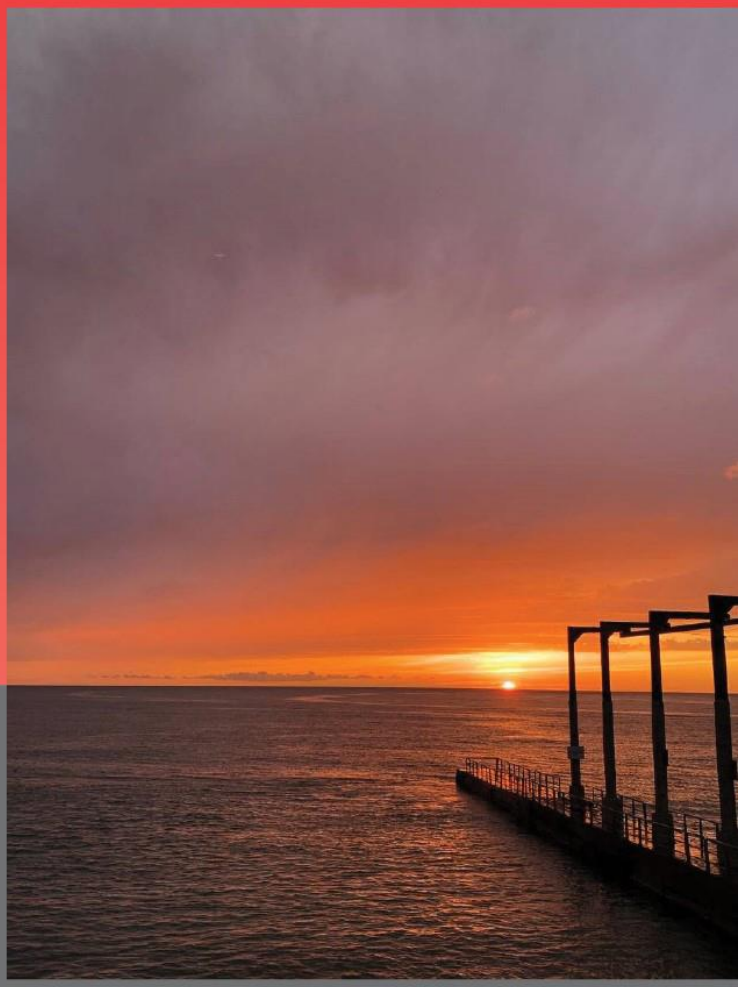
Bank of Russia



COMMUNICATION ON MONETARY POLICY DECISIONS AND MACROECONOMIC FORECASTS: INTERNATIONAL EXPERIENCE

Analytical Note

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Summary

Central banks worldwide have developed certain practices for communicating their monetary policy decisions and the underlying macroeconomic forecasts. The authors of this analytical note explore international experience of communication by all inflation-targeting central banks on their decisions and forecasts and carry out a more detailed computer-aided textual analysis of communications of 17 of them for the period of 2000–2022.

Main communication materials generally include information on a decision (a press release), a statement by decision makers, and minutes of a meeting presented as a summary of deliberations without names or a transcript of the discussion with attributed voting records.

The Bank of Russia presents a larger press release on the key rate with a lower percentage of repeated text than, on average, other central banks. Press releases of the Bank of Russia average 835 words, compared to 633 on average across the globe, and repetitions make up 24% of the text (i.e., this is the average percentage of text that is repeated in press releases) versus 34% on average worldwide. Advanced economies' press releases on policy rates mostly contain a higher percentage of repetitions. The structure and content of the Bank of Russia's press release are generally in line with the world practice.

Not many central bank governors make an oral statement. Such a speech, in approximately the same format as at the Bank of Russia, is also made by the ECB President and the US Fed Governor. The main objective of this type of communication is to considerably expand the information on the rationale behind a decision (when the press release is presented in a condensed form) and explain it to the general public in plain language. In terms of the clarity of the Governor's oral statement, the Bank of Russia comes second only to the Norges Bank (the English versions of such materials published by all central banks were compared).

As regards the publication of meeting minutes, **57% of inflation-targeting central banks release minutes of the meetings** of their monetary policy committees. However, this percentage among emerging market economies is lower – just 41%. In contrast, all advanced economies provide details about the discussions.

Depending on the start of the publication of their minutes, central banks can be divided into two groups: banks that began to release their minutes soon after switching to inflation targeting (IT) (1–5 years) and long after switching to IT (8–17 years). The academic literature measuring the transparency of central banks' communications (*Al-Mashat et al., 2018*) divides their minutes into three types: 1) condensed, non-attributed, and without voting results; 2) detailed and with voting results, but contributions of individual members and votes are not attributed; and 3) detailed and with voting results, contributions by individual members and votes are attributed. A 'single voice' policy is mostly not a factor preventing the disclosure of meeting minutes. For example, the ECB, the Bank of Israel, and the Norges Bank follow a 'single voice' policy and publish their minutes.

Monetary policy decisions in most central banks disclosing their minutes are made by competent committees (Monetary Policy Committee / Council / Board). Nevertheless, the list of the regulators publishing such documents about monetary policy deliberations also includes central banks that do not have monetary policy committees – these are the Riksbank, the Czech National Bank, and the Bank of Japan.

Blinder, 2009 argues that communication on monetary policy decisions (a press release) and meeting minutes are substitutes or materials complementing each other. 'If the statement [communication on a decision – the authors' note] is sufficiently long and detailed, there is little need for detailed minutes and no rush to produce them,' – considers the author of this classical paper regarding the decision making process. Therefore, we analyse press releases and minutes as complements. Central banks are clustered into three groups by the type of communication on their decisions – we notionally name these three types of communication as balanced, conservative and concise. The first group includes banks publishing brief and very similar press releases on their decisions, but disclosing detailed information in comprehensive minutes containing a new text. Banks of the second group use a lot of repetitions in all their materials, although their length can vary. The third group of banks release brief materials which can vary in terms of the use of text repetitions. The Bank of Russia publishes comprehensive press releases with a high percentage of new text; therefore, they have signs of the first type of communication. The key difference between such press release and meeting minutes is that the former does not contain information on alternative decisions discussed in the course of the meeting. In this regard, the Bank of Russia's practice is similar to that used by the Bank of Canada before 2023.

Central banks make monetary policy decisions relying on their macroeconomic forecasts. Accordingly, communication on them is an essential task. Central banks' macroeconomic forecasts can significantly vary in their formats and level of detail. We explore the following characteristics of foreign central banks' forecasts: frequencies of their publication, sets of forecast indicators, types of publication of forecast variables (point / range / other formats), and forecast horizons. The Bank of Russia publishes 24 indicators within its forecast, which is close to the world average (26.4). The publication of forecast ranges differs from a more widespread practice of publishing forecast point values.

1. Main documents for communication on decisions

We study materials related to inflation-targeting countries that explain monetary policy decisions. Generally, the main communication materials are as follows:

- **Communication on a decision (press release)**

  (Possible names: statement, press release, decision, announcement, summary; at the Bank of Russia – press release on the key rate).

  The main communication material on monetary policy decisions where central banks announce the decision made, provide the key rationale behind it, and signal their future decisions.

- **Oral statement by the governor or monetary policy board members**

  (Possible names: opening remarks, statement with Q&A, speech, introductory statement, at the Bank of Russia – statement by the Governor in follow-up to the Board of Directors meeting).

