Bank of Russia

Monetary Policy REVIEW

COMMUNICATION AS A MONETARY POLICY INSTRUMENT

Analytical note

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Contents

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COMMUNICATION AS A MONETARY POLICY INSTRUMENT

Summary

Inflation targeting (IT) involves the use of communication as a crucial monetary policy instrument. Communication helps the central bank reduce inflation expectations and anchor them at a low level as the central bank seeks to boost trust in its policy and ensure the predictability of interest rates in the economy. Since 2015, the Bank of Russia has expended much effort to develop its communication policy, aiming to ensure that its disclosures are complete and timely. These efforts have been intended to bolster the role of communication as a monetary policy tool.

In the early stage of IT, central banks tend to expand their information product lines, zeroing in on monetary policy in the first place. *Skingsley (2019)* describes this paradigm change: 'Central banks used to ask "Do we communicate this?" Now, as a rule, they ask "Why wouldn't we communicate this?".' Between 2015 and 2022, the Bank of Russia was fully compliant with this unspoken rule. Current communication from the regulator targets all key audiences (investors, analysts, the business and academic communities, the authorities, and the public at large) and comes in a variety of formats ranging from research papers to video blogs.

In terms of target audience, communication can be classified as that with a professional audience and that with a non-professional (wide) audience.

The Bank of Russia has made good progress in building dialogue with the professional community, which is evidenced by the significant increase in the policy transparency index as calculated by the methods of Dincer and Eichengreen (2008, 2014) and Al-Mashat et al. (2018). Today, the Bank of Russia's transparency indicator is above the average for the central banks of the advanced and emerging economies under study. Another important criterion is the extent to which the inflation expectations of professional analysts are anchored. Since about the spring of 2017, analysts' expectations for two years ahead (that is, beyond the monetary policy lags) have sat close to the 4% target. Finally, the third criterion is the predictability of monetary policy decisions for the professional community. In the early years of IT, the Bank of Russia met its peers in terms of the predictability of its decisions. To shed more light on the issue of the efficiency of communication with a professional audience, we have completed two studies ('The role of communication and information factors in the emergence of surprises in Bank of Russia monetary policy' and 'Lessons from crises for better Bank of Russia communication with financial markets'), presented the analytical note 'Communication on monetary policy decisions: international experience' and conducted a survey of 18 Russian analysts and economists (as in-depth interviews).

Following the conclusion of these efforts, the 2015–2022 period can be conditionally divided into two parts: from 2015 to mid-2020 and the time after mid-2020. Over the course of the first interval, the Bank of Russia fine-tuned its communication as the market adapted to the new environment, learning to perceive the regulator's signals, which was a factor in the predictability of decisions and the movements of financial market indicators. Beginning from mid-2020, communication with the market showed increasingly better performance.

The key factor behind the predictability of Bank of Russia decisions is the 'information advantage' of the central bank. The data confirm that this advantage is in evidence in the case of the Bank of Russia: the market believes that the regulator does indeed have additional information about inflation drivers and/or accurate models or expertise for its forecasting. The existing academic literature posits that the central bank has an information advantage when two conditions are met: first, that the central bank is on average better at inflation forecasting; second, that when its policy rate changes, market analysts change their outlooks consistent with the direction of the change (whereas in the usual logic, they would be expected to, for example, downgrade their inflation forecast if the rate went up). Both conditions are met in the case of the Bank of Russia. According to the relevant literature, the information advantage of the central bank fades away as communication – an IT tool – matures. In other words, the more information the central bank releases about its inner workings, the closer market perception of

its decisions is to the fact. Today in Russia, the existence of the information advantage is a sign of an IT regime in the making and the development of communication as a monetary policy tool.

Further, communication had a stabilising effect on financial markets in times of high volatility in 2015, 2020, and 2022. The best performance in terms of market impact is achieved by personalised communication – when decision-making individuals make pronouncements in the media space. At the same time, large volumes of information leave the markets unaffected. In times of crisis, there is also a stabilisation effect on markets due to the clear communication of timelines for delivery on inflation targets. Also, markets respond better to more specific *Delphic*-type[1] signals than to the absence of directional signals. Importantly, while communication has an influence on financial markets, the state of financial markets has a significant impact on the central bank's communication tactics.

While on the subject of communication with general public, there remains considerable room for the further improvement of mutual understanding.

First, household inflation expectations have been elevated and unanchored since the start of IT. This may be due to both the adaptability of expectations – which depend on past episodes and/or long periods of high price growth rates – as well as to the particularities of household responses to the news landscape. Specifically, in the study 'The impact of negative news on public perception of inflation', my coauthors and I conclude that news (especially negative news) has a strong impact on how households perceive inflation. At the same time, the observed inflation indicator takes shape under the influence of news about the past trends of individual prices, while inflation expectations are driven by news about the situation in the broader economy.

According to the conclusions of the study 'Assessment of clarity of Bank of Russia monetary policy communication by neural network approach', the low comprehensibility of communication, which complicates its understanding by general readers, may be a major constraint on Bank of Russia communication with general public. Over the course of IT, most communication about monetary policy has been clearly understandable to readers with higher economic educations or even doctoral degrees in economics. The problem of lack of clarity is also relevant to foreign central banks communicating with the general public. The authors of the work 'Communication on monetary policy decisions: international experience' rely on the Flesch–Kincaid Grade Level to compare Bank of Russia press releases on the key rate and the Governor's statements with similar documents released by other central banks. The comparison shows that the Bank of Russia's documents are on average marked by better readability and that its verbal statements are second only to Norges Bank. Having said this, almost all central bank materials reviewed are too difficult for general readers to understand (the few exceptions include Norges Bank, the Czech National Bank, and the Reserve Bank of Australia).

One way to solve the clarity problem is multi-layered communication, in which the same message is released with varying levels of detail, that is, messaging is tailored to different audiences. This is the approach the Bank of Russia has been increasingly applying over recent years by publishing short versions of its main documents.

Blinder et al. (2022) warn of the pitfalls central banks may run into as they seek to become closer to the people. By building communication with simpler and shorter messages, the central bank risks creating a false feeling of unambiguity and redundant accuracy and thus undermining confidence in it should a change in trends occur. There is also a risk of disorienting the professional community. This will be a challenge for the regulator to consider as it moves forward with the development of communication as an instrument.

As regards communication with the professional community, my basic recommendations are the further clarification of the technical details of the decision-making process for experts, including the option of publishing compressed-format minutes of key rate meetings. In terms of communication with general public, I consider it advisable to focus on the achievement of textual clarity for general readers who lack subject matter expertise. My view is that a more personalised, trust-based format of communication with every audience member could mark another key milestone in the development of communication.

[1] Two types of signals are distinguished in the literature: *Delphic* signals and *Odyssean* signals (Campbell et al., 2012). The first involves the central bank's commitment to certain decisions in the future, while the second is a signal of future decisions to be made with no firm commitment as to their execution.

Further details of my recommendations for discussion following the studies are presented in the last section.

Objectives and research problems

The *Communication as an Instrument* stream of the Monetary Policy Review includes several studies into the effectiveness of Bank of Russia communication and its particularities, analysis of global practices, and a survey of the professional audience about its perception of Bank of Russia communication and overall satisfaction with its principles.

Research as part of the stream aims to investigate the effectiveness of the current format and the maturity of communication in terms of building public confidence (with the professional and non-professional audiences) in the policy being implemented, anchoring inflation expectations, and delivering on price stability goals.

The full list of materials is:

A. Assessment of clarity of Bank of Russia monetary policy communication by neural network approach (Russian Journal of Money and Finance, September 2021).

B. The role of communication and information factors in the emergence of surprises in Bank of Russia monetary policy. Bank of Russia Working Paper Series, No. 99, August 2022.

C. The impact of negative news on public perception of inflation (Bank of Russia Working Paper Series. No. 111, February 2023.

D. Lessons from crises for better Bank of Russia communication with financial markets (included in this release).

E. Communication on monetary policy decisions and macroeconomic forecasts: international experience. Bank of Russia Working Paper Series, Bank of Russia website, March 2023.

The following issues arise as research problems:

- assessment of the predictability of monetary policy decisions and development of criteria for this assessment, which includes a comparison with global central bank practices
- identification of the key factors affecting the predictability of monetary policy decisions
- assessment of the extent to which current Bank of Russia communication is clear to its core target audiences, including in times of crisis
- determination of the optimal parameters for Bank of Russia communication in terms of selecting target audiences, relevant information disclosure channels, and language of communication.

Experience of Bank of Russia in development of communication

The Bank of Russia's transition to IT necessitated a revision of its approach to communication as an instrument. In 2015–2022, communication expanded uninterrupted as information policy tools multiplied, and its transparency indicator grew severalfold. Figure 1 is a summarised view of the expansion of communication practices.

Similarly to other countries, the press releases following the policy (rate-setting) meetings of the Board of Directors of the Bank of Russia are the main source of information on monetary policy decisions in Russia. Since 2014, the key rate press releases have been complemented with statements from the Governor. The number of press conferences was increased in 2020; they have followed every rate-setting Board meeting (eight releases instead of four per year as before). Since the start of IT, the regulator has held regular meetings with investors, analysts, and journalists. A simplified diagram of core audiences and communication channels is shown in Table 1.

