank announcements and communications, efforts to anchor expectations and stabilize the economy could be ineffective since households base their decisions on information sets that differ from those of policymakers. Moreover, households that are less engaged with central bank communication are less likely to trust in central banks (Haldane, Macaulay, and McMahon, 2021), which can not only lead to the same inefficiencies as described above, but also undermine central bank independency on the long run. Hence, understanding how central bank communication reaches and is consumed by the general public is a key task in the process of optimizing the effects of monetary policy.[1]

The aim of this paper is to understand how media reporting on Brazilian Central Bank (BCB) communication affects the inflation expectations formation process of members of the

[1] There's also evidence that household's decisions are affected by "narratives" (Shiller, 2017), social interactions (Bailey *et al.*, 2018), poverty induced stress (Mani *et al.*, 2013), disease induced fears (Binder, 2020), among others. A better understanding of the economy and of economic policy could also help alleviate expectation swings based in sentiments and heuristics.

general public. We implement a survey-based experiment to test the response of consumer's inflation expectations to information about the BCB's communication. We first gauge respondents knowledge about the BCB and elicit their 12-month-ahead inflation expectations. Then we randomly assign respondents into one of 4 information treatments: the full text of the latest *Comitê de Política Monetária* (Monetary Policy Committee, COPOM) statement, 1 news article covering this statement or 2 condensed versions of the statement. Following the information treatment, we again solicit inflation expectations. The resulting data allows us to properly quantify how the media might contribute to increase or decrease the effectiveness of central bank communication and to consider potential policy implications. The paper more closely related to our own is Coibion, Gorodnichenko, and Weber (2022), who look at the effects of Federal Reserve (FED) communication on the inflation expectations of U.S. households. We build on their result that not all information is processed the same way and make one major contribution. While the authors find that the source of the policy signal matters, they're unable to conclude whether the diminished response to the *USA Today* treatment is caused by differences in the language used by the newspaper *vis-a-vis* the Federal Open Market Comittee (FOMC) statement or by differences in perception about how credible each signal source is. We're able to investigate this question by employing a Natural Language Processing (NLP) technique to extract the shared informational contents of different news sources and construct a single text that can be presented as being from different sources. This allows us to disentangle both effects and have a clearer picture of what causes their result.

Our main findings suggest that individuals provided with media coverage of the latest COPOM statement reduced their inflation expectations by a smaller amount compared to those who read the full COPOM statement, consistent with the results of Coibion, Gorodnichenko, and Weber (2022). Further analysis reveals no evidence that these differences are driven by variations in informational content. Instead, the source of the information emerges as the primary factor influencing revisions in expectations. In addition, we find that exposure to media coverage of the COPOM statement decreases the likelihood of expectations converging towards the BCB's inflation target relative to exposure to the full COPOM statement. Finally, we observe that responses to our treatments are heterogeneous across different subgroups of the population.

Our analysis implies that the BCB can more effectively achieve its policy targets by increasing its engagement with the general public. Specifically, this increased communication effort could allow the BCB to target specific segments of the population more directly in its efforts to maintain price stability and to shield itself from attacks from populist leaders. However, the effectiveness of such a policy, would be reliant on the BCB's ability to find channels other than the traditional media to communicate with consumers.

Related literature. Our paper seeks to build on the understanding on how central

bank communications are received by the public and provide potential pathways for improvement. In that sense, our work is related to the growing literature on how central banks communicate with the public. Several studies report that central bank communication is able to shift the general public's inflation expectations towards it's inflation target when people are provided with information about (a) the target rate (Binder, 2017a; Binder and Rodrigue, 2018; Binder, 2021; Coibion, Gorodnichenko, and Weber, 2022), (b) the central bank's inflation forecasts (Coibion, Gorodnichenko, and Weber, 2022) or (c) it's policy instruments (Coibion *et al.*, 2023; Ehrmann, Georgarakos, and Kenny, 2023).

More often than not, however, the challenge is getting this information to the public. Several studies show that households and firms have a very limited knowledge about central banks, it's policy tools and targets (van der Cruijsen, Jansen, and de Haan, 2010; Binder, 2017a; Haldane, Macaulay, and McMahon, 2021; Coibion, Gorodnichenko, and Weber, 2022). One of the possible explanations for these results comes from the rational inattention literature, which points out that people have a limited capacity to process information (Sims, 2003). When it comes to monetary policy, it is usually suggested that individuals living in countries with a long history of low and stable inflation have little incentive to track inflation closely (Coibion *et al.*, 2020), something that is corroborated by the empirical findings of Cavallo, Cruces, and Perez-Truglia (2017) and Weber *et al.* (Forthcoming). A potential corollary from this proposition is that central bank communication with the general public in countries with a history of high inflation is more efficient than previously documented in the literature, since more people are paying attention to inflation. To the best of our knowledge, ours is the first work of it's kind to look at data from a country with a long history of high inflation. [2] In line with this, our paper provides novel evidence for the efficiency of central bank communication with the general public in high-inflation environments.

Our work also relates to the literature on mass media, specifically to research that emphasizes the relevance of the news channel of transmission of policy announcements. Berger, Ehrmann, and Fratzscher (2006) highlight two roles for the media: (1) disseminating information to the wider audience and (2) improving the understanding of policy decisions. Their analysis of media coverage of ECB announcements and press conferences shows that effective communication increases media coverage. Similarly, Binder (2017b) finds that media coverage of the FED rises following press conferences, speeches, testimonies, and FOMC meeting statements. Lamla and Maag (2012) further demonstrate that media reporting can shape household inflation expectations. More directly relevant to our work, Coibion, Gorodnichenko, and Weber (2022) provide evidence that news articles about FED decisions have a smaller effect on household inflation expectations than the FOMC statements themselves. Building on these findings, we retest their results and delve deeper into the mechanisms

[2] See Ayres *et al.* (2019) for an overview on Brazil's history with inflation.

through which the media influences expectations.

Finally, we contribute to the recent literature that investigates how consumers form their subjective beliefs about the economy. We implement an information-provision survey experiment with belief elicitation, following several recent papers (Cavallo, Cruces, and Perez-Truglia, 2017; Binder and Rodrigue, 2018; Binder, 2020; Coibion, Gorodnichenko, and Weber, 2022; Coibion *et al.*, 2023; Coibion *et al.*, 2024; Weber *et al.*, Forthcoming). The existing literature has focused on how different pieces of information affect beliefs. Instead, we focus on how the same information can elicit heterogeneous beliefs depending on who the messenger is and how they are perceived by the recipient of the message. In that regard, the works more closely related to ours are Haldane and McMahon (2018), D'Acunto *et al.* (2020), D'Acunto, Fuster, and Weber (2021), Wabitsch (2024), and Kuang, Weber, and Xie (2024) who also explore the effects of monetary policy communication on household beliefs about the economy. However, while the first two emphasize the language and tone of the message and the latter three investigate the role of perceptions about the Monetary Policy committee members, our work highlights that the medium through which the message is delivered can also be a source of heterogeneous beliefs.

The rest of this paper is structured as follows. Section 2 describes the survey and how it is used to measure the subjects' beliefs. It also describes and analyses the information treatment. Section 3 presents the main results of the paper. Section 4 discusses potential policy implications of our results and Section 5 concludes.

2 Data and Experiment Design

2.1 Experimental Procedure

Our sample consists of 285 undergraduate students at the University of Brasília (UnB). The survey experiment was administered in person in November 2024. Subjects were asked to consent to participating in the survey. The consent form made subjects aware that they were going to be asked about their perception of the Brazilian economy and be exposed to information about economic conditions. It also informed them that we were interested in their own opinions and, as such, there were no right or wrong answers. Respondents were not informed beforehand of what the survey was about. After consenting to participating, subjects started the survey, which consisted of a pre-treatment section, the experimental treatments and a post-treatment section. [1]

2.1.1 Pre-treatment Section

In the pre-treatment section, after answering basic demographic questions, we assess subjects' awareness and perceptions of macroeconomic conditions. [2] We first ask subjects about the sources they used to gather information about the economy over the previous month and then ask three standard questions on financial literacy. [3] Afterward, we ask questions aimed at assessing the subjects' knowledge about the BCB and its policy objectives. Finally, we elicit their 12-month-ahead inflation expectations and ask subjects to rate how much they trust the BCB to take care of the economic well-being of *all* Brazilians. We elicit inflation expectations by asking participants to assign probabilities to different possible inflation levels. We then construct the mean and standard deviation of these expectations by using the midpoint of each bin and fixed values for the bins on each end. [4] Trust is rated on a five-point scale ranging from 1 ("No trust at all") to 5 ("Fully trust"). Subjects were then randomly assigned to one of four information-treatment groups.

---

1 The survey questions are available in Appendix C

2 We use neighborhood of residence as a proxy for household income.

3 We use the number of correct answers as a measure of literacy. The questions we asked were first introduced by Lusardi and Mitchell (2011).

4 This strategy follows Coibion, Gorodnichenko, and Weber (2022). For respondents who assign weights to bins for "Less than -12%" and "More than 12%", we use -14% and 14% as the midpoint.