  The statement usually precedes the press conference of the governor or decision-making board members. Its main objective is to explain the decision to the general public and/or provide more clarification of the factors behind the decision made.

- **Meeting minutes**

  (Possible names: accounts, minutes, edited minutes, summary of opinions, report on discussions, assessment, summary record of meeting, and/or transcript. There are no similar materials at the Bank of Russia).

  Meeting minutes provide a more detailed description of the factors underlying the decision made and can give an idea of the deliberations of monetary policy board members. There are several main types of minutes varying in terms of information transparency – from a summary of deliberations to transcripts disclosing all opinions and votes.

Table 1 presents a summary of information about the banks reviewed and their communication practices.

Table 1. Main documents for communication on central banks' decisions

	Central bank	Communication on decisions	Oral statement	Press conference	Meeting minutes	Meeting transcript
Advanced economies	European Central Bank (ECB)	+	+	+	+	-
	US Federal Reserve System	+	+	+	+	+[1]
	Bank of Japan	+	-	-	+	+[2]
	Riksbank	+	+	+	+	-[3]
	Bank of Israel	+	+*	+	+	-
	Bank of Canada	+	+[4]	+	+	-
	Norges Bank	+	+*	+*	+	-
	Reserve Bank of New Zealand	+	+*,**	+*	+	-
	Bank of Korea	+	+**	+	+	-
	Bank of England	+	+*	+*	+	+[5]
	Reserve Bank of Australia	+	-	-	+	-
	Czech National Bank	+	-**	+	+	+[6]
Emerging market economies	Bank of Thailand	+	-**	+	+	-
	National Bank of Poland	+	-**	+[7]	+	-
	Central Bank of Brazil	+	-	-	+	-
	South African Reserve Bank	+	-**	+	+	-
	Bank of Russia	+	+	+	-	-

Source: central banks' websites.

[1] Publication lag – 5 years.
[2] Publication lag – 10 years. In Japanese only.
[3] There are no transcripts as such, but the format of minutes published is rather close to that of a transcript.
[4] There are two types of statements – upon publication of monetary policy reports (Monetary Policy Report Press Conference Opening Statement four times a year) and after making other monetary policy decisions (Economic progress report). In both cases, a statement is followed by a press conference.
[5] Publication lag – 8 years.
[6] Publication lag – 6 years. In Czech only.
[7] The latest video of the press conference was posted back in March 2020.
* Upon publication of Monetary Policy Reports – generally, four times a year (at the Bank of Israel – upon publication of forecasts).
** Prior to a press conference, central bankers read their statement on a decision (speeches at the Reserve Bank of New Zealand and the Bank of Korea are based on statements about a decision, but do not repeat them word for word).

1.1. Communication on decisions (press releases)

Communication on a decision is the primary source of information about monetary policy decisions made by central banks. A statement and a press release are the most widely used formats of such communication. All inflation-targeting central banks publish information on their decisions.

There were a few cases when such materials were not published on a regular basis. For example, until the end of 2007, the Reserve Bank of Australia released information on its decisions only when it changed the policy rate.

Most central banks release their statements on a decision on the day of its approval, in the case of a two-day procedure, as at the ECB, the US Fed, and the Bank of Japan – on the second day. The Riksbank, the Norges Bank, and the Bank of England announce their monetary policy decisions and the key underlying factors on the next day after the meetings.

In their statements, they provide information on the monetary policy decision made and its main rationale, describe the current economic situation, changes in key indicators (with a various extent of detail), the ratio of risks, and the outlook. Some central banks present their forecasts of key indicators. They can be mentioned in statements along with the description of current developments (e.g., at the Bank of England, the Reserve Bank of Australia, the Czech National Bank, the National Bank of Poland, the Central Bank of Brazil, and the South African Reserve Bank) or published as a table (e.g., at the Riksbank). Central banks' statements on decisions can also provide a signal about their future actions, as well as, normally, a paragraph on their intension to achieve the objective of their monetary policies and the focus of their current decisions on the achievement of this objective. Statements on decisions can be supplemented with charts. Thus, the Bank of Thailand publishes them at the end of its documents, whereas the Bank of Israel – in a separate file with references to the charts for the text.

A. Length of documents

Using machine-based natural language processing techniques, we derive three characteristics of communication on decisions: the word count, the percentage of repeated text, and readability. For this, we collected a database of messages from 17 central banks for the period of 2000–2022, which is publicly available in the repository of the GitHub project.

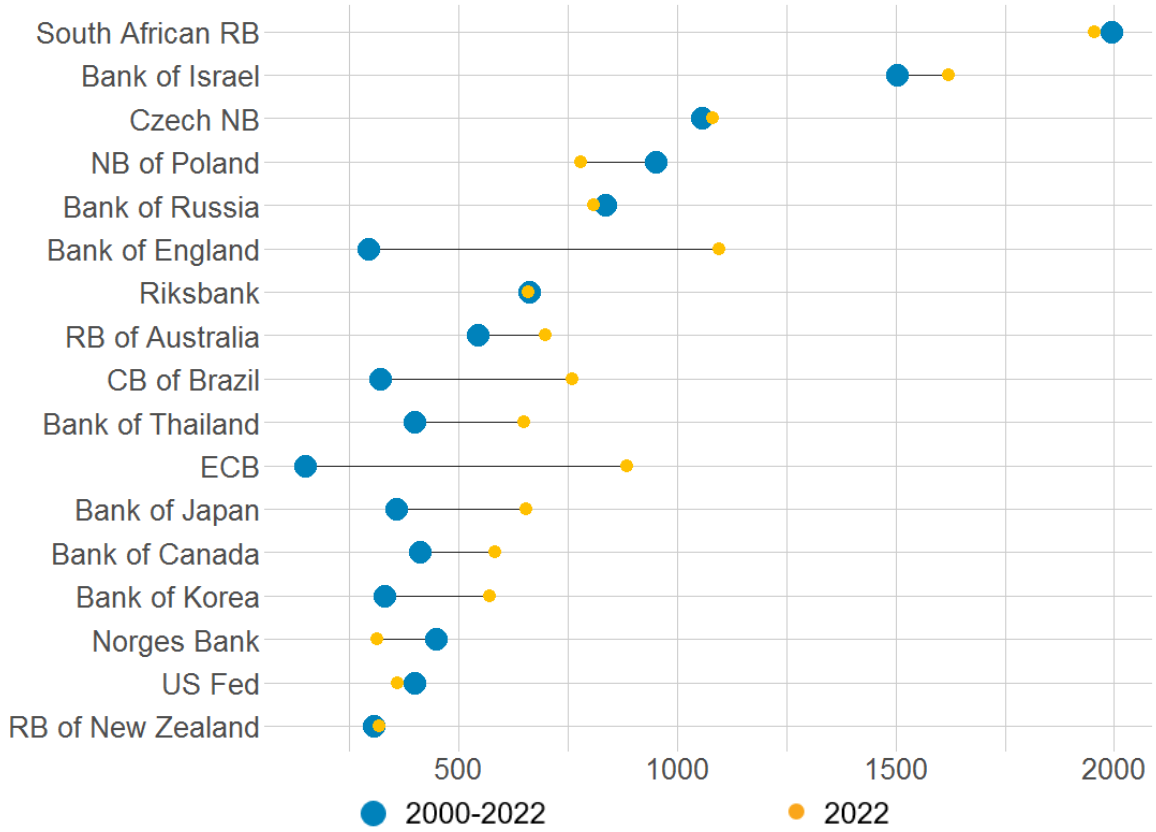
The length of the documents is measured as the number of words in each of them.

