

Enhancing the Attractiveness and Readability of Central Bank Reports: An Experiment

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Abstract

Central banks can use their communication with the citizens as a tool to increase the efficiency of their monetary policy objectives. A forerunner in this sense is the Bank of England (BoE), who has already started layering its publications, by enhancing their readability, making the texts easily understandable and attractive visually, so that they can address an audience as broad as possible. Using the BoE approach, the text of one Monetary Policy Report (MPR) of the European Central Bank (ECB) has been layered in one control condition (the Monetary Policy Decision of December 2018) and four treatment groups, consisting of the same text, written in four different ways (the Objective and the Subjective Visual Summary, the Objective and the Subjective Relatable Summary). The citizens' comprehension and trust levels of every text were then tested, to find the best writing and visual text presentation technique that would enhance the efficiency of the ECB's communication strategy. In this way, the entire MPR was made more understandable for the citizens, making it more user friendly and logic, thus increasing the visibility of the organization and allowing it to be more friendly perceived. It is well known that communication and monetary policy are linked: if the recipients of a central bank message understand and trust it, they will act accordingly and thus develop a unique contribution in helping the ECB positively support the economy and the entire banking system and indirectly help it properly implement its monetary policy goals. The results of an empirical investigation conducted on the above-mentioned texts among European citizens showed that citizens tend to trust texts that are easily understandable and visually attractive and that they like objectively and simple presented information. The results of our study could be also replicated by national banks of the European Union and/or other public institutions that could benefit from enhanced trust, a better image and develop a proper binding towards citizens.

Keywords: online communication, marketing communication, central bank communication, central bank policy, citizens, European Central Bank (ECB), Monetary Policy Report (MPR).

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Introduction

Central bank communication has changed intensively in the last decades. While thirty-forty years ago, central banks did not even think of being citizen centred and explaining in detail their operations and strategies, decisions being mostly taken behind closed doors, nowadays, as any other public organization, central banks have to communicate and be very detailed about their actions (Juhro, 2022). Over the years, central banks have become more transparent and started relying on external communication to implement their monetary policy, especially following the financial crisis from 2008-2009, when many of them, including the ECB, started to share publicly what their intentions regarding future interest rates were (this policy is called "forward guidance") (Juhro, 2022). Written, oral and online communication by the ECB is not equivalent with an increase in terms of accessibility to citizens. Central bank publications are difficult to read and understand because they are quite technical: a reader must be skilled in business and economics, to



easily understand them. Texts might be so complex, that citizens need to have the literacy level of university graduates in business/economics to fully comprehend them (Fullwood, 2016; Huang, 2021).

To the best of our knowledge, citizens' perception of central bank communication has not been intensively studied. Hayo and Neuenkirch (2015) assess the influence of "central bank communication on citizens" perception towards the visibility and image of central banks. From their perspective, the most citizen-oriented communication is that of the US Fed communication, followed by the BoE, the ECB, and Bank of Japan. They argue that central bank communication positively impacts "how central banks are perceived and understood", because communication boosts credibility and enhances the perceived organizational independence. Central bank publications are not accessible to around 90% of the public if they are measured according to the Flesch-Kincaid reading procedure for linguistic complexity, compared to political speeches which are usually easy to understand by 30% to 50% of the population (Schoonvelde, 2019).

No assessment of the visual attractivity and readability of the monetary policy publications has been made so far for the ECB. We base our research on the principles of the stakeholder theory, which emphasizes the interconnected relationships between a company and its customers, employees, investors, customers, communities, and all other interest groups. Therefore, our paper aims to study how the communication strategy of the ECB can be improved, thus ensuring a better understanding of its reports by citizens.

In implementing the research scope, the authors conducted an empirical investigation among different citizen groups to pinpoint how the ECB could communicate more effectively with them, thus improving their trust and enhancing their perception about ECB communication reports. The results show that by including different visual aspects, ECB reports might very easily become more friendly and citizen oriented.

The paper is structured as follows: section 1 presents the literature review on central bank communication strategies and their effectiveness and section 2 draws the research methodology and the research design of the investigation. While section 3 contains the results and discussions, section 4 continues with the conclusions and recommendations for further research.