Table 1. AUDIENCES AND COMMUNICATION CHANNELS

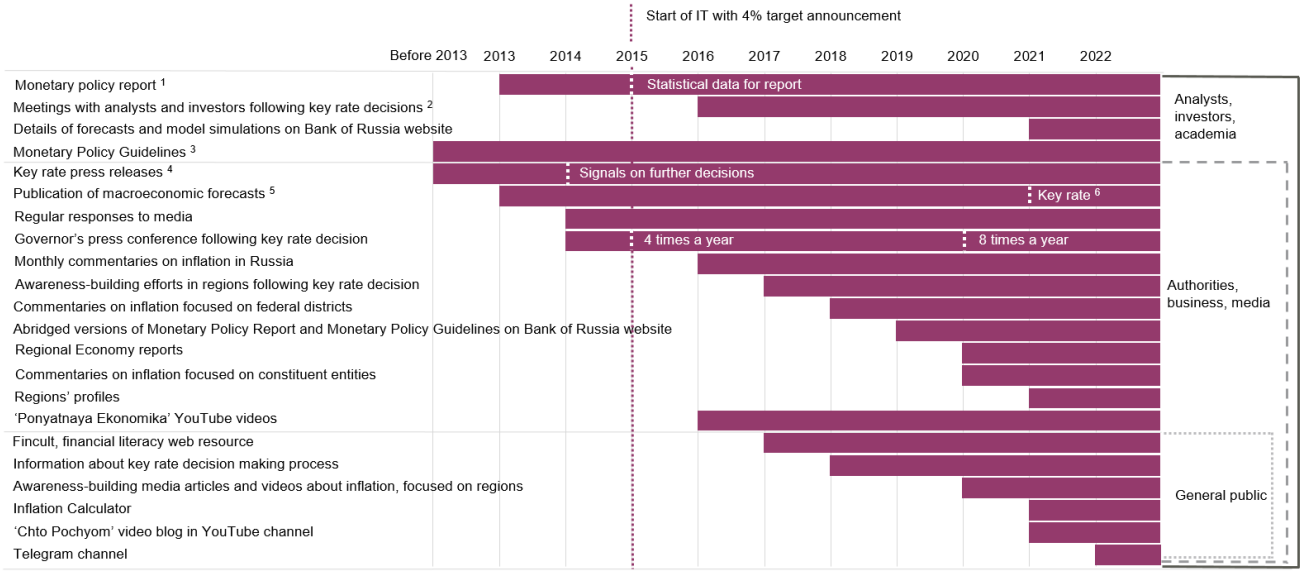
Audience		Channel
Professional	Non-professional	
• Investors • Financial markets • Credit institutions • Large enterprises • Policy makers responsible for economic policy • Economists and analysts • Academic community • Economic media and bloggers	• Households • Small- and medium-sized enterprises • Non-economic policy makers • Non-economic media and bloggers	• Bank of Russia websites • Media • Social networks and messengers • Mobile applications • Meetings with target audiences • Conferences and workshops

In its annual Monetary Policy Guidelines, the Bank of Russia gives a detailed account the principles, targets, and instruments of monetary policy and baseline and alternative scenarios for macroeconomic development.

Its views of current economic developments alongside a detailed description of the baseline forecast and its assumptions are explained in quarterly Monetary Policy Reports. Until 2019, the Monetary Policy Report was published on the day of the key rate decision. Since 2019, it has been released a week after the decision to fully account for the discussion of the decision taken. Today, these documents are released in full and abridged web-versions, with the latter outlining only the key points.

In addition to the Monetary Policy Report, the Bank of Russia regularly publishes analytical comments on price trends, inflation expectations, monetary conditions, the balance of payments, and economic developments, alongside themed analytical materials. In 2015, the Bank of Russia expanded its list of disclosures and began to publish medium-term forecasts for key macroeconomic indicators. Initially part of the Monetary Policy Report, these forecasts have since 2019 been published along with the key rate press release on the day of the Board's policy meeting.

Figure 1. DEVELOPMENT OF BANK OF RUSSIA COMMUNICATION, 2013–2022



[1] In 2004-2013, this information was published as part of the quarterly reviews of inflation.
[2] Analyst meetings had been held earlier (in an individual format). These analyst meeting have been held in an open format since 2016.
[3] Monetary Policy Guidelines for three years.
[4] Although the Bank of Russia has published key rate press releases since 2013, press releases on monetary policy measures and decisions had been published before. In 2009–2013, such press releases were centred on the refinancing rate.
[5] Since 2013, the Bank of Russia has published medium-term forecasts every year as part of its Monetary Policy Guidelines. The 2013 Monetary Policy Guidelines provide only a textual description of the future dynamics of economic indicators. Fan charts began to be published in early 2014. Since December 2014, forecast tables have been published in the report following policy meetings. Since 2019, medium-term forecasts have been published as part of the reports and separately in key rate press releases, one week ahead of the publication of the report.
[6] Since 2021, the published indicators have included the average key rate for the year.
Source: Bank of Russia website.

As an important milestone in the development of communication, the forecast path of the key rate was included in the list of macroeconomic indicators in 2021. Since 2021, the Bank of Russia's forecasts have been released with the results of surveys of Russian and foreign analysts about key economic indicators.

The academic literature provides indices of central bank transparency, [2] which are used to assess the openness of monetary regulators. The most popular methods include those of *Dincer and Eichengreen (2008, 2014)* and *Al-Mashat et al. (2018)*. In assessing the Bank of Russia's transparency, domestic authors (*Evdokimova et al., 2019*; *Kuznetsova and Merzlyakov, 2015*) rely on the index proposed by *Dincer and Eichengreen (2008, 2014)*. However, the index fails to take into account the current monetary policy regime and thus misses differences that are important for IT. The index of *Al-Mashat et al. (2018)* [3] was specifically developed for IT regulators.

Since the Bank of Russia is outside the scope of these works, I have calculated its transparency independently, applying the relevant methods to the English versions of its documents. The results show that the *Dincer and Eichengreen* (*2014) index* for the Bank of Russia has since 2013–2014 been level with those for inflation-targeting central banks in emerging market economies (12 points as of 2022). [4] The Al-Mashat index for the Bank of Russia has risen uninterrupted, a reflection of the ongoing changes. The variance between the two indices is characteristic of other central banks. For example, the transparency of the Czech National Bank in 2011–2017 was 14.5 out of 15 according to the first index and 11.75–12 out of 20 according to the second. The transparency of Bank of Russia communication according to the Al-Mashat index increased from 6.2 to 9.8 points

[2] Communication transparency is understood as the extent of disclosure by the central bank of information about its decisions and their rationale (*Ejffinger and Geraats, 2006*; *Svensson, 1997; Laxton and Freedman, 2009).* The more information a central bank releases about its policy, the more transparent its communication is considered.

[3] Hereinafter, the Al-Mashat index.

[4] For example, Mexico scored 10, Thailand, 11, Brazil, 11.5, Poland, 13, and Hungary, 14 (*Evdokimova, Zhirnov, and Klaver, 2019*, as of 2019).

(out of 20) between 2014 and 2022. The transparency of the Bank of Russia compared to its peers is presented in Figure 2. The data for foreign banks are taken from *Kostanyan et al. (2022)*. It follows from the figure that the Bank of Russia's transparency was above average in 2022.

The Bank of Russia has consistently increased the transparency of its decisions on monetary policy. To this end, in 2021, its website posted information on the model framework used in analysing and forecasting macroeconomic indicators. This section provides a detailed description of the key models and the forecasting process. Since 2018, the Bank of Russia website has included a detailed description of the decision-making stages. The following communication tools incorporated in the Al-Mashat index are currently absent from the Bank of Russia's toolkit: the publication of the central bank's loss and response functions, automated upload of statistical data, projections of the output and exchange rate gaps, decompositions of the reasons for changes to the forecast, the publication of the minutes of policy meetings, and several other types of communication.

Importantly, in 2015–2022, the Bank of Russia was primarily focused on targeting general public, which these transparency indices fail to capture. In 2016, the Bank of Russia's YouTube channel launched *Ponyantaya Ekonomika* (Clear Economics*)*, a series of videos. One year later, the regulator established *Fincult*, a financial literacy resource. Updated on a regular basis, it offers insights into monetary policy and the overall activities of the Bank of Russia, as well the monetary system, personal financial management, and responses to questions of concern. In 2021, the Bank of Russia created the *Inflation Calculator*. The same year, the video blog of Kirill Tremasov, Director of the Monetary Policy Department, was launched on the YouTube channel. In recent years, the Bank of Russia has significantly increased its presence on social networks. Public comments on Bank of Russia publications allow the audience to ask questions of interest and receive prompt answers. The Governor's statements following Board meetings on the key rate and the press conferences are broadcast on the Bank of Russia's YouTube channel, VK and Odnoklassniki pages, and on its Telegram channel, launched in 2022. This provides a strong boost to the reach of communication. Bank of Russia representatives give regular interviews to popular bloggers. Recent years have seen a dynamic rise in monetary policy communication at both the federal and regional levels.