On average, communications on decisions contain 633 words.[8] Besides, **central banks' communications in advanced countries are shorter than those in EMEs**[9], excluding the Bank of Russia, namely 538 vs 916 words. Press releases of the Bank of Russia during the period of 2013–2022 included 835 words on average. Some central banks increased the length of their statements on decisions over time, by adding more detailed rationale behind their decisions and underlying factors to the materials. Thus,

[8] The measurements are based on the English versions of central banks' documents.
[9] Emerging market economies.

the Norges Bank, the Bank of England, and the Central Bank of Brazil used to communicate only their decisions in such materials until 2003, 2015 and 2016, respectively.

Chart 1. Average length of communications on decisions, word count



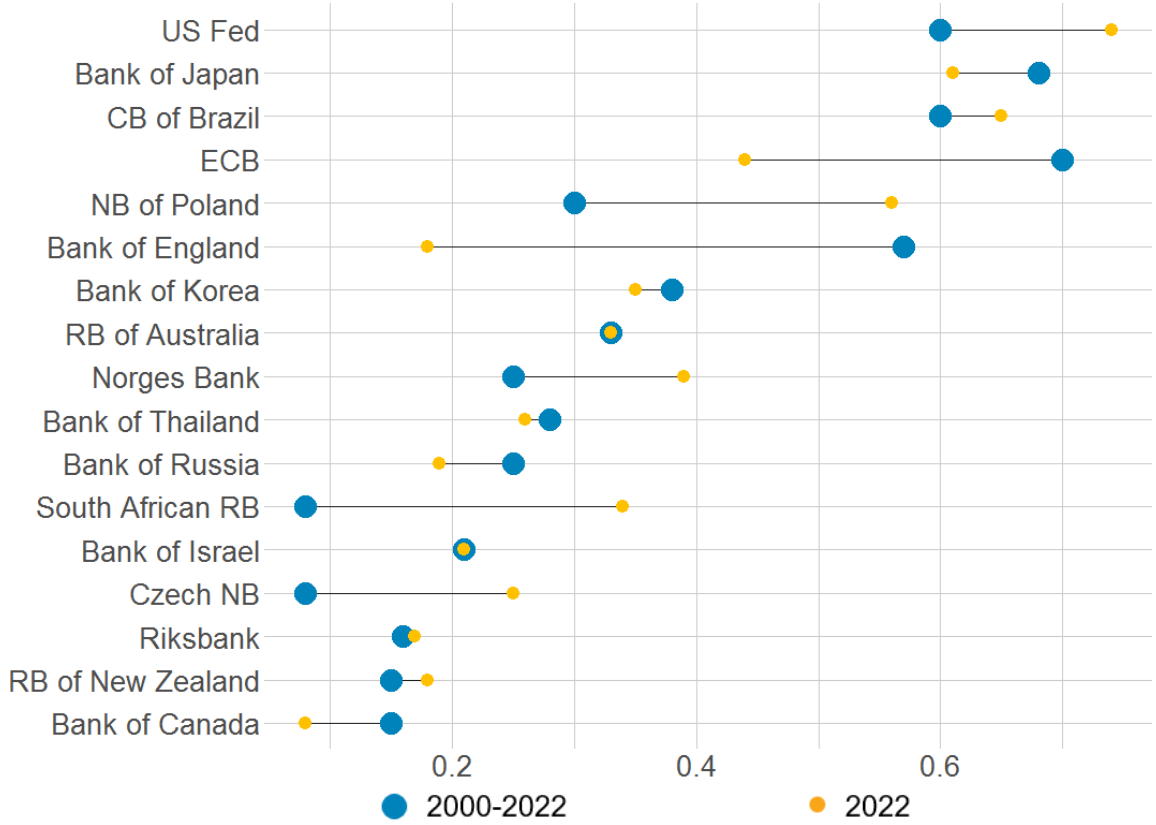
Sources: central banks' websites, the authors' calculations.

B. Repeated text

The extent of repeated text was measured as follows: materials for the *t* period were compared against similar materials for the *t-1* period (i.e. with the previous statement) using computer-aided techniques. This text characteristic is a share of sentences without any significant changes compared to the previous material (changes do not exceed 5%). Accordingly, 1 is a material with 95% of repetitions from the previous text, while 0 is a material that completely differs from the previous text. For our measurements, we use Stanza, a Python natural language collection package *(Qi et al., 2020)*.

The results of the measurement of the percentages of repeated text in communications on decisions are presented in Chart 2.

Chart 2. Percentage of repeated text in communications on decisions, from 0 (no repetitions) to 1 (completely repeated)



Sources: central banks' websites, the authors' calculations.

Communications on decisions in advanced economies contain a high percentage of repetitions. This means that communication on a decision largely repeats the previous document. Repeated text makes up 34% across similar documents. The percentage of repetitions in EMEs is approximately 31%. The Bank of Russia keeps unchanged only about 25% of its press releases on average. In other words, **the Bank of Russia considerably changes its press releases on the key rate from round to round.**

C. Clarity of communications

The comprehensibility of communications is measured using the Flesch–Kincaid Grade Level which is available in the py-readability-metrics section at Python. This metric is a modified method of Rudolf Flesch's Reading Ease Formula *(Flesch, 1948)*. Peter Kincaid developed it in 1975 at the request of the United States Navy that wished to have a convenient tool for assessing the clarity of instructions for navy personnel *(Kincaid et al., 1975)*. The Flesch–Kincaid Grade Level measures the number of years of education required to understand a particular text. This test enables a simple interpretation of the results, which is why it is one of the most popular readability metrics used today, including to assess the comprehensibility of central banks' communications *(Bulir et al., 2013)*.

The Flesch–Kincaid Grade Level is calculated using the formula:

FKRA = (0.39 x ASL) + (11.8 x ASW) – 15.59, where

FKRA – Flesch–Kincaid Reading Age;

ASL – Average Sentence Length (i.e., the number of words divided by the number of sentences); and