2.1.2 The Treatments

The treatments were designed to disentangle the different effects the media might have on the transmission of central bank communication to the general public. In particular, we follow Coibion, Gorodnichenko, and Weber (2022) in positing two possible channels through which the media can influence the expectations formation process: its informational contents (henceforth referred to as the *content channel*) and its credibility (henceforth referred to as the *credibility channel*). These two channels operate through distinct mechanisms that shape how individuals interpret and respond to central bank communication. The content channel pertains to the difference in language and informational content between the COPOM statement and the media coverage on the statement. While the COPOM statement is crafted for an audience of experts, news articles target the general public, using much simpler language. These articles may also add context to the BCB's decision or omit details considered less relevant to the public. For example, news website *G1*'s coverage of the COPOM statement released in November 2024 reads:

> The text released after the decision highlights that the perception of economic agents regarding the fiscal scenario has "significantly affected asset prices and agents' expectations, especially the risk premium and the exchange rate."
>
> The expression "significantly" was not included in the statements from previous meetings.

While the first paragraph is a direct quote from the COPOM statement, the second provides additional context to the reader. Conversely, although the COPOM statement mentions that "[r]egarding the domestic scenario, the set of indicators on economic activity and labor market continues to exhibit strength", *G1* omits any reference to the labor market and economic activity. [5] This discrepancy in the contents of the two texts could cause individuals who read only one text to form beliefs that differ from those of individuals who read the other.

The credibility channel, on the other hand, pertains to the difference in perceived credibility of the BCB as a news source *vis-à-vis* the media. If either source is perceived as being less credible than the other, individuals could discount some or all of the information in that text, leading to a smaller effect on beliefs compared to those who obtain their news from the more credible source.

To investigate the credibility channel, an ideal approach would involve presenting different subject groups with a news article from a single source but attributing it to different sources (i.e., holding the textual content constant while varying the information source). The

[5] These texts are available at https://www.bcb.gov.br/controleinflacao/comunicadoscopom/20393 (COPOM Statement) and https://g1.globo.com/economia/noticia/2024/11/06/taxa-selic-copom-acelera-ritmo-de-alta-e-eleva-juro-basico-de-1075percent-para-1125percent-ao-ano.ghtml (*G1* coverage). Both links are in Portuguese. The *G1* article was accessed on 06/11/24 at 18:33; it has since been edited to include more information, which is not considered here.

resulting difference, or lack thereof, in participants' responses could then be attributed to the perceived credibility of each source. However, professional ethics standards require that survey participants be presented only with truthful information. To address this limitation, we rely on NLP. Specifically, we employ an Extractive Automatic Text Summarization (ATS) algorithm to generate a text that includes only information found in two sources: the COPOM statement and the coverage of the latest COPOM statement in *G1*. [6] Extractive ATS algorithms function by identifying the most important phrases in a given text and reorganizing them into a shorter text. As a result, the generated text contains only factual information directly obtained from our sources. This allows us to present this text as being a concise version of the original text from either of our sources and, in turn, asses the extent to which the credibility channel affects the expectation formation process.

Similarly, an ideal approach to investigate the content channel would involve presenting different subject groups with different texts from the same source (i.e., holding the source constant while varying the textual content) and verifying whether or not individuals' responses differ. Coibion, Gorodnichenko, and Weber (2022) adopt this approach by comparing responses to similar texts from different FOMC statements. However, a limitation with their approach is that the differing response in consumer beliefs could then be attributed to the fact that the economic scenario has changed between meetings, leading subjects to reassess their inflation expectations. In contrast, we leverage the fact that our summary includes only information present in both texts, resulting in a text with less information than either of the original sources. This allows us to have a more precise assessment of the content channel, as we compare responses to texts about the same COPOM statement.

Appendix B describes in detail the procedure we use to create our summary. To illustrate the results of the procedure, Table 2.1 presents two excerpts from our ATS generated summary accompanied by its reference locations in the original texts. Both excerpts are direct quotes from the COPOM statement that are also included in the *G1* article. Notably, we accessed the *G1* article shortly after its initial publication, when it primarily contained direct quotes from the statement, which simplified the summarization process. The full text is available in Appendix C.

Subjects assigned to group one were presented with the latest COPOM statement, while those in group two were presented with *G1*'s coverage of the latest COPOM statement. Subjects in groups three and four were presented with our summary. For group three, the text was presented as a summary of the latest COPOM statement, whereas for group four, it was presented as a summary of *G1*'s coverage of the statement. To replicate the effect identified by Coibion, Gorodnichenko, and Weber (2022), we compare the responses of groups one

[6] We selected *G1* as our news source because it is simultaneously the most accessed news site in Brazil and the most distrusted according to data from the Reuters Institute for the Study of Journalism. Available at https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2024/brazil

Table 2.1 – Excerpts from the ATS Generated Text

Excerpt 1
"The external environment remains challenging, mainly due to the uncertain economic situation in the United States, which raises greater doubts about the pace of deceleration, disinflation, and consequently, about the stance of the Fed." - Retrieved from COPOM paragraph 1 and *G1* paragraph 4.
Excerpt 2
"The Committee reaffirms that a credible fiscal policy, committed to debt sustainability, supported by the presentation and execution of structural measures for the budget, will contribute to anchoring inflation expectations and reducing financial asset risk premiums" - Retrieved from COPOM paragraph 5 and *G1* paragraph 11.

Notes: The table presents excerpts from our ATS generated summary accompanied by its reference locations in the original texts. The full text is available in Appendix C.

and two. To investigate the credibility channel, we compare groups three and four. Finally, to examine the content channel, we compare groups one and three, as well as groups two and four.

2.1.3 Post-treatment

Following each treatment, we begin by performing an attention check, to ensure that subjects have read the information treatment. We then ask participants to rate the difficulty of understanding the text they just read and once again elicit 12-month-ahead inflation expectations. However, this time, we do so by asking for a point estimate, rather than the probability distribution, to avoid asking the same question twice. We also ask subjects how the text affected their trust in the BCB's capacity to take care of the economic well-being of *all* Brazilians. This is rated on a 5-point scale ranging from 1 ("Worsened considerably") to 5 ("Considerably improved"). Finally, we ask subjects for their political orientation and their perceived credibility of six different news sources, including traditional and social media. We ask these questions at the end to minimize concerns of priming and demand effects.

2.2 Preliminary Facts and Discussion

Table 2.2 presents the average 12-month-ahead inflation expectations and the self-reported trust in the Central Bank of all individuals in our sample prior to the treatments, as well as a number of observable characteristics of the participants. The last column reports the p-value from a one-way Analysis of Variance (ANOVA) test, indicating that characteristics of participants are similar across treatment groups. The average inflation expectations in our sample is 5.45%. For comparison, the average 12-month-ahead inflation expectation in the FGV IBRE Consumer Expectations Survey in November 2024 was 6.5%.

Financial literacy is high, with an average score of 2.52 (out of 3) and 62% of subjects answering all questions correctly. For comparison, in the work that introduced this scale, Lusardi and Mitchell (2011) report that 30% of US consumers correctly answered all 3 questions, with an average score of 1.8 correct answers. However, this relatively higher financial literacy does not translate into a higher knowledge of the BCB and it's policies. Respondents scored an average of 0.27 (out of 4) correct answers in questions related to the BCB, with only 7.7% correctly answering 3% when asked for the BCBs inflation target rate. This number is lower than what was found by Coibion, Gorodnichenko, and Weber (2022), suggesting that inattention to monetary policy isn't exclusive to low-inflation environments.

Table 2.2 – Descriptive Statistics

Variable	Group 1	Group 2	Group 3	Group 4	Total	p-value
Age	21.92 (9.07)	21.26 (7.92)	21.77 (8.79)	20.88 (6.43)	21.46 (8.11)	0.55
Male (0-1)	0.51 (0.5)	0.47 (0.5)	0.59 (0.5)	0.42 (0.5)	0.5 (0.5)	0.55
Economics Major (0-1)	0.13 (0.34)	0.13 (0.34)	0.11 (0.31)	0.09 (0.29)	0.12 (0.32)	0.38
Household Income	10164.78 (5132.05)	9520.82 (4939.23)	9179.03 (5193.29)	10096.31 (5268.7)	9749.2 (5115.15)	0.82
Financial Literacy (0-3)	2.51 (0.72)	2.4 (0.8)	2.58 (0.63)	2.6 (0.65)	2.52 (0.71)	0.23
Central Bank Knowledge (0-4)	0.21 (0.53)	0.33 (0.71)	0.28 (0.48)	0.27 (0.51)	0.27 (0.57)	0.71
Prior: 12-month-ahead inflation	5.4 (4.48)	5.3 (3.68)	5.78 (3.57)	5.36 (3.79)	5.45 (3.89)	0.85
Prior: Trust in the CB (1-5)	2.73 (0.97)	2.61 (0.92)	2.81 (1.06)	2.85 (1)	2.74 (0.99)	0.31

Notes: The table reports the mean and standard deviation (in parenthesis) for the demographics as well as the prior beliefs about the economy of the subjects in each treatment group. Household Income is the mean household income of the subjects' self reported neighborhood of residence. Trust in the Central Bank refers to trust in the BCB to care about the economic well-being of all Brazilians. The final column displays the p-values from a one-way Analysis of Variance (ANOVA) test, which compares the means across groups to verify whether they are significantly different.