1. Literature review

Only 12% of the participants in a European wide study consider that media and politicians present various information in an easily understandable manner (Bholat et al., 2018). This is quite a low percentage, especially as 21st century citizens are actively engaged in debates about politics, societal developments, environmental protection, social movements, terrorism and/or migration. Political institutions register a strong deficit in citizens trust, as only 42% of the Europeans trust them (Eurobarometer, 2018). In a world characterized by digital transformation, EU institutions and central banks like the ECB can work on increasing citizens' trust by enhancing their communication with the public (Dabija and Băbuț, 2014; Dabija et al., 2018) and adapting the design of official reports.

Therefore, central bank communication and its effectiveness to reaching out citizens has been largely examined in recent years, literature also highlighting its impact on financial markets and their stability, market developments, companies' inflation expectations or the evolution of the purchasing power among households (Blinder, 2009; Jansen and De Haan, 2010; Allard et al., 2013; Bholat et al., 2017; Ehrmann and Talmi, 2017). Citizens' trust in European institutions has declined recently, while their responsibilities have increased since the 2008-2009 financial crisis. These means that it is more important than ever to increase public understanding of central bank reports and trust in them.

Surveys performed in the euro area among citizens found that central bank actions are not properly understood, participants with higher education degrees being more likely to understand the ECB monetary policy correctly. The most common problems of such reports are that their formal and technical language raise high understanding difficulties for simple citizens, although they often represent current developments of either the public central banks strategies or its theories and monetary policies (Borio, 2013; Calvo, 2013).

Haldane and McMahon (2018) found that the content published by the BoE was easily understandable and could improve citizens' outlook on the UK economy, their findings proposing directions to improve the understanding and perception of the BoE and the outlook on the UK economy, by aligning the readers' views with the bank's approach. Bholat et al. (2018) measured citizens' comprehension levels of BoE publications and examined central bank communication and its effectiveness by tying it to its impact on financial markets and to the ways in which it is correlated to the inflation expectations of firms and households. Other studies show that the communication policy of the ECB reports impacts strongly financial markets and increases the interest rate of decisions' predictability (Fratzscher, 2007; Blinder et al., 2008; Konhäusner et al., 2021), thus insuring a high trust level in the content. The communication strategies of



the Reserve Bank of Australia (Huang, 2021), of the BoE (Haldane, 2020) have also been analysed and guidance has been provided to increase citizens' engagement, understanding and expectations. However, one size does not fit all, and numerous challenges remain.

2. Research methodology

Our research draws on previous findings, being oriented towards measuring and verifying whether a design change of the Monetary Policy report would lead do a better understanding of its content by citizens, thus also improving the trust in and comprehension of the bank's policy message. In this sense, we relied on the text of the Monetary Policy decision from the 13th of December 2018 of the ECB as testing material (see Figure 1), to check whether the model used by Bholat (2018) could be properly replicated. The text of the ECB Monetary Policy decision report was rephrased and rewritten in four different ways as (simplified versions of the initial text with different visual designs and readability scores. As an improvement to the used model, we analysed if the messenger effect is applicable for central banks reports. This was achieved by presenting the first batch of participants with labelled and subjective information, showing clearly that the data source is the ECB, while the other batch was given unlabelled and objective information. This represents an addition to the experiment settle of Bholat (2018) where the authors tested whether comprehension and trust increase if the amount of information decreases and whether making the information more relatable has similar effects. The goal is to make monetary policy reports more comprehensive, this being the case if information is easier to understand, thus increasing its credibility. The research design also draws on Glazebrook et al. (2017), which found that individuals' engagement increases, the less information they need to process.

The control condition was a text published on the ECB website of only 210 words (see Figure 1), containing information about the future development of the ECB key interest rates, and announcing the end of the asset purchase programme (APP) in highly technical terms. According to the Flesch-Kincaid readability metrics (Kincaid, 1975), the text required the literacy level of university students, with a level of 14.42.