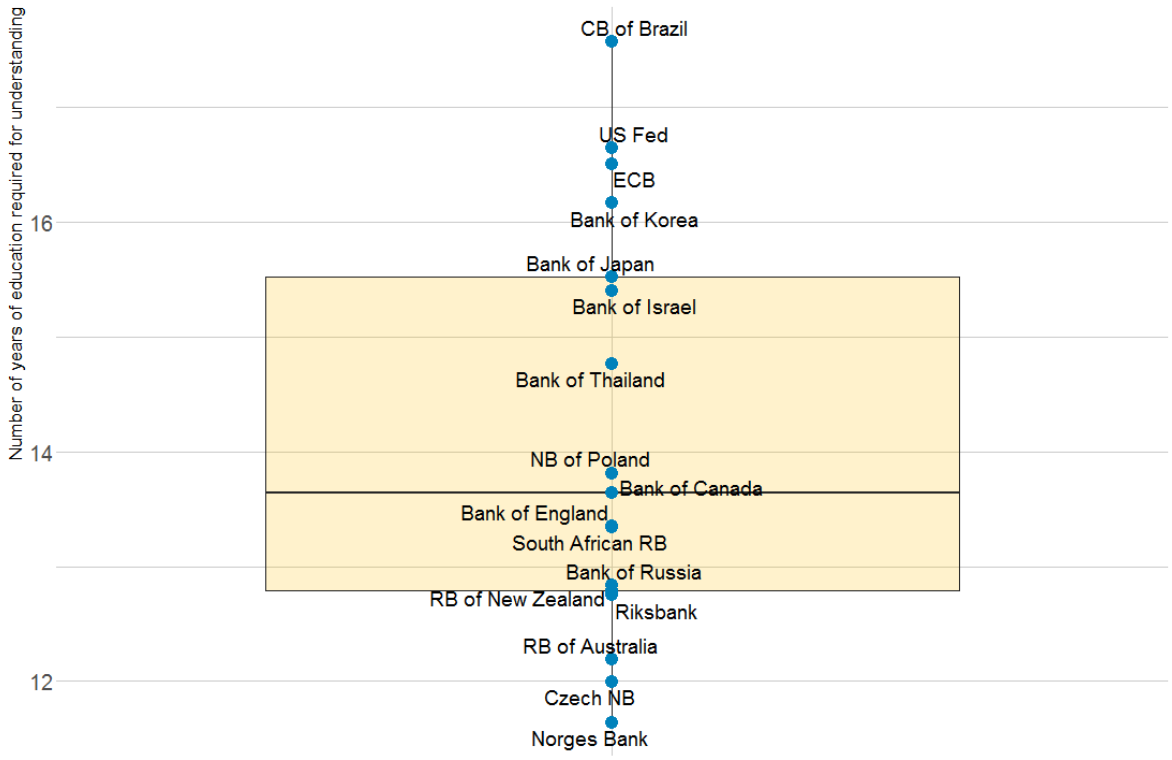
ASW – Average number of Syllables per Word (i.e., the number of syllables divided by the number of words in a text).

Table 2. Reading ease scores of English texts according to the Flesch–Kincaid formula

Grade level	Score	Description	Examples of texts
Basic	0–5	Very easy to read; texts understood by elementary school pupils	Adapted books for children
Medium	6–9	Plain English comprehensible to middle school pupils	Harry Potter by J. Rowling, The Adventures of Sherlock Holmes by A. Conan Doyle
	10–12	Texts comprehensible to high school graduates	Vanity Fair by W. Thackeray, Romeo and Juliet by W. Shakespeare
Advanced	13–15	Difficult English comprehensible to college students and graduates	Non-fiction, articles in specialised journals
	16 and more	Texts that require scientific knowledge to be understood	Scientific articles, college textbooks, monographs

The results of the comparison of the clarity of various central banks' communications on monetary policy decisions are presented in Chart 3. An important limitation of these results is that the calculation leaves out texts that are shorter than 100 words (their readability cannot be measured). As these are short texts that could be the easiest to comprehend, the scores obtained for a number of banks frequently publishing brief press releases are biased, specifically overestimated (first of all, for the texts of the Reserve Bank of New Zealand and the Norges Bank). In addition, it is worth remembering that English is not an official language in all the countries under review. Accordingly, translations are not fully comparable with English originals.

Chart 3. Readability of decision communications according to the Flesch–Kincaid formula



Source: the authors' calculations.

Compared to most other central banks under review, the Bank of Russia has a better readability of the translations of its press releases into English, and their understanding requires about 13 years of education (chart 3). There are only three central banks whose decision communications can be easily understood by the majority of the general public – these are the Norges Bank, the Czech National Bank, and the Reserve Bank of Australia.

1.2. Statements and press conferences

Unlike with communications on decisions, not many central banks make speeches and hold press conferences following their monetary policy meetings. In addition to the Bank of Russia, an opening speech followed by a press conference is also made after each meeting by the ECB and the US Fed, for example. The US Fed publishes its oral statement as part of the transcript of the press conference. The ECB and the US Fed release relatively brief communications on their decisions. Therefore, their statements are made to describe in greater detail the factors behind their decisions and changes in economic activity, inflation, inflation expectations and financial conditions. Oral statements also provide an assessment of risks and prospects of future developments, and signal further steps. Generally, central banks particularly focus on

the impact of their decisions on macroeconomic conditions, monetary policy objectives, the need to achieve them, and their commitment to these objectives.

A more widespread format is a speech and a press conference complementing the publication of monetary policy reports (the Norges Bank) or macroeconomic forecasts (the Bank of Israel).

The Bank of Canada has two types of oral statements and press conferences, namely upon publication of its monetary policy reports (Monetary Policy Report Press Conference Opening Statement) and after making other monetary policy decisions (Economic progress report). As the Bank of Canada did not release meeting minutes until 2023, its oral statements also included a description of the closed discussion.

In its oral statement preceding the press conference, the Bank of Israel describes changes in indicators and the current situation in the context of the decision made and its correlation with monetary policy.

Normally, central bankers also mention forecasts in their speeches.

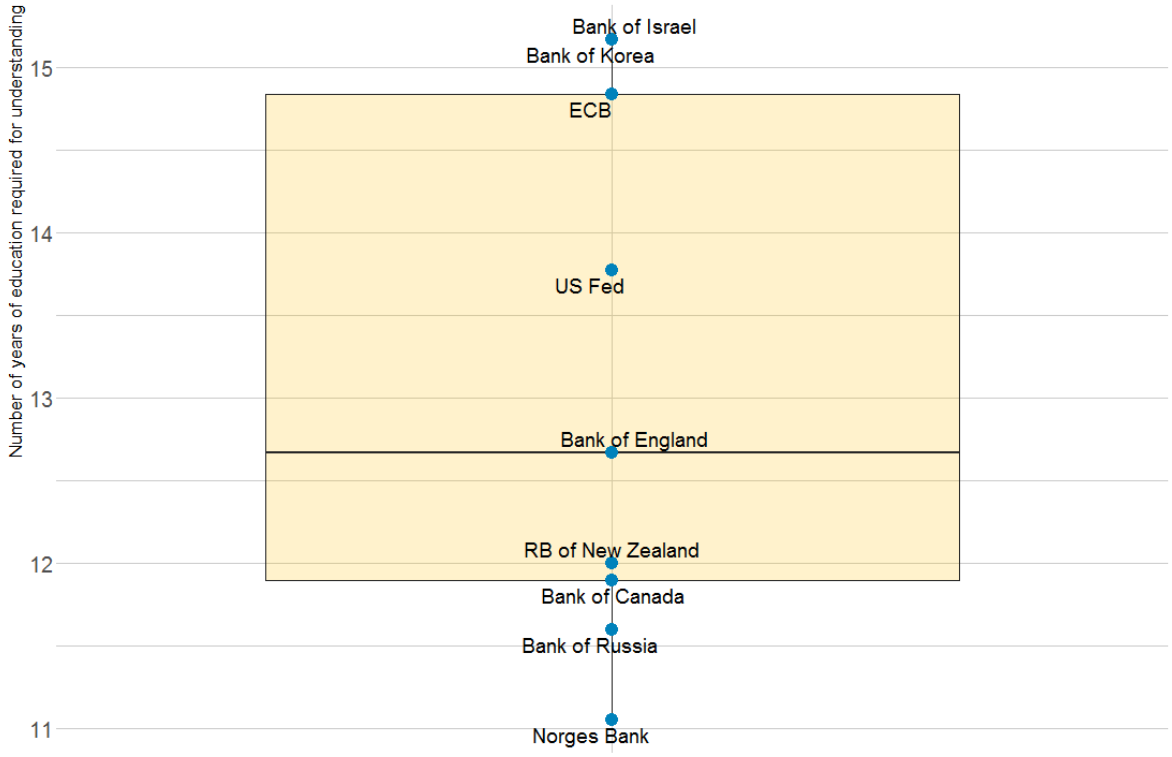
The Bank of Korea began making a statement before its press conference in July 2022, but it almost completely repeats the text of the press release on the decision. The only difference is details about the board members who voted for other options. This information is then repeated in meeting minutes.