Figure 2. CENTRAL BANK TRANSPARENCY INDEX (INFLATION-TARGETING CENTRAL BANKS) ACCORDING TO AL-MASHAT ET AL. (2018)

The regional awareness programme is a centrepiece of the effort to develop communication with general public. Since 2017, every decision on the key rate has been followed by communication events and roundtables enabling the regulator to provide detailed explanations for its decision. The invitees include business associations, entrepreneurs, the authorities, academia, and the expert community. These events are essential for driving down the inflation expectations of households and business, among other purposes. The fact that the participants report lower inflation expectations following such events is a testament to the effect of this communication format.

Bank of Russia representatives give public lectures at universities, conduct training workshops, and offer interviews to the media (including at the regional level). The regulator's communication campaigns are tailored to each audience profile. The format and content of such events are 'custom-made' and depend on the needs, interests, and concerns of the audience.

Alongside the increase in the number of regulator-organised events and their formats, the Bank of Russia has expanded its list of regional information publications. For example, the information and analytical reports on consumer prices have been updated to cover regional, rather than only nationwide, inflation trends. In 2018, the Bank of Russia launched a monthly publication of commentaries on inflation in the federal districts and, in 2020, in the regions.

In 2020, the information and analytical commentaries on price trends were complemented with the Regional Economy report, which is prepared by the regional branches of the Bank of Russia. It is published eight times a year before each rate-setting meeting. The report presents statistics, surveys, and current economic analysis by region.

Analysis of communication with professional audience

Key conclusions:

- The Bank of Russia uses two of the three components of the basic ‘menu’ of decision communication: press releases and statements/press conferences, but it does not use minutes.
- Although its press releases exhibit a number of the features of minutes, they do not replace them either in format (the press releases average about 800 words in length vs 3,000 words for average global minutes, which are also highly invariant textually) or contentwise (there is no information about the decisions discussed or the distribution of votes).
- Central banks are divided into two groups in terms of the timeframe for the publication of policy minutes. The first group is made up of central banks that began to publish their minutes soon after they transited to IT (within 1–5 years). The second includes central banks that took a significant time to begin publication after the transition (8–17 years).
- ‘Single voice’ policy is not an absolute obstacle to the publication of minutes, and neither is the absence of a central bank body responsible for monetary policy decisions. At the same time, the risk of introducing noise to the signal may be an argument against publication.
- The macro forecast the Bank of Russia publishes includes 24 indicators. This is close to the global average (26.4). Global central banks’ projections often include indicators for the labour market, exchange rates, the budget, and household savings and income at varying levels of detail. The forecasts are as a rule published in a point, rather than interval, format.
- The inflation expectations of professional analysts for two years ahead have remained anchored to the Bank of Russia’s targets since March 2017, a reflection of the high level of trust of the professional audience.
- The central bank's information advantage factor appears to be the reason for the predictability of rate-setting. The data confirm the presence of this factor in the case of the Bank of Russia, that is, the market believes that the regulator does indeed have additional information about inflation drivers and/or accurate models or expertise for its forecasting. This is the ‘growth disease’ many other central banks have experienced. The experience of other central banks shows that things turn around as the tools of communication with a professional audience expand.
- By intensifying its communication, the Bank of Russia has a stabilising effect on the markets in times of increased volatility. Importantly, markets respond better to personalised communication (pronouncements in the media space made by executives with direct involvement in monetary policy decisions), whereas the intensity of communication (the number of pages) fails to have a strong impact on markets.
- The clear communication of specific timelines for achieving the inflation target in a crisis helps stabilise markets, as does a Delphic signal, unlike a non-directional signal.
- Importantly, while communication influences the financial markets, the state of the financial markets has a significant impact on the central bank’s communication tactics.

Global practice

Global central banks have developed specific practices for communicating their monetary policy decisions and their underlying macroeconomic forecasts. Having studied global practices in communicating the decisions and forecasts of all the central banks targeting inflation, my coauthors and I conducted a detailed machine text analysis of communication for seventeen of them for the 2000–2022 period. Detailed results are published in 'Communication on policy decisions and macroeconomic forecasts: international experience'.

The core communication toolset usually includes a statement of the decision (press release), a verbal statement from the decision makers and a press conference, as well as the minutes of the meeting. The practices of using the tools at individual central banks are shown in Table 2.

The Bank of Russia's key rate press releases are longer and more variable than the average for the central banks considered. With an average length of 835 words compared to a global average of 633, their textual invariance – the degree to which they track the template – is 24% (the share of the text that is invariant from release to release) vs a global average of 34%. Compared with other central banks, the Bank of Russia's key rate press releases are more variable from round to round. The structure and content of the press releases are generally consistent with global standards.

Just a few central banks release verbal statements from their governors. The format used by the ECB and the US Federal Reserve is about the same as the Bank of Russia's. This type of communication is essentially intended to provide specific information about the rationale behind decisions (given the compressed format of press releases) and/or to communicate decisions to general public with simple language. In most of the countries under study, the governors read out the press release and then answer questions from journalists.

It is important to note that the readability of the key rate press releases and the statements of the Governor of the Bank of Russia, as estimated by the Flesch–Kincaid Grade, is higher than the average for other central banks. This is especially true of the Governor's verbal statements, which prove the easiest to understand of all the central banks under study, save Norges Bank. An average of 11.6 years of education is needed to understand the statements of the Governor of the Bank of Russia, compared to a global average of 12.7 years.

While on the subject of the publication of minutes, 55% of IT central banks publish the minutes of their monetary policy committee meetings. This indicator is lower in the emerging market group, at only 41%. By contrast, 100% of developed countries disclose the details of the discussions. Central banks are divided into two groups in term of the timeframe for the publication of policy minutes. The first group includes central banks that began to publish minutes shortly after the switch to IT (within 1–5 years), while the second includes central banks that took a significant time to begin publication after the switch (8–17 years).

Central banks make monetary decisions on the basis of macroeconomic forecasts, so communication about these forecasts is an important task in building trust-based relations with the professional community. The format and level of detail of the macroeconomic forecast vary widely between central banks. We review the following characteristics of such forecasts: publication frequency, the set of forecast indicators, the format of the published forecast variables (point/interval/others), and the forecast horizon. The Bank of Russia's macro forecast includes 24 indicators, which is close to the global average (26.4). Global central banks' projections often include indicators for the labour market, exchange rates, the budget, and household savings and income at varying levels of detail. (further details are presented in 'Communication on monetary policy decisions and macroeconomic forecasts: international experience').

Table 2. BASIC PACKAGE OF DECISION COMMUNICATION DOCUMENTS

	Central bank	Statement of decision	Verbal statement	Press conference	Meeting minutes (records)	Transcript
Adv. econ.	European Central Bank (ECB)	+	+	+	+	-
	US Federal Reserve System	+	+	+	+	+[5]
	Bank of Japan	+	-	-	+	+[6]
	Bank of Sweden (Riksbank)	+	+	+	+	-[7]
	Bank of Israel	+	+*	+	+	-
	Bank of Canada	+	+[8]	+	+	-
	Norges Bank	+	+*	+*	+	-
	Reserve Bank of New Zealand	+	+*,**	+*	+	-
	Bank of Korea	+	+**	+	+	-
	Bank of England	+	+*	+*	+	+[9]
	Reserve Bank of Australia	+	-	-	+	-
	Czech National Bank	+	-**	+	+	+[10]
Emerging market economies	Bank of Thailand	+	-**	+	+	-
	National Bank of Poland	+	-**	+[11]	+	-
	Central Bank of Brazil	+	-	-	+	-
	South African Reserve Bank	+	-**	+	+	-
	Bank of Russia	+	+	+	-	-

Sources: central bank websites.

[5] The publication lag is 5 years.
[6] The publication lag is 10 years. Only in Japanese.
[7] There are no transcripts per se, but the format of the records is quite close to that of a transcript.
[8] There are two types of speeches – one coinciding with the release of the Monetary Policy Report (four times a year, Monetary Policy Report Press Conference Opening Statement) and another following other monetary policy decisions (Economic Progress Report). The statement is accompanied by a press conference in either case.
[9] The publication lag is 8 years.
[10] The publication lag is 6 years. Only in Czech.
[11] The last press conference video was released in March 2020.

* At the time the monetary policy reports are published, which, as a rule, is four times per year (Bank of Israel – on publishing forecasts).

** Before the press conference, a statement of the decision is read out (at the Reserve Bank of New Zealand and the Bank of Korea, the speeches track the statement but do not repeat it word for word).

The publishing of forecasts in an interval format is different from the more common practice of the point-value format. Of the 449 forecast figures under study from the 17 central banks, 97% are published in point format, the rest in interval format. Charts as a forecast format are out of scope and are not included in this number.

Communication in the forecast of unobservable variables such as the neutral rate, the output gap, potential output, or labour productivity has yet to become a mainstream practice. The output gap is published by six of the seventeen banks under study, and five include potential GDP projections. The point value of the neutral rate is published only by the Bank of South Africa. A labour productivity indicator is published only by the Bank of Sweden.

Role of communication and information factors in frequency of surprises

The predictability of policy rate decisions to a professional audience (along with their inflation expectations) is one of the easiest and most visible indicators of impactful communication between the central bank and the professional community.