PRESS RELEASE Monetary policy decisions 13 December 2018 At today's meeting the Governing Council of the European Central Bank (ECB) decided that the interest rate on the main refinancing operations and the interest rates on the marginal lending facility and the deposit facility will remain unchanged at 0.00%, 0.25% and -0.40% respectively. The Governing Council expects the key ECB interest rates to remain at their present levels at least through the summer of 2019, and in any case for as long as necessary to ensure the continued sustained convergence of inflation to levels that are below, but close to, 2% over the medium term. Regarding non-standard monetary policy measures, the net purchases under the asset purchase programme (APP) will end in December 2018. At the same time, the Governing Council is enhancing its forward guidance on reinvestment. Accordingly, the Governing Council intends to continue reinvesting, in full, the principal payments from maturing securities purchased under the APP for an extended period of time past the date when it starts raising the key ECB interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation. The President of the ECB will comment on the considerations underlying these decisions at a press conference starting at 14:30 CET today.

Figure no. 1. Monetary policy decision of the ECB. Press release from the 13th of December 2018

The first two versions of the initial text contained the same message, presented differently. They included in a simple and smooth language the ECB Objective Relatable Summary and the ECB Subjective Relatable Summary. Proof of it is the ranking of 6.2 on the Flesch-Kincaid scale, making it easy to read by citizens from the age of 12 onwards. These versions were visual and relatable, as image-based information was presented in a way that resonated with the readers. Relatability was also achieved in terms of increasing the number of pronouns in the first-person plural ("we") and in the second person singular ("you", "your"). The next two versions contained the same message, presented in a different way They were named as the ECB Objective Visual Summary and the ECB Subjective Visual Summary. Both summaries had a ranking of 8.8 on the Flesch-Kincaid scale, also having a stronger visual component than the relatable ones, meaning that the whole text was presented in the form of a story and that the explanations were based on images illustrating the ideas (see Figure 2). The other three versions were created with a similar design and readability. Table 1 shows the word count and readability of the five texts used in the study. To compute the readability score from table 1 we used the Flesch-Kincaid grade level formula: 0.39 x (words/sentences) + 11.8 x (syllables/words) - 15.59 (Kincaid, 1975).



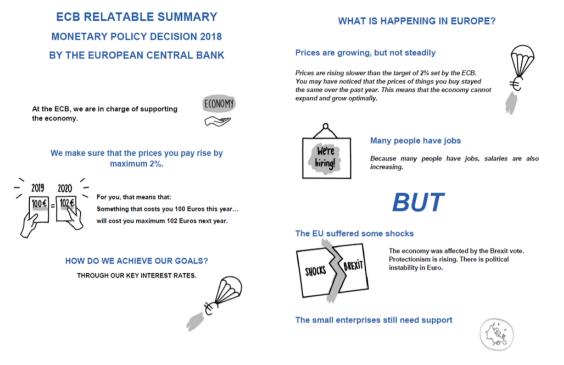


Figure no. 2. Extract from the ECB Relatable Summary

Text	Word count	Flesch-Kincaid grade level	School level	Comprehension
Monetary Policy Summary	210	14.42	College	Difficult to read
ECB Subjective Visual Summary	301	8.80	8th & 9th Grade	Conversational
ECB Objective Visual Summary	309	8.80	8th & 9th Grade	English
ECB Subjective Relatable Summary	269	6.20	6 th Grade	Easy to read
ECB Objective Relatable Summary	269	6.20	6 th Grade	

Table no. 1. Word count and readability of the texts

The five texts were distributed online to 250 randomly chosen German citizens (50 per condition), as the ECB has its headquarters in Frankfurt am Main. The participants had to assess the five modified versions of the initial ECB report. They were aged between 18 and 54 years old, the sample being fairly split between females and males. The participants were targeted using social media such as Facebook, Instagram, Twitter, LinkedIn etc.

Following the text lecture, the participants were invited to complete an online questionnaire. It consisted of a self-reported comprehension question, followed by four direct comprehension questions, a trust question, two questions regarding the economic background and interest in economic news and some more enquiries regarding his/her socio-demographic characteristics (age, gender). The self-reported comprehension questions were included to ease comparisons with previous findings of Haldane and McMahon (2018). We also employed such a reporting as people tend to overestimate their capacity for understanding texts, thus understanding becoming more accurate (Loewenstein et al., 2013). To ease comparisons with previous findings we also relied on similar questions, adapted to our research design: *To what extent were you able to understand the content of the read text?* With this question we were able to whether people over-estimated their understanding capacity (Loewenstein et al., 2013). Next came four direct comprehension questions, needed for the proper understanding of the text. The participants were given a choice of three or four possible answers, out of which they were only able to choose one (see Figure 3).