Overall, quite many central banks read their statement on decisions (press releases) prior to their press conferences. For example, this practice is used by the Czech National Bank,[10] the Bank of Thailand, the National Bank of Poland,[11] and the South African Reserve Bank.

In addition, we compare the readability of oral statements made by nine central banks using this type of communication and publishing translations / transcripts of such materials in English. These banks' websites contain speeches explaining their decisions made before press conferences for the following periods: the Bank of Israel – 12 texts for 2019–2023; the Bank of Canada – 29 texts for 2016–2023; the Bank of England – 69 texts for 2006–2023; the Bank of Korea – 6 texts for 2022–2023; the Bank of Russia – 42 texts for 2015–2023; the ECB – 238 texts for 2000–2022; the Norges Bank – 38 texts for 2000–2003 and 2022–2023; the Reserve Bank of New Zealand – 2 texts for 2022–2023; and the US Fed – 66 texts for 2011–2023.

[10] Videos are in Czech only and available on the Czech version of the website.
[11] The website contains videos from 2012 through March 2020.

Chart 4. Readability of statements according to the Flesch–Kincaid formula



Source: the authors' calculations.

The clarity of the Bank of Russia oral statements comes second only to the Norges Bank.

1.3. Meeting minutes and transcripts

Meeting minutes have always been among the main types of communications on monetary policy and included in the calculations of central bank transparency indices.

Minutes of monetary policy committees' meetings are released by 57% of inflation-targeting central banks. However, this percentage among emerging market economies is considerably lower – just 41%. All advanced economies, in contrast, provide details about monetary policy deliberations. Before 2023, Canada was the only country on this list that did not release meeting minutes. In September 2022, the IMF issued the Central Bank Transparency Code Review on Canada. Although the review concludes that this central bank has a high level of transparency of its monetary policy, a key recommendation given to it by the IMF was to start publishing a detailed summary of monetary policy deliberations. The IMF explained it by heightened economic uncertainty and the need to further enhance transparency. On the publication date of the review, the Bank of Canada announced its plans to start publishing a summary of deliberations beginning in 2023. The first such document was released on 8 February 2023.

As to the start of the publication of the minutes of monetary policy meetings, central banks can be divided into two groups: banks that began to release their minutes soon after switching to inflation targeting (IT) (1–5 years) and long after switching to IT (8–17 years). Some regulators, namely the US Fed, the Bank of Japan, the Norges Bank, the Central Bank of Chile, and the Reserve Bank of India) started publishing their minutes before their official transition to inflation targeting (or the announcement of price stability as an objective of their monetary policies). Table 3 shows when different central banks started to release minutes of their monetary policy meetings.

Table 3. Time of transition to IT and first publication of minutes

Central bank	Publication of minutes	Transition to IT	First publication of minutes	Years between transition to IT and first publication of minutes
Advanced economies				
Reserve Bank of New Zealand	+	1990	2019	29
Bank of Canada	+	1991	2023	32
Bank of England	+	1992	1997	5
Reserve Bank of Australia	+	1993	2007	14
Riksbank	+	1995	1999	4
Czech National Bank	+	1997	1998	1
Bank of Israel	+	1997	2006	9
Bank of Korea	+	1998	2010	12
ECB	+	1999[12]	2015	16
Norges Bank	+	2001	2000	-1
Central Bank of Iceland	+	2001	2009	8
US Fed	+	2012[13]	1993[14]	-19
Bank of Japan	+	2013	1998	-15
EMEs				
National Bank of Poland	+	1998	2007	9
Central Bank of Chile	+	1999	1997	-2
Central Bank of Brazil	+	1999	2000	1
Bank of the Republic (Columbia)	+	1999	2007[15]	8
Bank of Thailand	+	2000	2011	11
Magyar Nemzeti Bank (Central bank of Hungary)	+	2001	2005	4
Bank of Mexico	+	2001	2011[16]	10
Bangko Sentral ng Pilipinas (Central bank of the Philippines)	+	2002	2002	0
National Bank of Romania	+	2005	2016	11

[12] Price stability was announced as a monetary policy objective in October 1998. That was also when the ECB set its inflation target. However, the ECB has been responsible for conducting monetary policy in the euro area since 1 January 1999.
[13] The date of the statement announcing price stability as an objective of monetary policy and specifying a goal for inflation.
[14] In the current format. In their first version, the minutes were first released back in 1936 and remained confidential until the US Fed began releasing them with a five-year lag in 1964.
[15] Before 2008 – in Spanish only.
[16] Before 2018 – in Spanish only.

Central Bank of the Republic of Turkey	+	2006	2006	0
Central Bank of Uruguay	+	2007	2020	13
Central Bank of Paraguay	+	2011	2013	2
Reserve Bank of India	+	2016	2011[17]	-5
Bank of Jamaica	+	2018	2021	3
South African Reserve Bank	-	2000	-	-
Central Reserve Bank of Peru	-	2002	-	-
Bank Indonesia	-	2005	-	-
Bank of Guatemala	-	2005	-	-
Central Bank of Armenia	-	2006	-	-
Bank of Ghana	-	2007	-	-
Bank of Albania	-	2009	-	-
National Bank of Georgia	-	2009	-	-
National Bank of Serbia	-	2009	-	-
Bank of Uganda	-	2011	-	-
Central Bank of the Dominican Republic	-	2012	-	-
National Bank of Moldova	-	2013	-	-
National Bank of Kazakhstan	-	2015	-	-
Bank of Russia	-	2015	-	-
National Bank of Ukraine	-	2017	-	-
Central Bank of Costa Rica	-	2018	-	-
Central Bank of Seychelles	-	2019	-	-
Central Bank of Sri Lanka	-	2019	-	-
Central Bank of Kenya	-	2021	-	-
Central Bank of the Republic of Uzbekistan	-	2021	-	-

Sources: central banks' websites, the authors' calculations.