We also find evidence that other features of our survey are compatible with stylized facts from the literature (Weber *et al.*, 2022). Twelve-month ahead inflation expectations in our survey are higher than those of professional forecasters (5.45% vs 4.16% in the BCB's FOCUS Survey), one of the most robust characteristics of consumer inflation expectations surveys. This upwards bias is more pronounced when we look at specific demographics (Figure 2.1): respondents from poorer neighborhoods and with lower financial literacy scores have higher inflation expectations than their peers, similar to findings from Bruine de Bruin *et al.* (2010) and Weber, Gorodnichenko, and Coibion (2023). [7] Dispersion is also much higher in our data than in the FOCUS survey: we find a standard deviation of 3.89, while in the professional forecasters' survey the standard deviation is 0.47; another feature of consumer expectation surveys. Finally, we find that perceived inflation is strongly correlated with beliefs about future inflation, a result that has also been constantly verified in consumer expectations surveys. Taken together, these result suggest that our survey replicates the main

[7] We do find a puzzling result in that men in our sample tend to have higher expectations than women, unlike what has been previously reported in the literature. Since much of the literature agrees that this gender gap is caused by an exposure to heterogeneous price signals, it is possible that the women in our sample are not exposed to the same price signals as those in the general public.

stylized facts of households' inflation expectations and therefore is valid as a measure of individuals' beliefs about the economy.

Figure 2.1 – Do Expectations Replicate Stylized Facts?

Notes: Panels (a) through (c) plot the pre-treatment mean expectations of subjects, broken down among observable characteristics. Panel (a) divides subjects by gender, Panel (b) by income, and Panel (c) by financial literacy scores. Means are constructed from Huber robust regressions on a constant. Panel (d) plots a binscatter showing the relationship between 1-year-ahead inflation forecasts and perceptions of past inflation. Perceptions and expectations are restricted to the [-2%,12%] range. Huber robust regression is used to downweigth the importance of outliers.

3 Treatment Effects

In this section, we present and discuss how different information treatments affect the beliefs of our subjects.

3.1 Average Effects on Beliefs

To assess how our information treatments influence expectations, we regress changes in the inflation expectations of agents (pre- to post-treatment) on a dummy variable indicating treatment group membership. Given the absence of a traditional control group, we adopt an active control design, comparing the effects of one treatment against another. Specifically, we compare groups 1 and 2 to replicate the findings of Coibion, Gorodnichenko, and Weber (2022); groups 1 and 3, and 2 and 4 to isolate the *content channel*, by holding the information source constant and varying only the informational content; and groups 3 and 4 to isolate the *credibility channel*, by holding the informational content constant and varying only the information source. This approach allows us to disentangle the mechanisms driving changes in expectations and trust, providing a nuanced analysis of treatment effects. Our regression takes the following form:

$$\mathbb{E}_i^{\text{Post}}\pi - \mathbb{E}_i^{\text{Pre}}\pi = \alpha + \beta \times \text{Treat}_i + \mathbf{\Gamma X_i} + \epsilon_i \tag{3.1}$$

where i denotes respondent, $\mathbb{E}_i^{\text{Post}}\pi$ denotes the posterior forecast of individual i, $\mathbb{E}_i^{\text{Pre}}\pi$ denotes their prior forecast, Treat_i is the dummy variable, and $\mathbf{X_i}$ is a vector of individual-specific controls.[1] In Table 3.1, we report the estimated values for β with and without these individual controls. Note that β identifies the average change in inflation expectations of respondents in the treatments group relative to the average change in another treatment group. We explicitly mention which treatment groups are being compared when reporting the results in Table 3.1. We use Huber-robust regressions to systematically control for outliers and influential observations. [2]

Our results suggest that respondents who were exposed to the full *G1* article revised their expectations upwards by an average of 1.4-1.5% relative to those in Group 1 (the full COPOM statement). Despite this overall upward revision, respondents in Group 2 lowered their expectations on average, suggesting that the COPOM statement had a more pronounced

[1] Individual-specific controls include age, mean household income on the neighborhood of residence and a dummy indicating whether the individual is majoring in Economics.

[2] Appendix Table A.1 reports the results from a regular OLS regression, while Appendix Tables A.2 and A.3 report the results using alternative methods of dealing with outliers.

effect on subjects' expectations than the corresponding *G1* article. [3] This aligns with the findings of Coibion, Gorodnichenko, and Weber (2022), who also observed stronger impacts from official policy communications than from media summaries.

Table 3.1 – Average Response to Treatments

	Inflation Expectations	
	(1)	(2)
Relative to original COPOM statement (Treatment 1)		
T2 (G1)	1.412**	1.524***
	(0.557)	(0.583)
T3 (Condensed COPOM)	0.223	0.276
	(0.581)	(0.582)
Relative to condensed COPOM statement (Treatment 3)		
T4 (Condensed G1)	2.014***	1.978***
	(0.651)	(0.729)
Relative to original G1 article (Treatment 2)		
T4 (Condensed G1)	0.785	0.641
	(0.638)	(0.737)
Demographic Controls	No	Yes
Remove Outliers	Yes	Yes

Notes: The table reports the average change in inflation expectations of individuals in each treatment group relative to those in the highlighted treatment group. Treatments are described in detail in the text. The second column uses the same specification as the first, but augmented with respondent-specific controls. Results are from Huber-robust regressions to control for outliers and influential observations. Robust standard errors are reported in parenthesis. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

When exploring possible explanations for these results, we find no evidence that they are driven by differences in informational content. While our findings suggest that respondents in Groups 3 and 4 revised their expectations upwards compared to respondents in Groups 1 and 2, respectively, neither revision is statistically significant. One possible explanation for the lack of statistical significance is that our summary did not omit enough of the informational content to produce a meaningful difference. This reasoning may hold for the *G1* article, where the summary closely mirrors the original content. However, in the case of the COPOM statement, the summary omits potentially significant information, including the FOCUS survey projections for inflation at the end of 2025, which might have influenced respondents' revisions.

In contrast, when the informational content is held constant and only the information source is varied, we observe statistically significant results. Subjects that were exposed to the condensed *G1* treatment (Group 4) revised their expectations upwards by 1.9-2% relative

[3] Subjects in Group 2 lowered their expectations, on average, by 1.05%. Data obtained by regressing participant's expectation revisions on a constant.

to those who were exposed to the condensed COPOM treatment (Group 3). This suggests that the source of the information is the primary factor driving the observed difference in expectations revision.

3.2 Convergence in Beliefs

While the results above describe the average change in beliefs among our subjects, they do not fully characterize how the information treatments affect beliefs. A relevant policy question might be whether the treatments lead to the convergence of expectations. Convergence around the inflation target is particularly desirable, as anchored inflation expectations are critical for central banks in pursuing price stability. To assess the impact of our treatments on the convergence of expectations, we estimate the following Probit model:

$$D_i(\text{Closer}) = \alpha + \beta \times \text{Treat}_i + \mathbf{\Gamma X_i} + \varepsilon \tag{3.2}$$

where $D_i(\text{Closer})$ is a dummy variable equal to 1 if subject i's post-treatment inflation expectations are closer to the BCB's target of 3% than their pre-treatment expectations, and 0 otherwise; Treat_i is a dummy variable indicating treatment group membership, and $\mathbf{X_i}$ is a vector of individual-specific controls. The results are presented in Table 3.2.

Table 3.2 – Convergence in Beliefs

	Closer to Target Rate	
	(1)	(2)
Relative to original COPOM statement (Treatment 1)		
T2 (G1)	-0.713***	-0.758***
	(0.258)	(0.257)
T3 (Condensed COPOM)	-0.264	-0.351
	(0.280)	(0.290)
Relative to condensed COPOM statement (Treatment 3)		
T4 (Condensed G1)	-0.646***	-0.644**
	(0.250)	(0.269)
Relative to original G1 article (Treatment 2)		
T4 (Condensed G1)	-0.196	-0.188
	(0.225)	(0.233)
Demographic Controls	No	Yes