What will the ECB do to reach its target?	What are the ECB key interest rates?
a. It will partly reduce the support offered to the	a. The rates used when banks want to borrow money from the ECB or
economy.	to deposit money with it.
b. It will continue offering full support to the	b. The rates used to calculate inflation.
economy.	c. The rates used when banks want to borrow money overnight from
c. It will stop all support measures used to boost	the ECB.
the economy.	d. The rates used when banks want to deposit money weekly with the
d. It will increase the support to the economy.	ECB.
Which statement is true based on the text?	How does the ECB support the economy?
a. Prices are rising at a fast pace.	a. The ECB tries to make sure that prices do not rise by more than 2%.
 b. Prices aren't changing at all. 	b. The ECB tries to keep the price increase as high as possible.
c. Prices are rising, but the rise is not steady.	c. The ECB tries to keep the prices as low as possible.
	d. The ECB tries to keep the prices stable.

Figure no. 3. Assessment question of the self-reported questionnaire

Next came perception and trust questions, in which participants were asked how the summary they had read affected their perception of the ECB, before being asked to assign a trust rating on a scale from 1 (distrust completely) to 10 (fully trust) to the information presented (see Figure 4).

How has the summary you have just read affected your perception of the ECB (if this is the case)?					
a. Worsened significantly b. Worsened slightly	d. Improved slightly e. Improved significantly				
c. My perception stayed the same					
How would you rate the information you have just read in terms of trust, on a scale from 0 to 10, where 0 = distrust completely and 10 = trust fully?					

Figure no. 4. Perception and trust questions of the self-reported questionnaire

3. Results and discussions

The experiment was conducted in Spring 2019, 311 randomly selected voluntary participants being approached. As some participants dropped out or did not fill in all questions from the self-administered questionnaire, we obtained in the end 281 valid answers. No personal information enabling participants' identification was collected during the experiment. The participants also did not know how many different versions of the inflation report existed. When reaching the experiment cover, they only saw 5 numbers (1 to 5) and had to click on any of them to access the survey. Participation did not receive any financial compensation for their involvement (see Table 2 for the completion rate).

Condition	Started	Com- pleted	Target	Completion rate	% of target fulfilment
Monetary Policy Report	60	51	50	85%	102%
ECB Visual Summary – subjective	69	67	50	97%	134%
ECB Visual Summary – objective	60	53	50	88%	106%
ECB Relatable Summary – subjective	62	58	50	93%	116%
ECB Relatable Summary – objective	60	52	50	87%	104%

Table no. 2.	Completion	rate across	conditions
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The performance of the four alternative texts were compared against the control condition (the Monetary Policy Decision), by analysing the self-reported comprehension scores. Table 3 presents the self-reported comprehension scores for the original report versus the four modified versions.

The control condition (MPR) ranks last, with a self-reported comprehension score of 56.86%. Compared to the MPR, the subjective ECB Relatable Summary improved the average comprehension score by 13%. The highest self-reported comprehension scores rank for the objective versions of the ECB Relatable Summary (participants replied to have understood around 86% of its content) and the ECB Visual Summary (self-reported comprehension score of 83.40%). It seems that participants who read objectively presented information also evaluate it positively, but often participants tend to over-appreciate their understanding

capacity (Druckman and Bjork, 1994). To overcome this possible challenge, we tested the self-reported comprehension scores for each condition against the actual comprehension scores.

Monetary Policy Report	ECB Visual Sum- mary – subjective	ECB Visual Sum- mary – objective	ECB Relatable Summary – sub- jective	ECB Relatable Summary – objec- tive
56.86%	76.60%	83.40%	70.10%	84.60%

The difference between the self-reported comprehension scores and the actual comprehension scores are visible in Table 4. The original text results in the least number of correct answers (on average, participants had 30.20% of the questions answered correctly). The number of correct answers more than doubled, amounting to 63% for the objectively written Visual Summary and to 70% for the objectively written Relatable summary. The subjective summaries of the simplified versions also ranked better than the original text, with 52.5% correctly answered questions for the subjective Visual Summary and 45% for the subjective Relatable Summary. This makes it clear that texts which are more readable are also more understandable for the public.