A. Transparency of minutes and publication lags

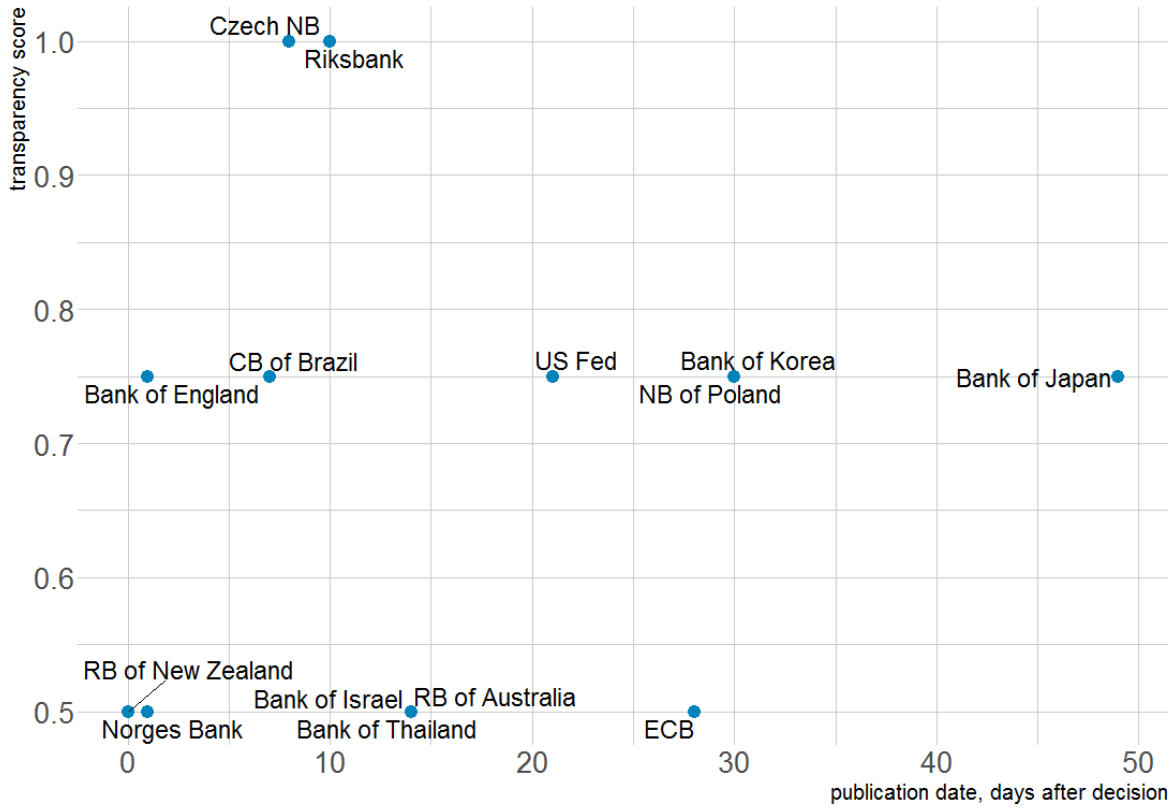
Various countries have very different formats of minutes they publish. They were classified by *Al-Mashat et al., 2018* as follows:

- condensed, non-attributed, and without voting results (0.50 scores for transparency);
- detailed and with voting results, but contributions of individual members and votes are not attributed (0.75 scores for transparency); and
- detailed and with voting results, contributions by individual members and votes are attributed (1 score for transparency).

Using this classification, the authors assess the formats of minutes published by various central banks (Chart 5).

[17] Minutes of monetary policy meetings were first released in 2011 when decisions were made by the Technical Advisory Committee. That was when the bank announced the start of publication of such documents. However, it was not until 2016 that the bank released minutes of its Monetary Policy Committee's meetings.

Chart 5. Formats of decision meeting minutes and publication lags as of the end of 2022



Sources: central banks' websites, the authors' calculations based on Al-Mashat et al., 2018.

The Reserve Bank of New Zealand, the Norges Bank, and the Bank of England release their policy deliberations earlier than any other central banks (on the day of the meeting or the next day). The Bank of Japan has the longest lag between the date of a monetary policy decision and the publication of its minutes (about 6 weeks). On average, the central banks reviewed release such materials in 2.5 weeks.

The Riksbank and the Czech National Bank have the highest level of transparency of their meeting minutes. The Riksbank's minutes are the most detailed as their subsections present attributed statements by Executive Board members on the current situation, key factors behind a monetary policy decision, prospects, and specific proposals regarding the policy rate at a particular meeting. Besides, from 1999, the Riksbank has been publishing a table of attributed votes. The Czech National Bank details the rationale and opinions of the Bank Board members in its minutes and publishes a series of data on votes since 1998 and transcripts of meetings with a six-year lag. Seven years after the date of a decision, the table with votes is supplemented with the Monetary Department's proposals on each decision.

When the format of publications is slightly less transparent, votes are disclosed in minutes without attributing the details of deliberations and reasoning ('The member / several members emphasised / noted / mentioned that...') or minutes are compiled on

behalf of a decision making body as a whole (e.g., 'The Board discussed / outlined / decided that…'). Thus, the US Fed presents anonymous opinions, but publishes attributed votes for and against the decision made. De-anonymised transcripts of the meetings are released with a five-year lag. Minutes published by the Bank of Korea contain anonymous proposals of the Monetary Policy Board members on a decision with their reasoning, but disclose the surnames of those who opposed to the decision made. The Bank of England also describes policy deliberations anonymously, but discloses attributed votes (including in a table with data series since 1997) and meeting transcripts with an eight-year lag.

The National Bank of Poland has a slightly different format presenting the discussion anonymously on behalf of its Monetary Policy Council. It mentions alternative opinions in the text of the document anonymously, but publishes a table with the proposals that were not approved and surnames of those who voted for and against each of them. The Central Bank of Brazil discloses only the votes for approved decisions, without disclosing any alternative proposals. In terms of transparency of its materials, the Bank of Japan is comparable with the above banks, but it publishes its minutes with a longer lag, namely 6–8 weeks after the decision.

The ECB, the Bank of Israel, the Norges Bank, the Reserve Bank of New Zealand, the Reserve Bank of Australia, and the Bank of Thailand have the lowest score for transparency as their minutes contain information on the discussion, its details and focuses, and key factors underlying the decision, but they are not attributed and are given on behalf of all or several members, and do not disclose votes for or against the decision made. However, the Bank of Israel provides anonymous data on the number of votes for various options, specifying the reasons why alternative decisions were supported. The Bank of the Republic (Columbia) has a similar format of disclosures, but it publishes a more detailed rationale for rejected decisions. The South African Reserve Bank does not disclose its meeting minutes, but its communication on decisions specifies the number of votes for various options.

B. Minutes publication and 'single voice' policy

Regulators that do not adhere to a 'single voice' policy generally disclose attributed data on votes and rationale. These are the Riksbank, the Czech National Bank, the US Fed, etc. Members of the Executive Board, the Bank Board, and the Federal Open Market Committee may openly express their personal opinions about the current situation. The Bank of England also publishes a data series with attributed votes, and its Monetary Policy Committee members are free to express their personal views, while 'in a way that maintains the Bank's reputation for constructive policy debate'. The National Bank of Poland also releases data on voting, but the publication lag depends on the results of the voting.

However, the disclosure of attributed votes, the reasoning and views of Committee and Board members is inconsistent with a 'single voice' policy followed by a sufficiently large number of central banks, including the Bank of Russia. With this policy representatives of central banks should express a single view. This helps prevent conflicting signals and a decrease in the predictability of decisions *(Issing, 2005;*

Blinder, 2007; Ehrmann M., Fratzscher M., 2007; Blinder, Ehrmann, Fratzscher, de Haan, Jansen, 2008).

There are also hybrid formats where some central banks combine a 'single voice' policy and disclosures on their deliberations – for example, the ECB, the Bank of Israel, and the Norges Bank. These regulators do not disclose attributed votes, views and rationale of their Committee or Board members in their minutes or separate tables. Their minutes describe discussions and provide detailed information on current trends and changes in the key factors underlying their decisions. The Bank of Canada that has recently announced its decision to publish a summary of deliberations also adheres to a 'single voice' policy and has a similar format of materials. The Reserve Bank of New Zealand, like the Bank of England, allows its Committee members to express their personal views, but with due consideration of other members. The Reserve Bank of New Zealand does not disclose attributed votes in its minutes.