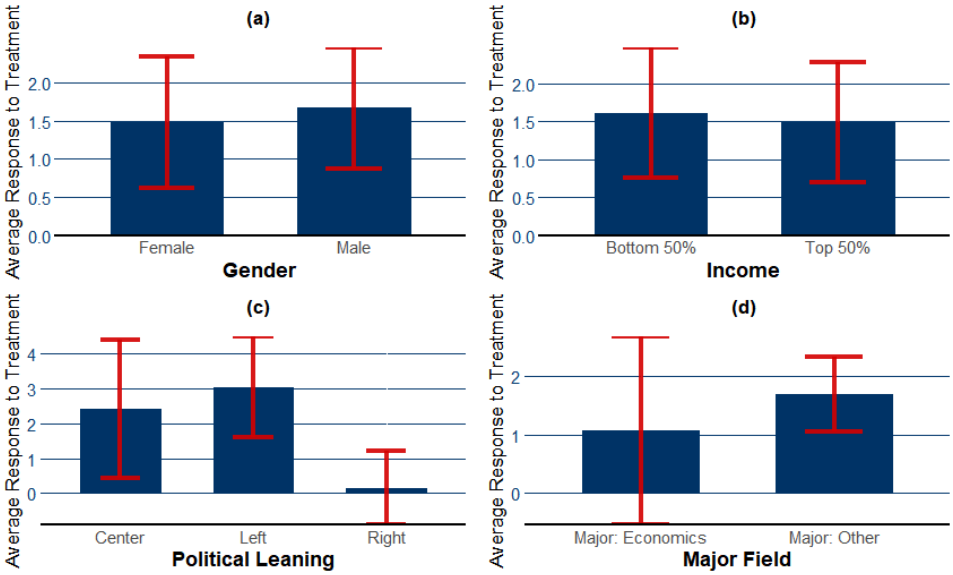
Notes: The table reports the probability that subjects' inflation expectation converge to the BCB's target inflation rate of 3% in each treatment group relative to those in the highlighted treatment group. Treatments are described in detail in the text. The second column uses the same specification as the first, but augmented with respondent-specific controls. Results are from Probit regressions. Robust standard errors are reported in parenthesis. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Our results indicate that subjects who were presented with the full *G1* article were 71-75% less likely to adjust their expectations towards the 3% inflation target compared to those in Group 1. When holding the information source constant and varying only the informational contents, we find no statistically significant effects. Conversely, when holding the informational contents constant and varying the information source, we find that subjects exposed to the condensed *G1* treatment were 64% less likely to adjust their expectations towards the 3% inflation target compared to those in Group 3. These findings are compatible with the results we reported in the previous section, further highlighting the significant role of the information source in shaping expectation adjustments.

3.3 Heterogeneity

Another relevant policy question is whether the treatment effects differ along the observable characteristics of our subjects. As discussed in Section 2, we observe that pre-treatment expectations differ based on these characteristics. Understanding if this heterogeneity persists in response to the treatment can be useful to policy-makers if they aim to anchor the inflation expectations of specific subsets of the population. We thus regress respondents' expectation revisions across treatment groups on a range of observable characteristics along which they differ, including gender, income, political leaning and Academic Major. The complete results are presented in Table A.4, with summary findings for observable heterogeneity illustrated in Figures 3.1 and 3.2. Our specification includes individual-specific controls. In each case, we we use Huber-robust regressions.

Figure 3.1 – Heterogeneity in Treatment Response, Group 2 relative to Group 1

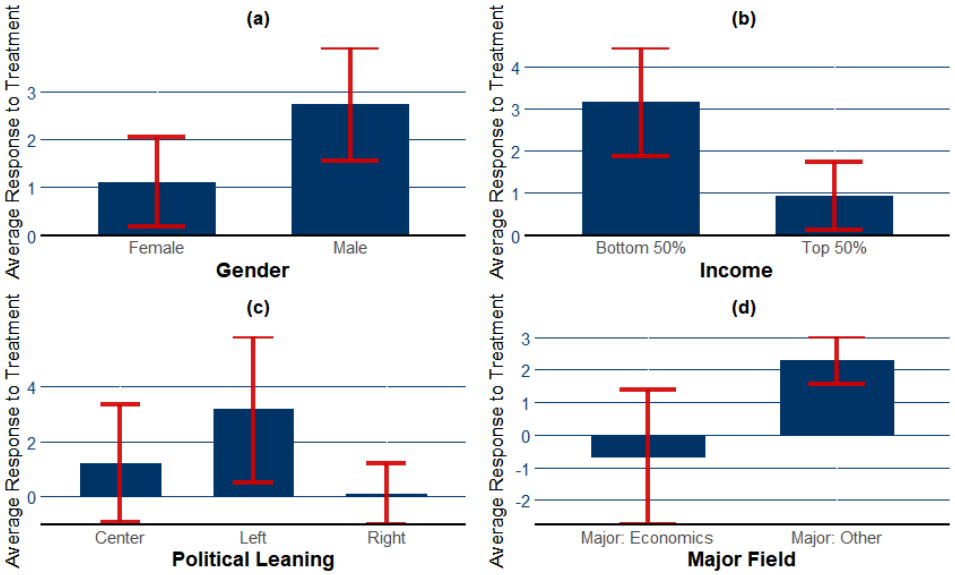


Notes: This figure reports the average response in inflation expectations of individuals in Group 2 relative to those in Group 1, broken down among observable characteristics of individuals. Panel (a) separates individuals by gender, panel (b) considers where individuals rank in the income distribution of all respondents, panel (c) classifies respondents based on their self-reported political leaning, and panel (e) separates individuals based on their academic major. Treatments are described in detail in the text. Estimates are from a Huber-robust regression. Robust standard errors are shown as error bars. Full results are available in Table A.4.

Figure 3.1 presents the results of regressions comparing Group 2 to Group 1. We observe limited heterogeneity in responses across individuals of different genders and income percentiles. However, political preferences appear to play a significant role, with self-identified Center and Left-wing voters exhibiting a stronger response to the *G1* information treatment compared to Right-wing voters. Similarly, individuals majoring in fields other than economics demonstrate a more pronounced response to the treatment.

When focusing specifically on the *credibility channel* (Figure 3.2), the heterogeneity becomes even more pronounced across subgroups. In addition to variations by political preferences and Academic Major, we find differing responses across gender and income subgroups. Strikingly, our results suggest that men, left-leaning individuals, individuals from lower-income households, and individuals majoring in non-economics fields are particularly susceptible to the *credibility channel*. This implies that the traditional central bank communication strategy, which relies on the media to transmit information to the general public, is unlikely to be effective in altering the inflation expectations of individuals in these groups and raises concerns that it may instead cause unintended redistributive effects (see for e.g., D'Acunto *et al.*, 2021).

Figure 3.2 – Heterogeneity in Treatment Response, Group 4 relative to Group 3



Notes: This figure reports the average response in inflation expectations of individuals in Group 4 relative to those in Group 3, broken down among observable characteristics of individuals. Panel (a) separates individuals by gender, panel (b) considers where individuals rank in the income distribution of all respondents, panel (c) classifies respondents based on their self-reported political leaning, and panel (e) separates individuals based on their academic major. Treatments are described in detail in the text. Estimates are from a Huber-robust regression. Robust standard errors are shown as error bars. Full results are available in Table A.4.

4 Discussion

The strong credibility effect we find in our results suggests that individuals tend to discount central bank communications when they are relayed through the media. To investigate whether this discounting is exclusive to *G1* or if it extends to other news outlets, we ask subjects to rate the credibility of three media groups on a scale from 1 (very unreliable) to 5 (very reliable). Results, presented in Table 4.1, show that participants generally perceive these media groups as unreliable. In particular, *Globo*, *G1*'s parent company, is rated the most reliable of the three, indicating that the discounting of the *G1* article by our participants is not due to *G1* being seen as particularly unreliable, but rather reflects a broader distrust of traditional media sources.

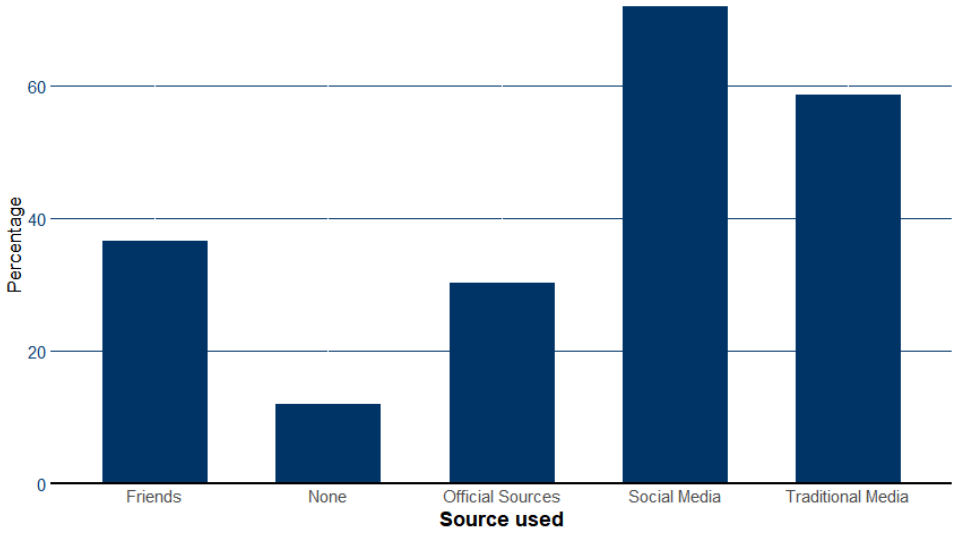
Table 4.1 – Credibility of Different News Sources

	Score	
	Mean	**St.Dev.**
Credibility of media groups		
Globo	3.26	1.24
Record	2.79	1.12
Folha de S. Paulo	3.12	1.20
Credibility of social media platforms		
Whatsapp	1.21	0.53
Twitter/X	1.76	1.00
Tik Tok	1.35	0.65

Notes: The table reports responses to questions about the credibility of media groups (top panel) and social media platforms (bottom panel) as news sources. Column (1) reports mean credibility scores across all respondents, while column (2) reports the standard deviation of these scores. Fewer than 1% of participants did not answer the questions about *Folha de S. Paulo*, Twitter or Tik Tok.