Woodford (2003), Bernanke (2004), Blinder (2004), Issing (2005), Trichet (2005), and Blinder et al. (2008) argue that the predictability of decisions is a key and impactful component of IT. According to *King (2000)*, the predictability of decisions suggests that economic agents' views about central bank policy are correct, which helps in reaching the goal of price stability through expectations. In turn, effective communication is the key contributor to predictability. According to Blinder *et al. (2008)*, 'successful central bank communication efforts should make policy more predictable and market expectations of future short rates more accurate'.

The insufficient predictability of Bank of Russia decisions on the key rate has taken centre stage in professional community discussions and the media in recent years. According to a 2018 IMF review[12], 27% of the Bank of Russia's decisions on the key rate between 2010 and 2018 were unexpected by the market. The unpredictability of the decisions of other central banks in emerging economies was nonetheless significantly lower: 19% in Brazil, 13% in India and Turkey, and 9% in Thailand. The subject of the low predictability of the Bank of Russia has also been investigated aby *Isakov et al. (2018)*, whose key recommendation is the publication of the key rate path.

In general, the frequency of Bank of Russia key rate surprises is consistent with its peers at comparable stages of IT (Figure 3): in a Bloomberg survey, 32% of analysts failed to give an accurate projection of the key rate decision in 2015–2021.

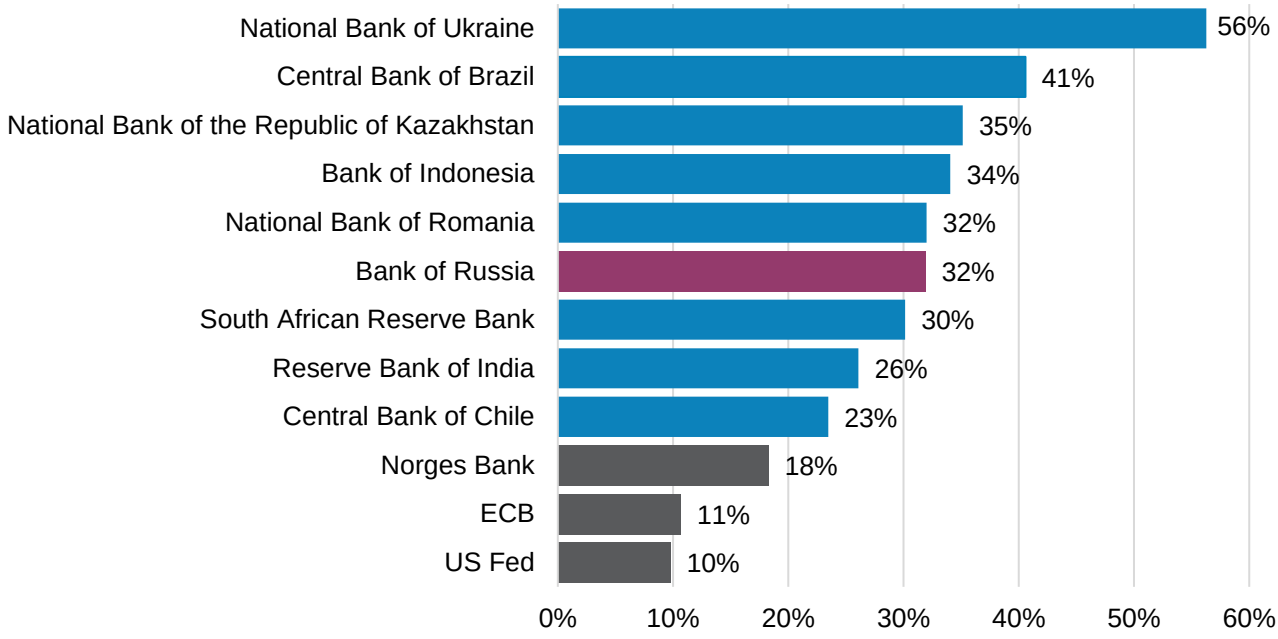
'The role of communication and information factors in the emergence of surprises in Bank of Russia's monetary policy' (Bank of Russia Working Paper Series, No. 99; preprint published on the Bank of Russia website, August 2022) is a dedicated effort to gain more insight into what is behind the low predictability of Bank of Russia decisions.

The work tests four hypotheses common in the academic literature about the potential causes of monetary policy surprises.

The focus of the tests is, first, the hypothesis that the predictability of decisions is significantly reduced by the high uncertainty of macroeconomic conditions and frequent shocks. When the situation is difficult to forecast and is marked by an increased number of information shocks, the central bank may struggle to make decisions and communicate to the market its vision of the changing situation, while the market and analysts may in turn struggle to forecast these decisions. The hypothesis test shows that the impact of uncertainty on the predictability of Bank of Russia monetary policy is minimal.

[12] IMF World Economic Outlook: Challenges to Steady Growth (2018, Chapter 3).

Figure 3. FREQUENCY OF MONETARY POLICY SURPRISES IN EARLIEST YEARS OF IT*



** Periods under study:*
National Bank of Ukraine: 2015–2021
Central Bank of Brazil: 1995–2005
National Bank of the Republic of Kazakhstan: 2016–2021
Bank of Indonesia: 2005–2011
National Bank of Romania: 2006–2021
Bank of Russia: 2015–2021
South African Reserve Bank: 2001–2007
Reserve Bank of India: 2016–2021
Central Bank of Chile: 2001–2007
Norges Bank: 2003–2009
ECB: 2000–2006
US Fed: 1998–2004
Sources: Bloomberg, authors' calculations.

Secondly, the authors test the hypothesis that monetary policy surprises may be influenced by the lack of communication or of verbal interventions from the Bank of Russia. The results of the test yield a mixed conclusion. In 2015–2021, overall verbal interventions ahead of rate decisions were marked with lower predictability of decisions. Nonetheless, it should be recognised that verbal interventions did indeed deliver: the decisions in all eight cases were more predictable if accompanied by interventions. This comes as another sign of the early phase in the development of the Bank of Russia's use of communication tools. It will take a long time for the market to develop to a correct understanding of the regulator's signal. The strong probability that verbal interventions do indeed work appears to be due to the move to expand the Bank of Russia's communication toolset, including the publication of the projected key rate path.

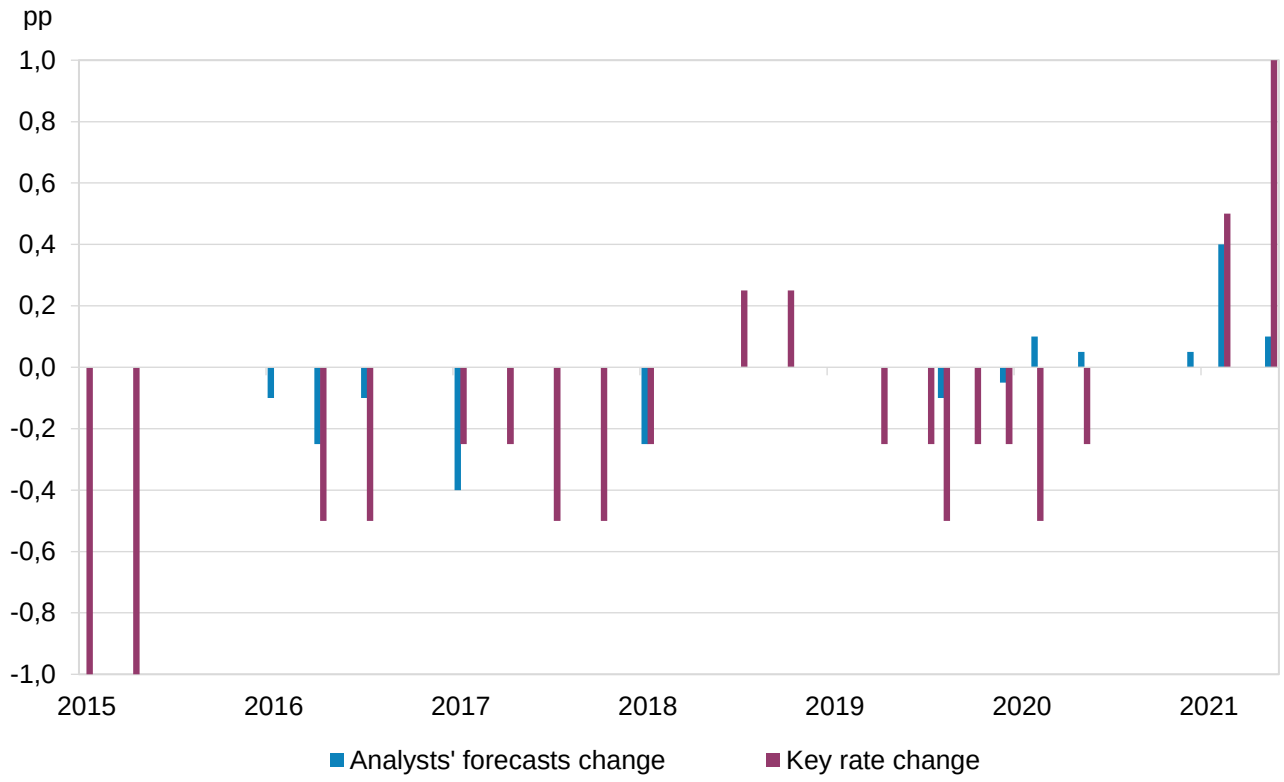
Third, the hypothesis of persistent regulator-to-market miscommunication is put to the test. This is the hypothesis that monetary policy surprises may be triggered by different assessments of the economic situation by the central bank and analysts. For example, if the central bank, unlike analysts, places particular importance on a specific factor, the market may underestimate this factor and therefore contribute to the unexpectedness of

a decision. The results of the hypothesis test show that the combined narrative gaps[13] in communication between the Bank of Russia and analysts lie behind a rather modest proportion of surprises. Of all the narrative gaps, those related to inflation and volatility are the most important in predicting surprises.