Monetary policy decisions in most central banks disclosing their minutes are made by competent committees (Monetary Policy Committee / Council / Board). In addition, along with monetary policy committees, the regulators' organisational structures also comprise other management bodies (as, for instance, in the US Fed, the Reserve Bank of New Zealand, the Bank of England, the National Bank of Poland, and the Central Bank of Brazil), including committees for other activity areas. Nevertheless, the list of the regulators publishing detailed documents about monetary policy deliberations also includes central banks that do not have such committees:

- At the ECB, decisions are made by the Governing Council. It consists of the members of the Executive Board, plus the governors of the national central banks of the euro area countries.
- At the Bank of Canada, discussions are held with the participation of the Monetary Policy Review Committee (which includes, in addition to the Governing Council, advisers and other senior management) and four departments for economic issues.
- In Australia, monetary policy decisions are made by the Reserve Bank Board which is also in charge of financial stability and other issues (except the Reserve Bank's payments system).

The above banks do not disclose attributed views and votes. However, monetary policy committees are not always exist among the leaders in terms of transparency who provide not only attributed votes, but also the reasoning for them. At the Riksbank, decisions are made by the single management body – the Executive Board. At the Czech National Bank, the highest management body – the Bank Board is responsible for monetary policy and instruments and for supervision over financial markets. At the Bank of Japan that discloses votes without the rationale behind them, the supreme body making decisions (including on monetary policy) is the Policy Board.

Considering that the Bank of Russia has a 'single voice' policy and does not have a monetary policy committee, it is most comparable with the ECB and the Bank of Canada. These banks have their own format for disclosing information on monetary policy deliberations. The ECB already publishes such materials, detailing the dynamics

of key indicators and the discussion in the format 'Members noted/agreed/reminded that...'. The Bank of Canada announced that it would release such documents in a similar format, that is, as a summary of deliberations without disclosing attributed reasoning.

The Norges Bank and the Bank of Israel also adhere to a 'single voice' policy and publish their meeting minutes, but these banks have monetary policy committees that make decisions.

C. Length of minutes

Meeting minutes are generally lengthy documents consisting of 3,000 words on average. In contrast to statements on a decision, minutes in advanced economies are lengthier than those in emerging market economies (3,150 words against 2,400 words respectively).

D. Repetitions in meeting minutes

Summaries of deliberations or meeting minutes describe the progress of a particular discussion and discloses factors that are important for a specific decision and, therefore, are more contextual than technical information on approved decisions. Nevertheless, meeting minutes may have a similar structure and cover certain issues from round to round, although in greater detail than communications on decisions. Meeting minutes and summaries of deliberations on average repeat only 16% of text. In EMEs, this figure is much higher – about 25%.

Chart 6. Average length of meeting minutes, word count

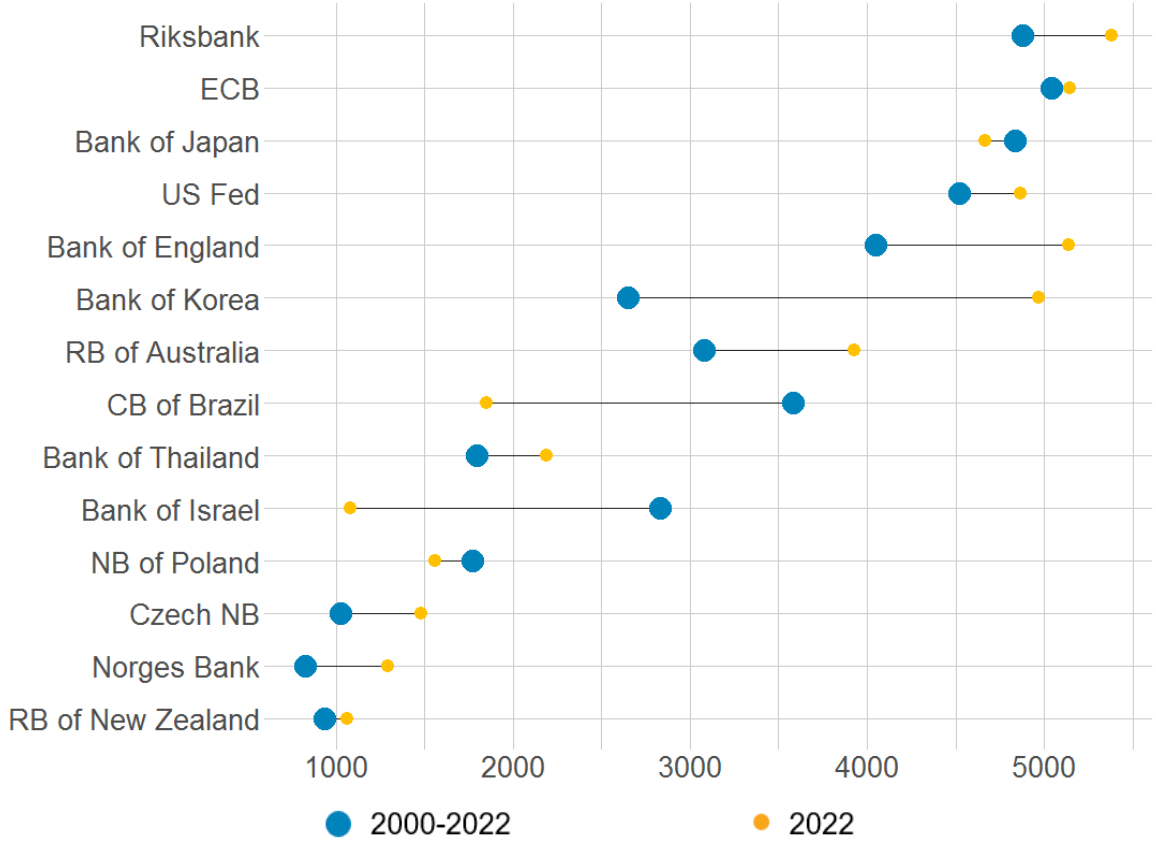
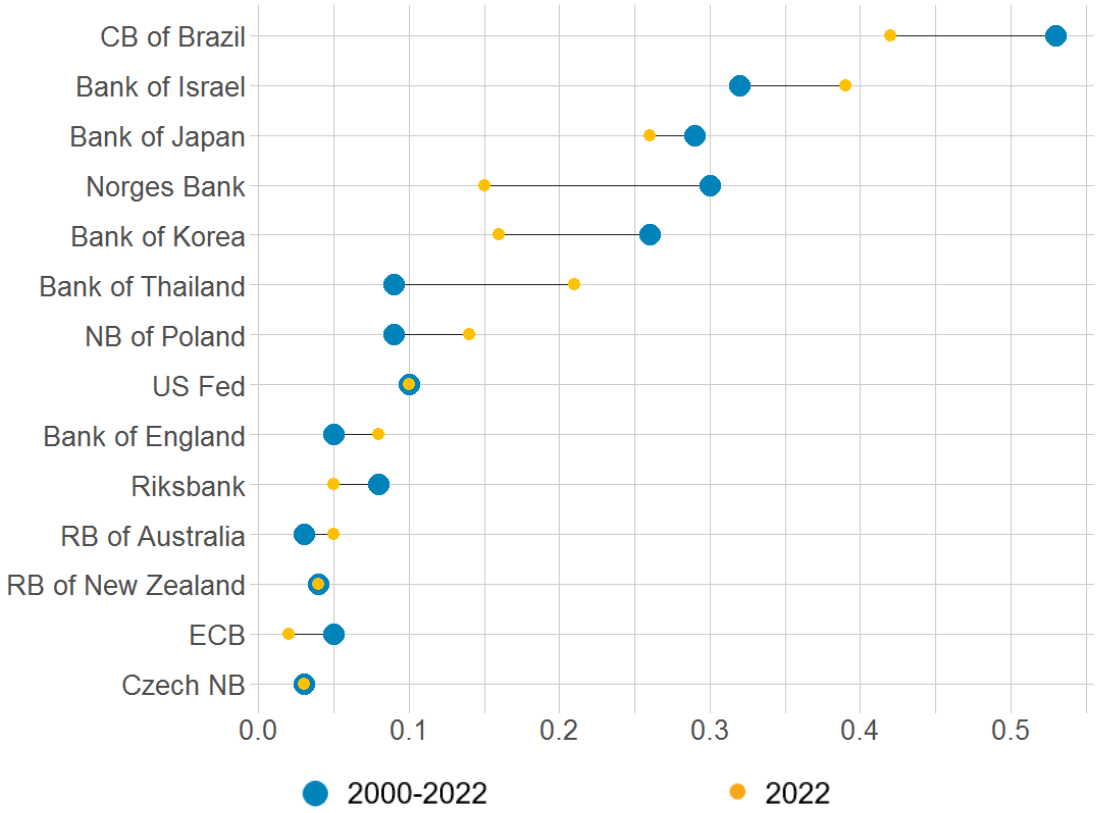