Taken together, our results suggest that if the BCB aims to communicate effectively with the general public, it should adopt a more direct approach. However, direct communication with the public poses its own challenges. Figure 4.1 presents responses to questions about subjects' preferred sources of economic information. Notably, only 24% of respondents reported obtaining economic news from official sources, including the BCB's website, where its communications are published. This implies that direct communication must go beyond merely publishing statements and minutes; it requires actively engaging the public in ways that make the information more accessible and appealing.

Figure 4.1 – Subjects' Economic News Sources



Notes: This figure plots the self-reported sources of economic information used by subjects during the month preceding the survey.

Social media presents an obvious avenue to explore, given that 72% of respondents reported seeking economic news through these platforms. However, it too possesses its challenges. The bottom panel of Table 4.1 reports the credibility scores of three selected social media platforms. Strikingly, the mean scores are even lower than those of media groups. This does not necessarily imply that all news consumed via social media will be discredited, as these platforms are highly decentralized and the effectiveness of a message will depend heavily on factors other than the source or individual posting the news (see e.g., Ehrmann and Wabitsch, 2022). Nevertheless, it suggests that the effect of communication through social media might also be limited.

The heterogeneity in responses to identical information treatments highlights an additional challenge in developing effective communication strategies: to successfully convey messages to the general public, communication must be tailored to diverse audiences. This suggests that a single, universal mode of communication may not suffice. Instead, an effective strategy should integrate multiple channels, including traditional media, social media, and alternative approaches, such as the Bank of Jamaica's use of reggae songs to disseminate its policies or the Bank of England's Citizens' Panels. Moreover, as noted by Haldane, Macaulay, and McMahon (2021), indiscriminate engagement with the public can have unintended consequences, particularly when households lack an understanding of the economy's complex and stochastic nature. Given that our findings indicate limited public awareness about the BCB, it is essential not only to communicate clearly but also to educate and consistently remind the public about the BCB's decisions, the rationale behind them, and their broader implications.

Still, our findings suggest that the BCB could reap significant benefits by engaging in more direct communication with the general public. General knowledge about the BCB and its policy targets is low. Many individuals are unwilling to even guess what the BCB's target inflation rate is. Their perception of past inflation greatly differs from actual inflation and their forecasts remain unanchored. And yet, when individuals are presented with communication about monetary policy, they revise their inflation expectations significantly. This indicates that, if the BCB can communicate effectively, it could wield a powerful tool in its pursuit of price stability. Given the well-documented evidence in the literature that household inflation expectations shape consumption choices (Coibion; Gorodnichenko; Weber, 2022; Coibion *et al.*, 2023; Burke; Ozdagli, 2023), effective communication with the public could play a pivotal role in anchoring expectations and enhancing the efficacy of monetary policy.

Additionally, while the heterogeneous responses to the treatments present challenges in communicating with the general public, they could also offer significant advantages. Specifically, the existence of heterogeneous responses suggests that different groups are more responsive to certain communication strategies. While traditional monetary policy typically employs a one-size-fits-all approach, our findings indicate that direct communication with the public could enable more targeted monetary policy interventions by allowing policymakers to tailor messages to specific demographics. This approach is analogous to how governments design public health campaigns to address specific population segments for greater impact. In a large and diverse country like Brazil, such a strategy could provide the BCB with a valuable tool to address region-specific imbalances more effectively.

Finally, given the intense criticism the BCB has faced from political leadership in recent times, engaging in direct communication with the general public could enhance awareness of the BCB and its policy targets. This, in turn, has the potential to strengthen its credibility and safeguard its newly gained independence.

5 Conclusion

Central banks worldwide have increasingly embraced communication as a key tool for shaping financial market inflation expectations. However, a growing body of evidence has shown the significant role household inflation expectations play in shaping economic outcomes, highlighting the importance of extending communication efforts beyond financial markets to engage directly with the general public. The aim of this paper was to investigate through which channels media reporting on current communication efforts by the BCB shape consumers inflation expectations. We provide evidence that individuals presented with media coverage of the latest COPOM announcement reduced their inflation expectations by a smaller amount compared to those who read the full COPOM announcement. Further analysis indicates that these differences are not driven by variations in informational content. Instead, the source of the information emerges as the primary factor influencing revisions in expectations. Furthermore, we find that exposure to media coverage of the COPOM announcement decreases the likelihood of expectations converging towards the BCB's inflation target, compared to exposure to the full COPOM statement. Finally, we observe that responses to our treatments are heterogeneous across different subgroups of the population. Taken together, our results suggest that if the BCB seeks to communicate directly with the public, it must explore new methods beyond traditional media.

While we focus solely on the differential response to central bank communication consumed through traditional media, the vast majority of our respondents said they consume economic news through social media. This raises a set of interesting questions that beget further research. For instance, are people more likely to pay attention to central bank communication through social media? If so, does the *credibility effect* also exist in social media? In light of our results, answering these questions might be crucial in determining how central banks can design more effective communication channels.

References

ARMANTIER, O.; Bruine de Bruin, W.; TOPA, G.; KLAAUW, W. van der; ZAFAR, B. Inflation expectations and behavior: Do survey respondents act on their beliefs? **International Economic Review**, v. 56, n. 2, p. 505–536, 2015. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/iere.12113. Cit. on p. 12.

AYRES, J.; GARCIA, M. G. P.; GUILLéN, D. A.; KEHOE, P. J. The monetary and fiscal history of brazil, 1960-2016. *In*: **The Monetary and Fiscal History of Latin America, 1960-2017**. University of Minnesota Press, 2019. ISBN 978-1-4529-6612-0. Available at: https://doi.org/10.5749/9781452966120. Cit. on p. 14.

BAILEY, M.; CAO, R.; KUCHLER, T.; STROEBEL, J. The economic effects of social networks: Evidence from the housing market. **Journal of Political Economy**, v. 126, n. 6, p. 2224–2276, 2018. Available at: https://doi.org/10.1086/700073. Cit. on p. 12.

BERGER, H.; EHRMANN, M.; FRATZSCHER, M. **Monetary Policy in the Media**. 2006. (Working Paper Series, 679). Cit. on p. 14.

BINDER, C. Fed speak on main street: Central bank communication and household expectations. **Journal of Macroeconomics**, v. 52, p. 238–251, 2017. ISSN 0164-0704. Available at: https://www.sciencedirect.com/science/article/pii/S0164070416302312. Cit. on p. 14.

BINDER, C. Federal reserve communication and the media. **Journal of Media Economics**, Routledge, v. 30, n. 4, p. 191–214, 2017. Available at: https://doi.org/10.1080/08997764.2018.1515767. Cit. on p. 14.

BINDER, C. Coronavirus Fears and Macroeconomic Expectations. **The Review of Economics and Statistics**, v. 102, n. 4, p. 721–730, 10 2020. ISSN 0034-6535. Available at: https://doi.org/10.1162/rest_a_00931. Cit. on pp. 12 and 15.

BINDER, C. Presidential antagonism and central bank credibility. **Economics & Politics**, v. 33, n. 2, p. 244–263, 2021. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/ecpo.12173. Cit. on p. 14.

BINDER, C.; RODRIGUE, A. Household informedness and long-run inflation expectations: Experimental evidence. **Southern Economic Journal**, Southern Economic Association, v. 85, n. 2, p. 580–598, 2018. ISSN 00384038, 23258012. Available at: https://www.jstor.org/stable/26633583. Cit. on pp. 14 and 15.

BLINDER, A. S.; EHRMANN, M.; FRATZSCHER, M.; HAAN, J. D.; JANSEN, D.-J. Central bank communication and monetary policy: A survey of theory and evidence. **Journal of Economic Literature**, v. 46, n. 4, p. 910–45, December 2008. Cit. on p. 12.

Bruine de Bruin, W.; VANDERKLAAUW, W.; DOWNS, J. S.; FISCHHOFF, B.; TOPA, G.; ARMANTIER, O. Expectations of inflation: The role of demographic variables, expectation formation, and financial literacy. **The Journal of Consumer Affairs**, Wiley, v. 44, n. 2, p. 381–402, 2010. ISSN 00220078, 17456606. Available at: http://www.jstor.org/stable/23859797. Cit. on p. 20.

BURKE, M. A.; OZDAGLI, A. Household Inflation Expectations and Consumer Spending: Evidence from Panel Data. **The Review of Economics and Statistics**, v. 105, n. 4, p. 948–961, 07 2023. ISSN 0034-6535. Available at: https://doi.org/10.1162/rest_a_01118. Cit. on pp. 12 and 30.

CARVALHO, C.; NECHIO, F. Do people understand monetary policy? **Journal of Monetary Economics**, v. 66, p. 108–123, 2014. ISSN 0304-3932. Available at: https://www.sciencedirect.com/science/article/pii/S0304393214000713. Cit. on p. 12.

CAVALLO, A.; CRUCES, G.; PEREZ-TRUGLIA, R. Inflation expectations, learning, and supermarket prices: Evidence from survey experiments. **American Economic Journal: Macroeconomics**, v. 9, n. 3, p. 1–35, July 2017. Available at: https://www.aeaweb.org/articles?id=10.1257/mac.20150147. Cit. on pp. 14 and 15.