Fourth, the tests target the hypothesis of the central bank's information advantage, validated by a model check. It is assumed that this advantage helps the central bank better predict macroeconomic indicators and assess the economic situation. The root of the information advantage may lie both in market trust and in the central bank's objective advantage in analysis and forecasting capabilities.

If the information advantage of the central bank is validated, a case can be made for the existence of communication gaps in terms of decision logic and the analytical and instrumental framework. In the case that the central bank has a clear information advantage, the market stops short of predicting decisions based on current economic data that are publicly available and expects fresh guidance on the economic situation from the regulator, which comes together with its monetary policy decision. The information advantage scenario is characterised by counterintuitive behaviour by the market: when the central bank raises the rate, the market does not downgrade its inflation forecasts, looking to the regulator's effectiveness in terms of delivering on price stability goals. On the contrary, the market upgrades them on the assumption that the regulator's move is due to an upward revision of its inflation outlook. The existence of this effect in Russia is presented in Figure 4.

Figure 4. BANK OF RUSSIA KEY RATE DECISIONS AND SUBSEQUENT CHANGES IN BLOOMBERG INFLATION FORECASTS FOR 12 MONTHS AHEAD



Sources: Bloomberg, authors' calculations.

If the central bank is as open as possible in publishing its model and analytical framework, this effect disappears, which has been proved in the case of the US Federal Reserve by *Hoesch, Rossi, and Sekhposyan*

[13] These are quantified differences between the weights of individual decision-making factors in Bank of Russia communication and their weights in analysts' comments/reviews prior to a rate decision.

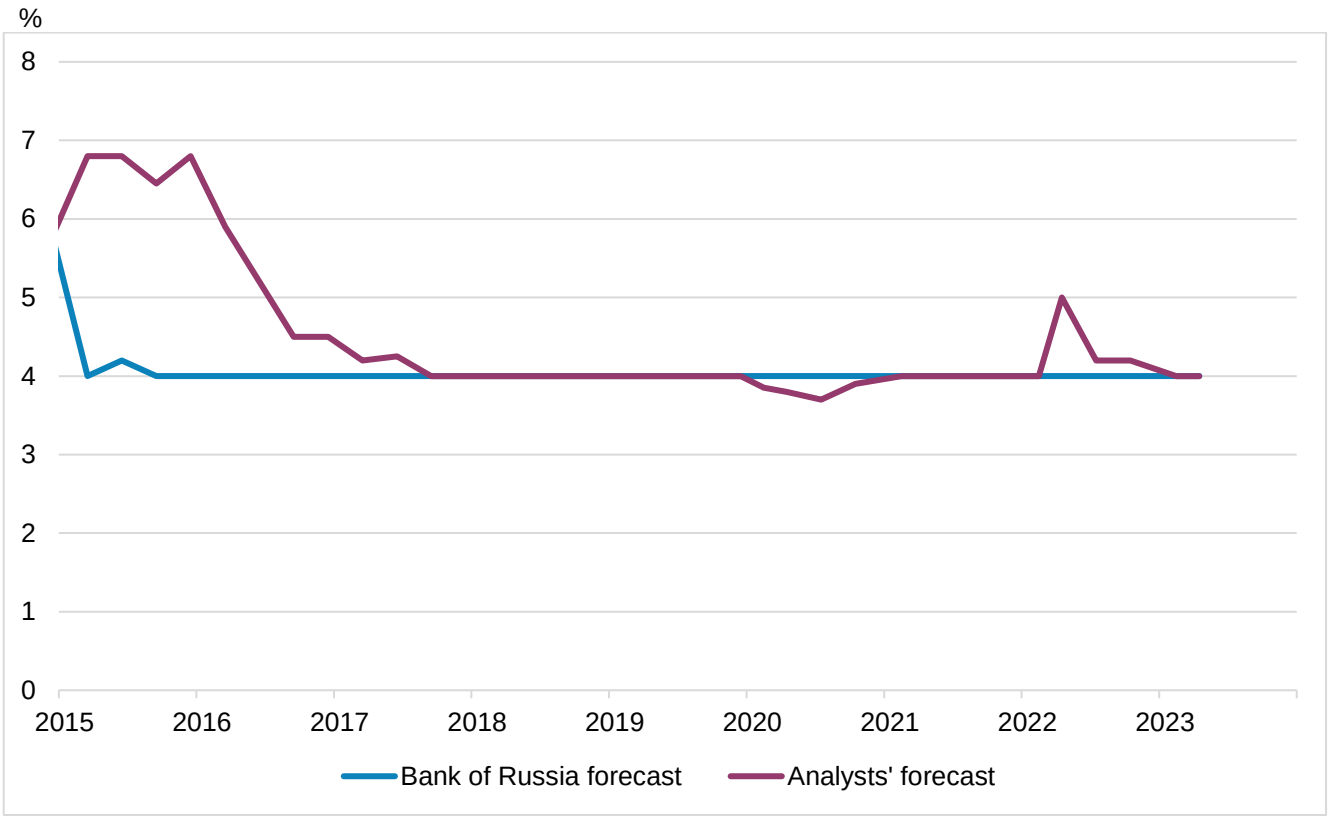
(2020). The authors attribute the disappearance of the information advantage of the US Fed to maturing communication.

A number of researchers explain the existence of the central bank's information advantage not by its early access to statistical information, but by its more advanced forecasting framework *(Romer and Romer, 2000; Hubert, 2009).* The lack of information advantage or its disappearance is conditional on the level of central bank transparency and its increase (*Hubert, 2009; Hoesch, Rossi, Sekhposyan, 2020; Laséen, 2020*). The more information the central bank discloses, the smaller is the difference between its perception of the economic situation and the market's perception, which brings down the number of monetary policy surprises.

Anchoring analysts' inflation expectations

Since the spring of 2017, analysts' inflation expectations for two years ahead (beyond the monetary policy lags) have been anchored close to the 4% target. Figure 5 shows the available Bloomberg data. Post-2022 data are missing. However, since May 2021, the Bank of Russia has run its own macroeconomic survey of analysts (involving leading experts). The results show that the inflation expectations of professional audiences in subsequent periods remained anchored except for a blip of growth in the spring of 2022.

Figure 5. BANK OF RUSSIA FORECASTS AND ANALYST EXPECTATIONS FOR INFLATION FOR TWO YEARS AHEAD



Note: The horizontal axis shows the dates of forecast publication. The source of analyst forecasts until July 2021 is the Bloomberg consensus; after July 2021, the source is the Bank of Russia's macroeconomic survey.
Sources: Bloomberg, Bank of Russia.

Features of crisis communication with markets

Communication with markets in times of crises is a real challenge for central banks. Its success determines the speed of economic adjustment to a change in conditions and the depth and duration of the shock.

Since the start of its IT in 2015, the Bank of Russia has navigated several crisis episodes in 2015, 2020, and 2022. The communication in each period was marked by distinctly different approaches: scarce information at the beginning of IT gave way to the expanded availability of information in later years.

The literature includes several detailed descriptive reviews of central bank crisis communication.

A staff paper by *Checkley and Piris (2020)* formulates the following core recommendations for central banks: explain the objectives of decisions as clearly as possible; talk about problems in conjunction with solutions; provide enough information on the state of the economy; and communicate decisions and changes in the vision without delay. The authors of other works arrive at similar conclusions. For example, *Musard-Gies* (2006) draws an important conclusion about the preliminary preparation of the market via communication ahead of monetary policy decisions. The work of *Hallvarsson & Halvarsson (2010)* stands out as a study with a particular focus on the lessons learnt from crisis communication. The authors present a detailed analysis of Riksbank communication in the challenging period of 2008–2009. The authors identify the following key mistakes: 'a lot of information in them, but little communication', a belated response to shocks, fragmented information on risks, and an abundance of unnecessary technicalities.

The work 'Lessons from crises for better Bank of Russia communication with financial markets' aims to assess the effectiveness of Bank of Russia communication with financial markets during episodes of increased volatility and in normal times.

Following the results of model estimation, it confirms four of the five hypotheses, namely, that

- Financial markets' perception of Bank of Russia communication in episodes of increased volatility is distinctly different from normal times.
- Financial markets are more receptive to Bank of Russia communication in episodes of increased volatility.
- More intense communication by the Bank of Russia has a stabilising effect on financial markets.
- Confidence of communication has a stabilising effect on financial markets.
- The communication of a commitment to the target has a stabilising effect on financial markets in episodes of increased volatility.