For each text, the self-reported comprehension scores were higher than the actual comprehension scores, findings with stand in accordance with Druckman and Bjork (1994) who demonstrated that subjects often tend to over-appreciate their understanding capacity. The smallest difference between perception and reality is noticeable in the ECB Objective Relatable Summary.

Monetary Policy Report	ECB Visual Sum- mary – subjective	ECB Visual Sum- mary – objective	ECB Relatable Summary – sub- jective	ECB Relatable Summary – objec- tive
56.86%	76.60%	83.40%	70.10%	84.60%
30.20%	52.5%	63%	45%	70%

 Table no. 4. Self-reported comprehension versus actual comprehension across conditions

As for trust, the control condition scored lowest (MPR), with an average score of 6.84, followed by the subjective Visual Summary with an average score of 7.37 and the subjective Relatable Summary with an average score of 7.49. The objective versions scored best once again, but this time, the objective Visual Summary ranked higher than the objective Relatable Summary, with an average score of 7.89 compared to 7.69.

Our results are in line with previous findings from the BoE summaries of the Inflation Report (see Haldane and McMahon, 2018), by relying on self-reported comprehension questions. As according to Loewenstein et. al (2013), people overestimate their text understanding capacity, tested understanding is thus more accurate than self-reported understanding. We also adapted our questions to previous literature (Bholat, 2018), to ease results comparison. The control condition (MPR) ranks last, with a self-reported comprehension score of 56.86%. Compared to the MPR, the subjective ECB Relatable Summary improved the average comprehension score by 13%. The findings also confirm the results of Bholat (2018) and Haldane and McMahon (2018) who obtained the highest scores for the Relatable Summary. Participants' text perception highlights the fact that texts are easier readable and visually attractive texts improving citizens' perception compared to the original one (the Monetary Policy decision), for which 56% of the participants stated that their perception remained unchanged, 24% of the participants stating that their perception worsened, no participants noting any perception improvement. The best performing text versions in terms of perception were the objective versions, with the Objective Relatable Summary having the best effect. This is in line with the findings of Bholat (2018).

Conclusions

From a theoretical perspective the paper enhances the stakeholder theory, usually applied to businesses, but also possible to be used for EU institutions like the ECB. Citizens represent probably the largest and most sensitive stakeholder group for the ECB and any other central bank, and although they do not actually are primary stakeholders, their opinion always count indirectly. Citizens' opinions are increasingly vocal due to increased digitalisation. Increased communication efficiency is directly proportional to improved citizen trust and understanding, mirroring similar studies done for the BOE and reproducing them for the BCE.



From a managerial perceptive, this paper highlights the necessity of improving citizen oriented central bank reports, like Monetary Policy decisions, Quarterly Statements, Annual Reports texts, increasing their visual attractiveness and understandability, regardless of citizens education background. Central banks should always rely on objectively presented information as such text versions performed better than subjective ones according to our findings. This is probably due the fact that citizens who read economic or financial news can easier understand a text best if the information is presented in a clear, clean, concise, and objective manner. When comparing different text versions, the relatable version scored better in terms of self-reported comprehension and actual comprehension levels: the text was the easiest one to understand according to the Flesch-Kincaid metrics, as it relied on simple words, plain English, and short sentences. Relatability was measured in terms of using pronouns to help participants relate to the information (readers being referred as "you"), but also on explaining ECB decisions in a smooth and simple way, so that participants can more simply relate to (for example, the change in inflation was explained by giving the example of the yearly change in prices).

Among the study's limitations, we can highlight the fact that the research was conducted only on German citizens, future studies should also investigate participants from different countries. We also refer to participants from one cultural context, but other studies could make cross-generational and/or cross-cultural comparisons of central banks official reports understand levels. Furthermore, it would be interesting to investigate the understanding of ECB reports compared to national central bank reports. Another limitation regards the fact that we tested our idea on a relatively small sample of 50 participants per condition. Future studies could both increase the number of participants per condition, as well as ensure an even participants distribution in terms of age, location, income, or education level.

Future studies could also investigate why participants tend not to trust information coming directly from the ECB as much as information coming from a different, unlabelled, and ungiven source. This might be due the fact that citizens of contemporary society tend to rely on more messages via social media and press and not access them directly from the central bank website. Therefore, we consider that further research is needed to explore how the messenger effect (according to which people assign different importance to information, based on its sender) can be used to favour the central banks communication strategies.

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