COIBION, O.; GEORGARAKOS, D.; GORODNICHENKO, Y.; ROOIJ, M. van. How does consumption respond to news about inflation? field evidence from a randomized control trial. **American Economic Journal: Macroeconomics**, v. 15, n. 3, p. 109–52, July 2023. Available at: https://www.aeaweb.org/articles?id=10.1257/mac.20200445. Cit. on pp. 12, 14, 15, and 30.

COIBION, O.; GEORGARAKOS, D.; GORODNICHENKO, Y.; KENNY, G.; WEBER, M. The effect of macroeconomic uncertainty on household spending. **American Economic Review**, v. 114, n. 3, p. 645–77, March 2024. Available at: https://www.aeaweb.org/articles?id=10.1257/aer.20221167. Cit. on p. 15.

COIBION, O.; GORODNICHENKO, Y.; KUMAR, S.; PEDEMONTE, M. Inflation expectations as a policy tool? **Journal of International Economics**, v. 124, n. C, p. S0022199620300167, 2020. Available at: https://www.sciencedirect.com/science/article/pii/S0022199620300167. Cit. on p. 14.

COIBION, O.; GORODNICHENKO, Y.; WEBER, M. Monetary policy communications and their effects on household inflation expectations. **Journal of Political Economy**, v. 130, n. 6, p. 1537–1584, 2022. Available at: https://doi.org/10.1086/718982. Cit. on pp. 13, 14, 15, 16, 17, 18, 20, 22, 23, and 30.

D'ACUNTO, F.; FUSTER, A.; WEBER, M. **Diverse Policy Comittees Can Reach Underrepresented Groups**. 2021. (CEPR Discussion Paper, 16563). Available at: https://cepr.org/publications/dp16563. Cit. on p. 15.

D'ACUNTO, F.; HOANG, D.; PALOVIITA, M.; WEBER, M. **Effective Policy Communication: Target versus Instruments**. 2020. Available at: https://dx.doi.org/10.2139/ssrn.3712658. Cit. on p. 15.

D'ACUNTO, F.; HOANG, D.; PALOVIITA, M.; WEBER, M. **Human Frictions in the Transmission of Economic Policy**. 2021. Available at: https://dx.doi.org/10.2139/ssrn.3451495. Cit. on p. 26.

EHRMANN, M.; GEORGARAKOS, D.; KENNY, G. **Credibility Gains from Communicating with the Public: Evidence from the ECB's New Monetary Policy Strategy**. 2023. (Working Paper Series, 2785). Available at: https://dx.doi.org/10.2139/ssrn.4361911. Cit. on p. 14.

EHRMANN, M.; WABITSCH, A. Central bank communication with non-experts – a road to nowhere? **Journal of Monetary Economics**, v. 127, p. 69–85, 2022. ISSN 0304-3932. Available at: https://www.sciencedirect.com/science/article/pii/S0304393222000204. Cit. on p. 29.

HALDANE, A.; MACAULAY, A.; MCMAHON, M. The three e's of central bank communication with the public. *In*: **Independence, Credibility and Communication of Central Banking**. Banco Central de Chile, 2021. p. 279–342. Cit. on pp. 12, 14, and 29.

HALDANE, A.; MCMAHON, M. Central bank communications and the general public. **AEA Papers and Proceedings**, v. 108, p. 578–83, May 2018. Available at: https://www.aeaweb.org/articles?id=10.1257/pandp.20181082. Cit. on p. 15.

KUANG, P.; WEBER, M.; XIE, S. **Perceived Political Bias of the Federal Reserve**. 2024. (Working Paper Series, 33071). Available at: http://www.nber.org/papers/w33071. Cit. on p. 15.

LAMLA, M. J.; MAAG, T. The role of media for inflation forecast disagreement of households and professional forecasters. **Journal of Money, Credit and Banking**, v. 44, n. 7, p. 1325–1350, 2012. Available at: https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1538-4616.2012.00534.x. Cit. on p. 14.

LUSARDI, A.; MITCHELL, O. S. Financial literacy and retirement planning in the united states. **Journal of Pension Economics and Finance**, v. 10, n. 4, p. 509–525, 2011. Cit. on pp. 16 and 20.

MALMENDIER, U.; NAGEL, S. Learning from Inflation Experiences *. **The Quarterly Journal of Economics**, v. 131, n. 1, p. 53–87, 10 2015. ISSN 0033-5533. Available at: https://doi.org/10.1093/qje/qjv037. Cit. on p. 12.

MANI, A.; MULLAINATHAN, S.; SHAFIR, E.; ZHAO, J. Poverty impedes cognitive function. **Science**, American Association for the Advancement of Science, v. 341, n. 6149, p. 976–980, 2013. Cit. on p. 12.

SHILLER, R. J. Narrative economics. **American Economic Review**, v. 107, n. 4, p. 967–1004, April 2017. Available at: https://www.aeaweb.org/articles?id=10.1257/aer.107.4.967. Cit. on p. 12.

SIMS, C. A. Implications of rational inattention. **Journal of Monetary Economics**, v. 50, n. 3, p. 665–690, 2003. ISSN 0304-3932. Swiss National Bank/Study Center Gerzensee Conference on Monetary Policy under Incomplete Information. Available at: https://www.sciencedirect.com/science/article/pii/S0304393203000291. Cit. on p. 14.

van der Cruijsen, C.; JANSEN, D.-J.; DE HAAN, J. **How much does the public know about the ECB's monetary policy? Evidence from a survey of Dutch households**. 2010. (Working Paper Series, 1265). Available at: https://ideas.repec.org/p/ecb/ecbwps/20101265.html. Cit. on pp. 12 and 14.

WABITSCH, A. The messenger matters. Job Market Paper. 2024. Cit. on p. 15.

WEBER, M.; CANDIA, B.; AFROUZI, H.; ROPELE, T.; LLUBERAS, R.; FRACHE, S.; MEYER, B.; KUMAR, S.; GORODNICHENKO, Y.; GEORGARAKOS, D.; COIBION, O.; KENNY, G.; PONCE, J. Tell me something i don't already know: Learning in low and high-inflation settings. **Econometrica**, Forthcoming. Cit. on pp. 14 and 15.

WEBER, M.; D'ACUNTO, F.; GORODNICHENKO, Y.; COIBION, O. The subjective inflation expectations of households and firms: Measurement, determinants, and implications. **Journal of Economic Perspectives**, v. 36, n. 3, p. 157–84, August 2022. Available at: https://www.aeaweb.org/articles?id=10.1257/jep.36.3.157. Cit. on p. 20.

WEBER, M.; GORODNICHENKO, Y.; COIBION, O. The expected, perceived, and realized inflation of us households before and during the covid-19 pandemic. **IMF Econ Review**, n. 71, p. 326–368, 2023. Cit. on p. 20.

WOODFORD, M. **Central Bank Communication and Policy Effectiveness**. 2005. (Working Paper Series, 11898). Available at: http://www.nber.org/papers/w11898. Cit. on p. 12.

Appendices

Appendix A – Additional tables and figures

Table A.1 – Average Response to Treatments, OLS Regression

	Inflation Expectations	
	(1)	(2)
Relative to original COPOM statement (Treatment 1)		
T2 (G1)	1.471***	1.594**
	(0.614)	(0.620)
T3 (Condensed COPOM)	0.336	0.439
	(0.589)	(0.589)
Relative to condensed COPOM statement (Treatment 3)		
T4 (Condensed G1)	2.460***	2.391***
	(0.774)	(0.813)
Relative to original G1 article (Treatment 2)		
T4 (Condensed G1)	1.324*	1.200
	(0.793)	(0.813)
Demographic Controls	No	Yes
Remove Outliers	No	No

Notes: The table reports the average change in inflation expectations of individuals in each treatment group relative to those in the highlighted treatment group. Treatments are described in detail in the text. The second column uses the same specification as the first, but augmented with respondent-specific controls. Results are from OLS regressions. Robust standard errors are reported in parenthesis. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table A.2 – Average Response to Treatments, Median Regression

	Inflation Expectations	
	(1)	(2)
Relative to original COPOM statement (Treatment 1)		
T2 (G1)	0.990**	0.988**
	(0.476)	(0.537)
T3 (Condensed COPOM)	-0.025	0.244
	(0.723)	(0.8757)
Relative to condensed COPOM statement (Treatment 3)		
T4 (Condensed G1)	1.540**	1.439**
	(0.708)	(0.853)
Relative to original G1 article (Treatment 2)		
T4 (Condensed G1)	0.430	0.655
	(0.445)	(0.610)
Demographic Controls	No	Yes
Remove Outliers	Yes	Yes

Notes: The table reports the average change in inflation expectations of individuals in each treatment group relative to those in the highlighted treatment group. Treatments are described in detail in the text. The second column uses the same specification as the first, but augmented with respondent-specific controls. Results are from Median regressions. Robust standard errors are reported in parenthesis. * p < 0.1; ** p < 0.05; *** p < 0.01.