First of all, the researchers find significant differences in financial markets' perception of Bank of Russia communication from the standpoint of all these communication variables. Specifically, communication has a stabilising effect on markets in times of increased volatility and a rather destabilising effect in other times, which is due to the noise in the media space. In relatively quiet times, markets do not expect extraordinary communication from the central bank and may find it disorienting if such communication does occur. These conclusions concur with those of *Caiazza et al. (2022),* who find that frequent (at close intervals) communication from the central bank in the media space is symptomatic of increased instability in financial markets. The findings also agree with the conclusions of *Hwang, Lustenberger, and Rossi (2021)* that intense communication from a central bank may undermine its influence over markets.

The results show that communication intensity affects markets in different ways. On the one hand, voluminous monetary policy publications by the Bank of Russia are associated with increased volatility of the RUONIA–key rate spread. On the other hand, the nuanced correction of signals and communication between key rate decisions in crisis times has a stabilising effect on markets, reducing the yield of the OFZ curve at the short end. Conversely, intense corrections in communication in quiet times are associated with a rise in the yield of long-term OFZ bonds and greater volatility in trading volumes. This may nonetheless also indicate the parallelism of the processes. This is evidenced by the results of causality tests, where the intensity variable turns out to be central: on the one hand, it is highly influenced by almost all financial market indicators (this may be explained by the central bank's logical intention to influence markets through its communication with the goal of stabilising them; the data suggest

significant growth in the intensity of communication between decisions in times of increased volatility). On the other hand, intensity itself affects the yield of the OFZ curve and the volatility of the RUONIA–key rate spread.

In times of crisis, communicating a commitment to the target helps stabilise financial markets. In normal times, this variable has only a slight impact, as follows from the findings of case studies of global central banks: in crisis, the central bank should make its signals very clear about the measures it is taking and their intended effects.

Finally, the presence of a signal in Bank of Russia communication in volatile periods is associated with a reduction in the OFZ curve at the short end. In this, the market interprets more specific Delphic signals better than blurred signals without forward guidance.

Analysis of communication with general public

Key conclusions:

- Communication with general public is one of the greatest challenges for central banks. It is vital in ensuring the accountability and independence of the central bank and helps it deliver on its monetary policy target through the expectations channel.
- Global methods of working with general public include multi-layered communication, simple language, the communication of information in story-telling or gamified formats, the use of social networks and interactive activities, and more informal appearances in the media space.
- News (especially negative news) has a strong impact on the way households perceive inflation. At the same time, while the inflation indicator observed by households tends to be adaptive in nature (people respond based on news they remember about the movements of specific prices), the nature of the indicator of inflation expectations is rational (people's response is driven by news guiding them in overall economic assessments).
- Bank of Russia communication has yet to have a statistically significant impact on household inflation expectations and counter the flow of negative economic news that weighs on people's views of future inflation.
- One important constraint on Bank of Russia communication with general public may be the lack of comprehensibility, that is, people without special economic knowledge often struggle to understand it. As the model calculations show, the Bank of Russia's basic monetary policy communication throughout the entire IT period has been too complicated for the general public to understand.
- *Blinder et al. (2022)* warn of the pitfalls central banks may run into as they seek to become closer to the people. In using simpler and shorter messages in communication, the central bank risks creating a false feeling of unambiguity and redundant accuracy, which undermines confidence in it should a change in trends occur. The central bank also risks disorienting the professional community. Combining simplicity of communication for the general public with maximum transparency for the professional community is a real communication challenge for central banks.

Global practices

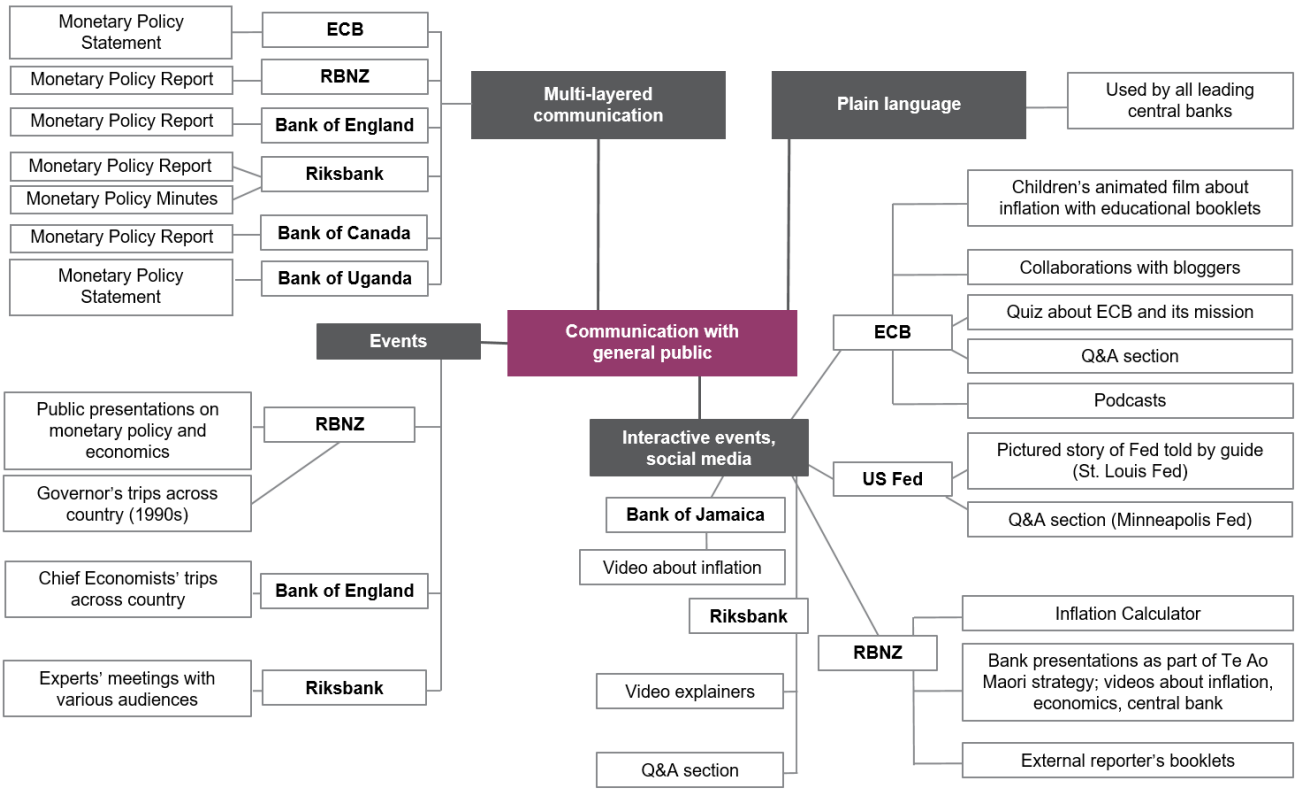
In recent years, one of the central issues discussed in the academic environment has been the adjustment of central bank communication with the general public. The issue is important given that, first, it is how the principle of the public accountability of the central bank is enforced (*Haldane, Macaulay, and McMahon, 2020). Friedman and Laxton (2009)* also note that high-quality communication supports central bank independence (a regulator that the public understands reinforces its political mandate and can chart a more independent course).

Second, communication with general public provides the opportunity to influence the expectations and sentiments of economic agents making decisions to spend or save. The balance of these sentiments in a market economy affects inflation in terms of demand. There are two ways to steer household behaviour: through interest rates and through communication. Even purely technical decisions on the rate should be communicated such that people believe the central bank and change their behaviour accordingly. This is how communication becomes a monetary policy tool.

Blinder et al. (2022) focus on communication with general public as a huge challenge for central banks. According to a poll of former ECB executives, there is much room for the improvement of communication with the general public.

Over the past decade, many central banks have gone to great lengths to enhance their public communication. One of the most popular methods is *multi-layered communication*, which is extensively used by regulators in Australia, New Zealand, and the UK, to name just a few. The method involves the creation of several versions of every monetary policy document of public importance: a short, often visualised, version for general public and a longer version for the professional community which provides full technical details.

Figure 6. GLOBAL PRACTICES OF COMMUNICATION WITH GENERAL PUBLIC



Sources: central bank websites.

There are several vivid examples of successful multi-layered communication. For example, in 2017, the Bank of England issued its inflation report (currently, *Monetary Policy Report*) in a new format, unveiling an abridged

version of the report in simple language for general readers. This move triggered an almost twofold uptick in user activity on the Bank of England website within the day of publication compared to when reports were issued in the old format. In a regional poll commissioned by the Bank of England about the new report, 70% of respondents said that the new format helped them better understand the content. Subsequently, *Haldane and McMahon (2018)* undertook a study of the new format, investigating two groups – the general public and economics students. They found that the short (abridged) version helped even specialist students better understand the document, a sign that the format has value for all audience groups. The study further showed that more straightforward communication with the general public helps achieve better alignment with central bank projections.

Several central banks currently rely on the multi-layer format in their communication to target multiple audiences. Most of them publish their monetary policy reports in several versions. There are also examples of multi-layered communication in the publication of meeting minutes, press conference speeches, and decision statements.

In recent years, the Bank of Russia has undertaken efforts to take its communication with the general public to a new level, including the practice of issuing documents in several formats.