Table A.3 – Average Response to Treatments, OLS Regression, Expectation Revisions trimmed at bottom and top 10%

	Inflation Expectations	
	(1)	(2)
Relative to original COPOM statement (Treatment 1)		
T2 (G1)	0.632	0.690*
	(0.398)	(0.397)
T3 (Condensed COPOM)	-0.254	-0.299
	(0.421)	(0.4967)
Relative to condensed COPOM statement (Treatment 3)		
T4 (Condensed G1)	1.236***	1.189**
	(0.464)	(0.499)
Relative to original G1 article (Treatment 2)		
T4 (Condensed G1)	0.1537	0.089
	(0.459)	(0.478)
Demographic Controls	No	Yes
Remove Outliers	Yes	Yes

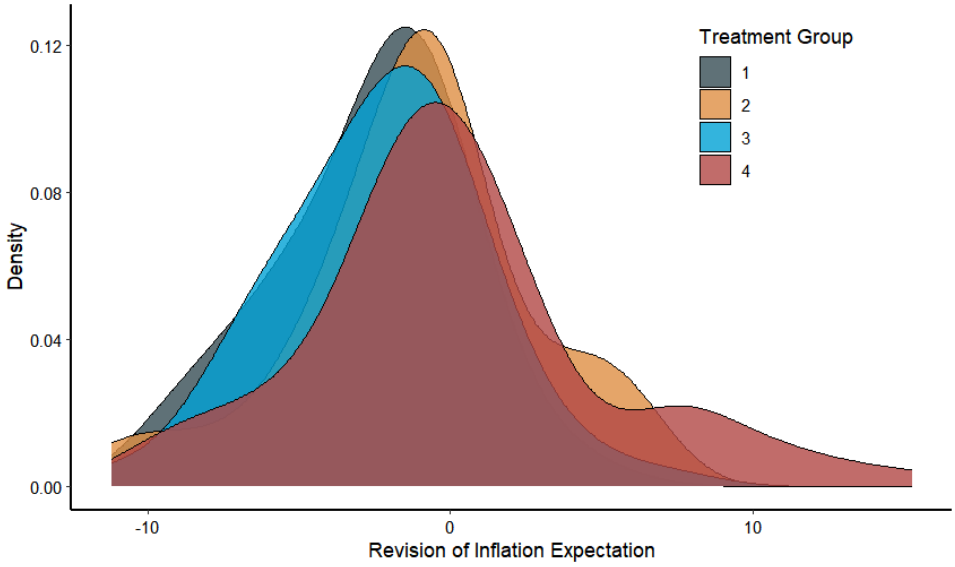
Notes: The table reports the average change in inflation expectations of individuals in each treatment group relative to those in the highlighted treatment group. Treatments are described in detail in the text. The second column uses the same specification as the first, but augmented with respondent-specific controls. Results are from OLS regressions. The dependent variable is trimmed at bottom and top 10 percent. Robust standard errors are reported in parenthesis. * p < 0.1; ** p < 0.05; *** p < 0.01.

Table A.4 – Heterogeneity in Treatment Effects

	By Gender		By Income		By Major		By Political Leaning			By Financial Literacy	
	Male	Female	Bottom 50%	Top 50%	Economics	Other	Left	Center	Right	Under 2	2 or higher
Relative to original COPOM statement (Treatment 1)											
T2 (G1)	1.66**	1.47*	1.61*	1.48*	1.07	1.63***	3.03**	2.41	0.16	1.98**	1.35
	(0.79)	(0.86)	(0.86)	(0.78)	(1.60)	(0.64)	(1.44)	(1.97)	(1.05)	(0.88)	(0.82)
T3 (Condensed COPOM)	0.36	0.64	0.06	0.68	0.78	0.35	0.43	0.80	0.73	0.55	0.18
	(0.83)	(0.93)	(0.90)	(0.77)	(2.29)	(0.68)	(1.24)	(1.62)	(0.81)	(1.16)	(0.69)
Relative to condensed COPOM statement (Treatment 3)											
T4 (Condensed G1)	2.75**	1.11	3.16**	0.93	-0.67	2.28***	3.16	1.18	0.93	1.70	1.69***
	(1.19)	(0.94)	(1.29)	(0.80)	(2.07)	(0.74)	(2.65)	(2.14)	(1.12)	(1.63)	(0.64)
Relative to original G1 article (Treatment 2)											
T4 (Condensed G1)	0.91	0.41	1.29	0.24	-1.51	0.91	0.17	-0.55	1.62	0.36	1.08
	(0.98)	(1.12)	(1.21)	(0.81)	(3.10)	(0.73)	(3.19)	(1.77)	(1.29)	(1.29)	(0.88)
Demographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Remove Outliers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The table reports the average change in inflation expectations of individuals in each treatment group relative to those in the highlighted treatment group, broken down along observable characteristics of individuals. Columns (1) and (2) separate individuals by gender, columns (3) and (4) consider where individuals rank in the income distribution of all respondents, columns (5) and (6) classify respondents based on their academic major, columns (7) to (9) classify individuals based on their self-reported political leaning, and columns (10) and (11) classify respondents based on their financial literacy score. Treatments are described in detail in the text. Results are from Huber robust regression to control for outliers and influential observations. Robust standard errors are reported in parenthesis. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Figure A.1 – Distribution of Revisions in Inflation Forecasts by Treatment Group



Appendix B – Text Summarization Procedure

We generate our summary by employing a BERT-based approach to identify and select the most central sentences from our combined set of texts. The following algorithm describes our procedure:

---

1. Combine the input texts into a single text string and split the text into individual sentences.
2. Initialize the *all-MiniLM-L6-v2* model, a BERT-based model optimized for sentence similarity.
3. For each sentence, generate an embedding using the model:
    a) Tokenize the sentence and pass it through the model.
    b) Extract the final hidden states from BERT and average them to obtain a fixed-dimensional embedding for each sentence.
4. Store all sentence embeddings.
5. Compute the mean embedding vector, by averaging all vectors from the previous step. This mean vector represents the central theme of the combined text set.
6. For each sentence embedding, calculate the cosine similarity between sentence embedding and mean embedding.
    a) Cosine Similarity$(A,B) = \frac{A \cdot B}{||A|| \times ||B||}$
    b) Values closer to 1 indicate higher similarity to the central theme.
7. Store similarity score.
8. Rank sentences based in similarity score, selecting the N sentences with the highest score.
9. Sort the sentences according to their original order for natural coherence.
10. Concatenate the selected sentences into a single string for the final summary.
11. Remove any remaining redundancies manually.

Appendix C – Survey

The purpose of this research is to ask for your perception of the current and future state of the Brazilian economy. Throughout the process, I will present information about the economy and ask some questions. There are no right or wrong answers. What matters is that your answers reflect your opinions exclusively. Participation is entirely voluntary, and you may end your participation in the survey at any time if you feel uncomfortable. Your responses will be analyzed alongside those of other participants to create a representative dataset of the general population. All your responses are confidential and non-identifiable. If you have any questions or concerns, please contact João Pedro Nogueira at jpsilva.nogueira@terra.com.br.

If you agree to these terms and wish to participate in the survey, check this box: ☐

Questionnaire

1. In what year were you born? _____
2. What is your gender? ☐ Male ☐ Female ☐ Prefer not to answer
3. What is your major? ☐ Economics ☐ Other
4. In which of the following regions do you live? ☐ Plano Piloto ☐ Lago Norte ☐ Lago Sul ☐ Sudoeste/Octogonal ☐ Cruzeiro ☐ Varjão ☐ Guará ☐ Park Way ☐ Núcleo Bandeirante ☐ Águas Claras ☐ Vicente Pires ☐ Jardim Botânico ☐ Other (please specify): _____
5. In the past month, have you consulted any of the following sources about the Brazilian economy? Select all that apply.
   - ☐ Official sources (Government websites, IBGE, Central Bank, etc.)
   - ☐ Traditional media (TV, Radio, Print or Online newspapers)
   - ☐ Social media (Instagram, Twitter/X, TikTok, Facebook, etc.)
   - ☐ Friends, family, or colleagues
   - ☐ I have not consulted any sources about the economy
   - ☐ Other (please specify): _____
6. Suppose you have R$100 in a savings account, and the interest rate is 2% per year. After 5 years, how much will you have if you leave the money in the account? ☐ More than R$ 102 ☐ Exactly R$102 ☐ Less than R$102
7. Imagine the interest rate on your savings account is 1% per year, and inflation is 2% per year. After 1 year, how much will you be able to buy with the money in your account? ☐ More than today ☐ Exactly the same ☐ Less than today
8. Is the following statement True (T) or False (F)? "Buying shares of a company generally provides a safer return than an equity mutual fund." ___
9. What is the name of the president of the Central Bank of Brazil (BCB)? _____
10. As far as you know, what is the inflation rate target pursued by the BCB? *(Note: The answer should be a percentage between 0% and 100%)* _____
11. As far as you know, what is the *lower band* of the inflation rate target pursued by the BCB? *(Note: The answer should be a percentage between 0% and 100%)* _____
12. As far as you know, what is the *upper band* of the inflation rate target pursued by the BCB? *(Note: The answer should be a percentage between 0% and 100%)* _____

13. As far as you know, what was the accumulated inflation/deflation rate over the **last 12 months**? (The answer should be a percentage between -100% and 100%) _____

Next, you must indicate the percentage chance of something happening. The answer should be a number between 0 and 100, and the sum of all your answers must equal 100.