Impact of negative news on household inflation expectations

The process of formation of household inflation expectations in Russia and the degree to which they are influenced by Bank of Russia communications is within the scope of research conducted as part of the Monetary Policy Review. Household inflation expectations have remained high and unanchored throughout the IT period.

On the one hand, this may be owing to the adaptive nature of expectations: when attempting to predict future inflation, people recall the inflation of the past. Russia has experienced commodity shortages, hyperinflation, and price spikes. Even after the transition to IT, there have been a number of episodes of increases in the prices of essential goods.

On the other hand, the latest research emphasises the importance of the information environment (and therefore communication) in the way households perceive inflation. *Arora et al. (2013)* show that high and unanchored inflation expectations in Peru are driven by the low public awareness of the workings of monetary policy and its goals, as well as by overreaction to news reports. Recent prominent works include those of *Sahu and Chattopadhyay (2020), Tilly and Livan (2021)*, and *Angelico et al. (2022)*. The authors find that the effects of different news on inflation expectations are varied. Inflation expectations may be affected by non-inflation news, and negative news has more influence in shaping inflation expectations.

To test the impact of news flows and Bank of Russia communications on household perceptions of inflation, we have conducted the study ‘The impact of negative news on public perception of inflation’ (preprint published on the Bank of Russia website in February 2023).

We have identified three news streams as weighing heavily on household perceptions of inflation: news about inflation and changes in the prices of key products, news about economic prospects (including the risks of recession and a budget deficit), and news related to the ruble exchange rate.

One important finding is the confirmation that households may perceive the ‘narrow’ question of future prices as a ‘broad’ question about the economic outlook as a whole. Respondents answering the question about past inflation are highly likely to remember ‘narrow’ news about specific prices. In addition, the research has found differences in inflation perceptions and the formation of inflation expectations between different subgroups of respondents, namely those with and without savings.

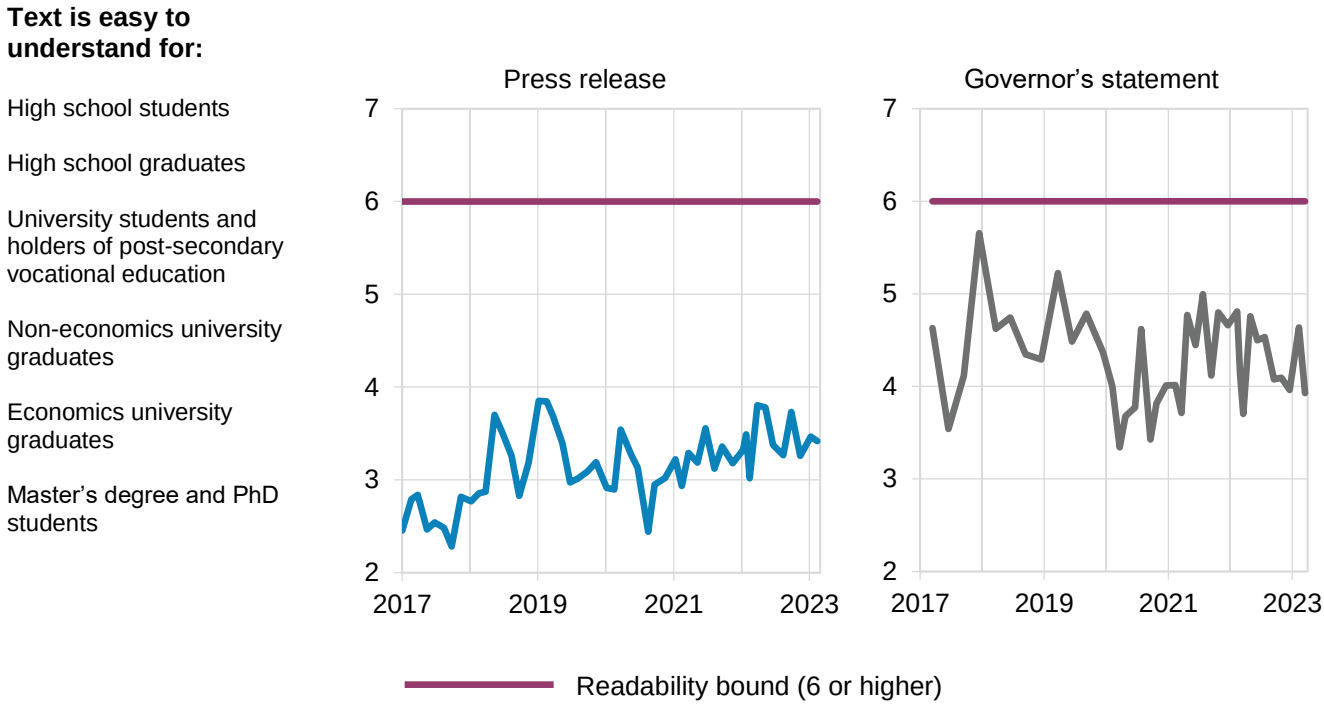
The intensity of the Bank of Russia's presence in the media space appears to have little bearing on household perceptions of inflation.

Clarity of communication

Poor comprehensibility may be an important constraint on Bank of Russia communication with the general public: those without specialised economic knowledge will likely struggle to understand it. This is confirmed in our prior work (*Evstigneeva and Sidorovskiy, 2021)*. Over the entire IT period, the texts of core Bank of Russia communications have not been fully comprehensible to the non-professional audience.

In *Evstigneeva and Sidorovskiy (2021),* we present a neural network model to assess the clarity of communication. It judges the clarity of text based on 44 linguistic characteristics. The model assigns readability levels of 1–3 to core texts about monetary policy, that is, these texts are clear only to holders of degrees in economics or even only to PhD holders.

Figure 7–8. CLARITY OF BANK OF RUSSIA KEY RATE PRESS RELEASES AND GOVERNOR'S STATEMENTS BASED ON READABILITY INDEX



Source: Authors' calculations.

The problem of lack of clarity, which makes communication difficult for general public to understand, is characteristic of most central banks that have attempted to study this problem. For example, many insights are provided by the case of the Bank of England. *Haldane et al. (2020)* argue that central bank communication is understandable only to 5–10% of the population and that it takes 14 years of education to understand the regulator's language – whereas it takes a mere eight years to understand a speech by Richard Feynman, a Nobel laureate in physics, explaining Heisenberg's uncertainty principle. *Ryan and Bauman (2016)* find that US Federal Reserve records of monetary policy meetings are understandable to about 3% of the population, while US president Trump's public speeches are clear to 75%.

One method of addressing the clarity problem is multi-layered communication, in which the same message is delivered with varying levels of detail tailored to different audiences. *Blinder et al. (2022)* warn of the pitfalls central banks may run into as they seek to become closer to the people. In using simpler and shorter messages in communication, the central bank risks creating a false feeling of unambiguity and redundant accuracy and thus undermining confidence should a change in trends occur. The central bank also risks disorienting the professional community.

No matter how the central bank configures its communication with various target audiences, its communication remains public, which means that general public can access its messages for analysts, and professionals in turn can read its messages for general readers. At the same time, each group has specific information needs. While professionals are prepared for exhaustive information abounding in technical details, the general public may be misguided by this flow of information, especially in the light of the role and specifics of the media in this process. Striking a balance between simplicity and clarity for general public, on the one hand, and maximum transparency for professionals, on the other, is one of the most challenging tasks for a central bank in its single information policy.

Recommendations for discussion

P1. More frequent appearances by Board members in the media space with pronouncements on the macroeconomic situation and changes in the Board's perspective on key monetary policy factors. More personalised communication in verbal form, especially in times of increased volatility.

The findings of the two studies ('The role of communication and information factors in the emergence of surprises in Bank of Russia monetary policy' and 'Lessons from crises for better Bank of Russia communication with financial markets'), are evidence of an increase in the predictability of key rate decisions and a drop in market volatility following increased intensity of executive Bank of Russia communication on monetary policy. Of note, personalised communications from Board members on the specific drivers of the macroeconomic forecast or decisions are more significant than documents. This recommendation accommodates the needs of the professional community as formulated in in-depth interviews in January 2023. Importantly, extended verbal communications are necessary at times of increased volatility, while they are inconsequential in more quiet times ('Lessons from crises for better Bank of Russia communication with financial markets') and may even have a destabilising effect on the markets (*Caiazza et al., 2022*).

P2. Expansion of list of indicators published in macroeconomic forecasts.

The number of indicators in the Bank of Russia's macro forecasts (24) is close to the global average (26.4). Global central banks' projections often also include indicators for the labour market, exchange rates, the budget, and household savings and income at varying levels of detail. As follows from the study 'The role of communication and information factors in the emergence of surprises in Bank of Russia monetary policy', the publication of an expanded forecast increases the transparency of monetary policy and can lead to a weakening of the central bank's information advantage, which underlies the low predictability of decisions. This recommendation also accommodates the needs of the professional community.

P3. Inclusion of a decomposition of the deviation of inflation from the target or forecasts of the factors in regular documents.