14. **Over the next 12 months...**
    (a) the inflation rate will be 12% or higher. _____
    (b) the inflation rate will be between 8% and 12%. _____
    (c) the inflation rate will be between 4% and 8%. _____
    (d) the inflation rate will be between 2% and 4%. _____
    (e) the inflation rate will be between 0% and 2%. _____
    (f) the deflation rate (opposite of inflation) will be between 0% and 2%. _____
    (g) the deflation rate will be between 2% and 4%. _____
    (h) the deflation rate will be between 4% and 8%. _____
    (i) the deflation rate will be between 8% and 12%. _____
    (j) the deflation rate will be 12% or higher. _____
    (k) **Total (the sum of the values above must be 100)** _____

15. On a scale from 1 (no confidence) to 5 (total confidence), how much do you trust the ability of the BCB to care for the economic well-being of *all* Brazilians? _____

Treatment: Respondents are randomly assigned to groups 1 to 4.

Before answering the other questions, please read the following text:

Text 1

If group 1: **This is the most recent *Copom statement*:**

The external environment remains challenging, mainly due to the uncertain economic situation in the United States, which raises greater doubts about the pace of deceleration, disinflation, and consequently, about the Fed's stance. The central banks of the major economies remain determined to bring inflation rates in line with their targets in an environment marked by pressures in the labor markets. The Committee evaluates that the external scenario, also characterized by a lack of synchronization in the monetary policy cycles between countries, continues to require caution on the part of emerging economies.

Regarding the domestic scenario, the set of economic activity and labor market indicators continues to show dynamism. Overall inflation and core measures were above the inflation target in the most recent releases. The inflation expectations for 2024 and 2025, as surveyed by the Focus report, are around 4.6% and 4.0%, respectively. The Copom's inflation projection for the second quarter of 2026, the current relevant horizon for monetary policy, is 3.6% in the reference scenario.

The Committee evaluates that there is an upside asymmetry in its risk balance for the prospective inflation scenarios. Among the upside risks to the inflation scenario and inflation expectations, the following stand out: (i) a deanchoring of inflation expectations for a prolonged period; (ii) greater resilience in services inflation than projected due to a tighter output gap; and (iii) a combination of external and internal economic policies that may have an inflationary impact, for example, through a persistently depreciated exchange rate. Among the downside risks, the following are highlighted: (i) a more pronounced global economic slowdown than projected; and (ii) the impacts of monetary tightening on global disinflation being stronger than expected.

The Committee has been closely monitoring how recent fiscal policy developments are impacting monetary policy and financial assets. The perception of economic agents regarding the fiscal scenario has significantly affected asset prices and agent expectations, especially the risk premium and the exchange rate.

The Committee reaffirms that a credible fiscal policy, committed to debt sustainability, with the presentation and implementation of structural measures for fiscal budgeting, will contribute to anchoring inflation expectations and reducing financial asset risk premiums, consequently impacting monetary policy.

The scenario remains marked by resilience in activity, pressures in the labor market, a positive output gap, rising inflation projections, and deanchored expectations, which demands a more contractionary monetary policy. Considering the evolution of the disinflation process, the evaluated scenarios, the risk balance, and the broad set of available information, the Copom decided, unanimously, to raise the basic interest rate by 0.50 percentage points, to 11.25% p.a., and understands that this decision is compatible with the strategy of bringing inflation to around the target over the relevant horizon. Without prejudice to its fundamental objective of ensuring price stability, this decision also implies smoothing fluctuations in the level of economic activity and fostering full employment.

The pace of future adjustments to the interest rate and the total magnitude of the monetary tightening cycle will be dictated by the firm commitment to bring inflation to the target and will depend on the evolution of inflation dynamics, particularly components more sensitive to economic activity and monetary policy, inflation projections, inflation expectations, the output gap, and the risk balance.

If group 2: **This is a news article published by the *G1 portal* on 06/11/2024:**

The Monetary Policy Committee (Copom) of the Central Bank decided, on Wednesday (06), to raise the Selic rate from 10.75% per year to 11.25% per year.

With a 0.5 percentage point increase in the basic interest rate, the Central Bank adopts a higher dose to combat inflation.

This decision represents the largest hike in basic interest rates since May 2022 – that is, in two and a half years.

"The external environment remains challenging, mainly due to the uncertain economic situation in the United States, which raises greater doubts about the pace of deceleration, disinflation, and consequently, about the stance of the Fed [U.S. Federal Reserve]," says the statement.

The Selic rate was 13.75% per year in July of last year. After that, the Central Bank started a cycle of cuts. In June 2024, Copom began to opt for a stable rate at 10.5% per year.

However, in September, the Central Bank announced the first interest rate increase in the current term of President Luiz Inácio Lula da Silva. Therefore, the hike on Wednesday is the second consecutive increase.

In the statement, Copom mentioned, in addition to uncertainties about the U.S. economy, that it is "closely monitoring how recent developments in fiscal policy impact monetary policy and financial assets."

The government is preparing a plan to cut expenses. The size of these measures in public spending has not yet been defined.

The statement released after the decision highlights that the perception of economic agents regarding the fiscal scenario has "significantly affected asset prices and agent expectations, especially the risk premium and the exchange rate."

The phrase "significantly affected" was not in previous meeting statements.

"The Committee reaffirms that a credible fiscal policy, committed to debt sustainability, with the presentation and implementation of structural measures for fiscal budgeting, will contribute to anchoring inflation expectations and reducing financial asset risk premiums, consequently impacting monetary policy," says the statement.

If group 3: **This is a summary of the most recent *Copom statement*:**

The Copom (Monetary Policy Committee) of the Central Bank unanimously decided, on Wednesday (6), to increase the basic interest rate by 0.5 percentage points, to 11.25% per year.

The external environment remains challenging, mainly due to the uncertain economic situation in the United States, which raises greater doubts about the pace of deceleration, disinflation, and consequently, about the

stance of the Fed. The Committee evaluates that the external scenario, also marked by less synchronization in monetary policy cycles between countries, continues to require caution on the part of emerging economies.

In addition to the uncertainties about the U.S. economy, Copom mentioned that it is "closely monitoring how recent developments in fiscal policy impact monetary policy and financial assets." The perception of economic agents regarding the fiscal scenario has significantly affected asset prices and expectations, especially the risk premium and the exchange rate. The government, in this context, is preparing a plan to cut expenses, although there is still no definition regarding the size of these measures in public spending.

The Committee reaffirms that a credible fiscal policy, committed to debt sustainability, supported by the presentation and execution of structural measures for the budget, will contribute to anchoring inflation expectations and reducing financial asset risk premiums. In this way, Copom reinforces that the pace of future adjustments in the interest rate and the total magnitude of the monetary tightening cycle will depend on the evolution of inflation, with special attention to components most sensitive to economic activity and monetary policy, as well as inflation projections and expectations.

If group 4: **This is a summary of a news article published by the *G1 portal* on 06/11/2024:**

The Copom (Monetary Policy Committee) of the Central Bank unanimously decided, on Wednesday (6), to raise the basic interest rate by 0.5 percentage points, to 11.25% per year.

The external environment remains challenging, mainly due to the uncertain economic situation in the United States, which raises greater doubts about the pace of deceleration, disinflation, and consequently, about the stance of the Fed. The Committee evaluates that the external scenario, also marked by less synchronization in monetary policy cycles between countries, continues to require caution on the part of emerging economies.

In addition to the uncertainties regarding the U.S. economy, Copom mentioned that it is "closely monitoring how recent developments in fiscal policy impact monetary policy and financial assets." The perception of economic agents regarding the fiscal scenario has significantly affected asset prices and expectations, especially the risk premium and the exchange rate. The government, in this context, is preparing a plan to cut expenses, although there is still no definition regarding the size of these measures in public spending.

The Committee reaffirms that a credible fiscal policy, committed to debt sustainability, supported by the presentation and execution of structural measures for the budget, will contribute to anchoring inflation expectations and reducing financial asset risk premiums. In this way, Copom reinforces that the pace of future adjustments in the interest rate and the total magnitude of the monetary tightening cycle will depend on the evolution of inflation, with special attention to components most sensitive to economic activity and monetary policy, as well as inflation projections and expectations.

---

16. What is the **Text 1** about? ☐ The COPOM's decision to reduce the interest rate ☐ The COPOM's decision to increase the interest rate ☐ The FED's decision to increase the interest rate

17. On a scale of 1 (Very difficult) to 5 (Very easy), how would you rate the difficulty of understanding the information in Text 1? _____

18. How much do you expect the price level (measured by the IPCA) to change in the **next 12 months**? *Note: The answer should be a percentage* _____

19. After reading Text 1, how has your confidence in the ability of the Central Bank (BCB) to manage the economic well-being of *all* Brazilians been affected?
    - ☐ Significantly worsened
    - ☐ Moderately worsened
    - ☐ No change
    - ☐ Moderately improved
    - ☐ Significantly improved

20. How would you classify your political positions? ☐ Left ☐ Center ☐ Right ☐ Prefer not to answer

21. Rate how reliable the following news sources are on a scale from 1 (Not reliable at all) to 5 (Very reliable)
    (a) Globo (G1, TV Globo, Globonews) _____
    (b) Record (R7, Jornal da Record) _____
    (c) Folha de São Paulo _____
    (d) Whatsapp _____
    (e) Twitter/X _____
    (f) TikTok _____