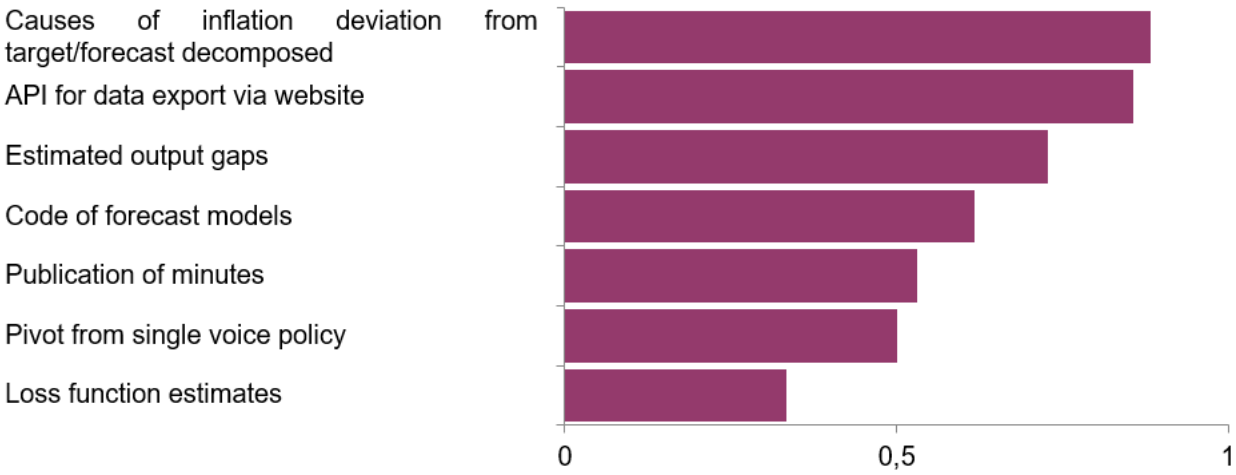
The publication of this information increases central bank transparency, according to *Al-Mashat et al. (2018)*. This measure may be aimed at reducing the information advantage of the central bank as the key factor behind the low predictability of key rate decisions (in accordance with 'The role of communication and information factors in the emergence of surprises in Bank of Russia's monetary policy'). This recommendation accommodates the needs of the professional community as formulated in in-depth interviews of January 2023.

In January 2023, the Bank of Russia held a series of analyst meetings in in-depth interview format[14] involving 18 respondents. The interviews were based on questions about their attitude to a number of practices of the Al-Mashat index which could increase the Bank of Russia's transparency. The qualitative results were then quantified.[15] The results are summarised in Figure 11. The survey took into account practices outside of the Al-Mashat index that nonetheless were of interest to analysts.

[14] In-depth interviewing is a qualitative research technique in marketing that is based on informal one-on-one conversations with representatives of the target audience.

[15] Each item is assigned one of the three values based on respondents' responses: 1 – when the interviewee finds this communication practice extremely useful, 0.5 – when the interviewee expresses a mixed attitude, and 0 – when this communication practice is seen as useless or damaging in the case of the Bank of Russia. The

Figure 9. INTENSITY OF PROFESSIONAL AUDIENCE DEMAND FOR COMMUNICATION PRACTICES NOT USED BY BANK OF RUSSIA



Source: Authors' calculations based on in-depth analyst interviews

P4. Division of the key rate press release into 1) a formal template-based part presenting the decision and 2) summarised meeting records presenting the Board's discussion of the decision options.

The release of meeting minutes is one of the most debated issues in the professional environment. As our survey shows (Figure 11), the Russian professional community has yet to reach a consensus over the need to publish the minutes. Analysts polled by the Bank of Russia are roughly equally divided on the matter.

The key argument in favour is the significant boost in the transparency of decisions (this was the decisive factor for the Bank of Canada, which began to release its meeting minutes in February 2023[16]). However, there are many arguments against, as we discuss below.

1) If the press release is sufficiently detailed, the minutes will not add anything new.

According to *Blinder et al. (2009)*, the statement of the decision (press release) and the meeting records are substitutes, that is, they complement one another. According to this classic work on the decision-making process, 'If the statement [information about the decision – *author's note*] is sufficiently long and detailed, there is little need for detailed minutes'. As for the Bank of Russia's press releases, they are not long enough to be equal to the minutes (only about 800 words vs the global average of 3,000 words) and too invariant (24% of their text follows a template on average vs the global average of 16% for minutes). That is to say, the format of the Bank of Russia's press releases is far from the format of an average meeting record.

2) 'ingle voice' policy may impose restrictions on the publication of minutes.

Researchers focused on the assessment of the transparency of central bank communications discern three formats of minutes: 1) a compressed format, with the speakers and voting results left unspecified; 2) a more detailed format disclosing the voting results but not individual opinions; and 3) a detailed format disclosing individual opinions and voting results.

Several central banks (e.g. the ECB, the Bank of Israel, and Norges Bank) combine the 'single voice' and the publication of information on discussion proceedings. These regulators do not disclose the voting results or the opinions and arguments of individual committee members in their minutes or in separate tables.

score for each item is calculated as the ratio of the total of the answers to the survey question to the number of respondents, multiplied by 100. Respondents who did not answer the question are excluded.

[16] In September 2022, the IMF issued a review of the Bank of Canada's transparency code. Although the study finds this central bank's monetary policy transparency to be high, one of its key recommendations is beginning to publish information on the course of deliberations. This IMF recommendation is explained by the need for a further increase in transparency in a highly uncertain economic environment.

Their minutes are an account of the deliberations with detailed information on current trends and movements in key decision factors. ‘Single voice’ is in place at the Bank of Canada, which has recently decided to release summaries of its discussions. Its documents will be similar in format. The Reserve Bank of New Zealand allows differing views, but these must respect the members of the committee (the Bank of England has a similar rule). The format of its meeting records does not include the disclosure of individual votes.

The implication is that the ‘single voice’ can be combined with the publication of minutes in a more compressed format.

3) There are risks of noise damaging the media space and making decisions less predictable.

This is a strong counterargument, and its validity is confirmed by the findings of ‘Lessons from crises for better Bank of Russia communication with financial markets’. The study concludes that an increase in communication volumes in terms of number of pages increases market volatility.

A compromise solution in terms of the balance of risks and improved market communication may be the implementation of the recommendation in the header of this paragraph.

P5. Creation of an API to upload data.

This recommendation is included to meet a common request from the professional community (Figure 11). An API is an ‘application programming interface’. It is a ‘middleman’ for analysts to access central bank data which allows data to be updated more quickly and conveniently. This solution allows the information needs of the professional audience to be met without a change to the website.

P6. Review of the publication of textual reports on monetary policy to determine the need for: 1) a reduction in the number of pages and/or 2) a multi-layer format.

As follows from ‘Lessons from for better communication of the Bank of Russia with financial markets’, lengthy communications of many pages harm the perception of monetary policy signals. The peaks of publication – up to 200 pages of monetary policy documents a week – most often increase market volatility and decrease the predictability of decisions. A closed survey of the professional community shows that there are documents which are of no great interest to the intended audience. For example, analysts often take interest in data and brief commentaries outlining the central bank's perspective rather than in detailed explainers of statistics, which are excessive for professionals. This is particularly true of documents published with long lags in the release of the underlying data. Second, efforts must continue to be made to develop the multi-layer format, in which complicated multi-page documents are published concurrently with brief visual presentations. These presentations can help the general public improve its level of financial literacy and knowledge of economics, which is critical in building trust in the policy (‘Assessment of public perception of Bank of Russia decisions through Big Data sentiment analysis of YouTube Comments’ [in Russian]).

P7. Publication of the software code of the forecasting models used.

The Bank of Russia’s articles describing the model framework provide insights into the internal logic of forecasting. However, replicating the regulator’s forecasts is very complicated, if not impossible, without the program code and estimates of the internal parameters of the models (such as the coefficients in the central bank response function). If published, the code of several operating models would provide analysts access to the forecasts discussed in making the decision, while ‘insuring’ the Board of Directors against the risk of a false commitment created by conflicting conclusions from the models.

P8. Mandatory readability/clarity tests for all presentations for general public using a neural network.

Currently, the general public struggles to understand the Bank of Russia's monetary policy communication. The authors of ‘Assessment of clarity of Bank of Russia monetary policy communication by

neural network approach' create an automated readability test robot for Bank of Russia texts, which can be used in drafting abridged texts for the general public.

P9. Creation of a style guide ('plain Russian') for all public texts written for general public.

The Bank of Russia's current monetary policy communication is generally too complicated for the general public to understand (as follows from the study 'Assessment of clarity of Bank of Russia monetary policy communication by neural network approach'). There may be a need to produce a style guide for such texts. It would help Bank of Russia staff writers achieve greater clarity and readability in their texts for general readers, who would in turn improve their financial literacy, which would help in reaching IT targets.

P10. Further efforts to create trust-based/informal channels of communication with general public.

One of the most popular global approaches to communication with general public today is personalised conversation in an atmosphere of confidence. Best practices include questions and answers on social networks, regular open lectures at schools, informal interviews, video answers to frequently asked questions, podcast dialogues, etc. Of note, successful communication with general public requires an informal, trustful approach, since frequent, formal verbal interventions by central bankers are a sign of mounting instability (*Caiazza et al., 2022*).

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