Chart 7. Percentage of repeated text in meeting minutes, from 0 (no repetitions) to 1 (completely repeated)



Sources: central banks' websites, the authors' calculations.

2. Comparative textual analysis of press releases and minutes

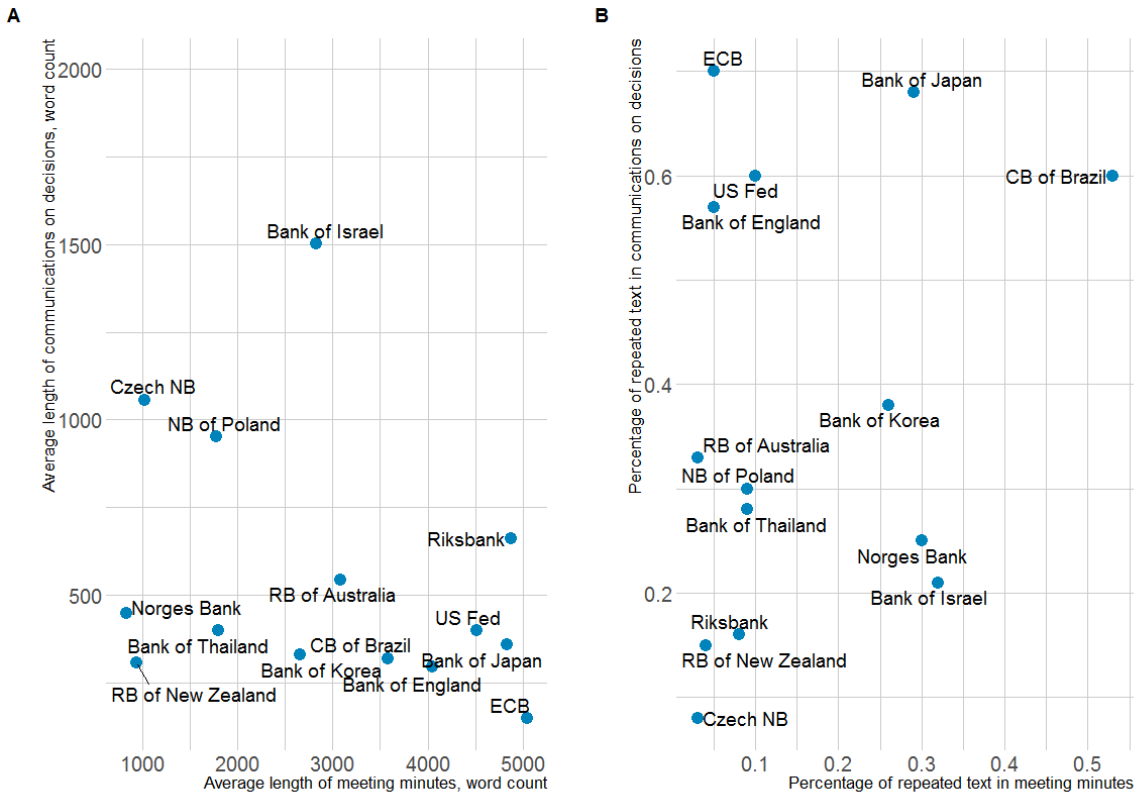
The authors carry out a cluster analysis of central banks' communications based on the length of and repetitions in their press releases and meeting minutes (charts 8–10). To do this, we use the method of *k*-means clustering to partition the input data based on vector quantisation into a pre-specified number of *k* clusters. This algorithm seeks to minimise the total square deviation of cluster points from the centres of these clusters (*Lloyd, 1957; MacQueen, 1967*).

Thus, central banks are clustered into three groups by the type of communication on their decisions – we notionally name these three types of communication as balanced, conservative and concise.

Charts 8–9.

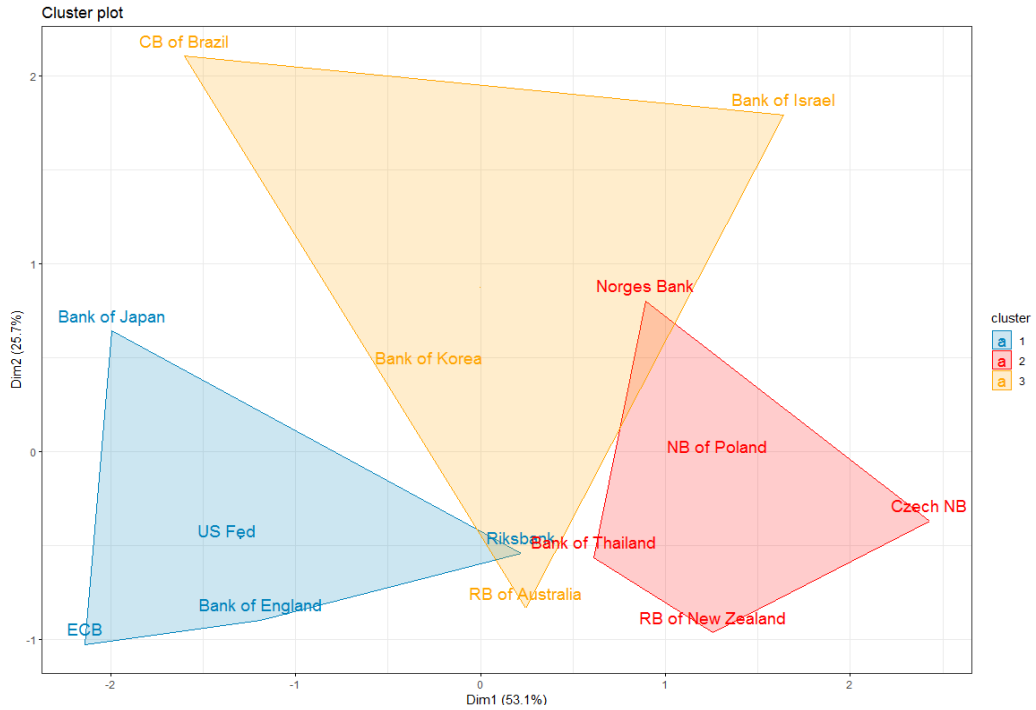
Comparison of the length of meeting minutes and press releases

Comparison of repetitions in meeting minutes and press release



Sources: central banks' websites, the authors' calculations.

Chart 10. Clusters of central banks by the type of communication



Balanced communications Conservative communications Concise communications

Source: the authors' calculations.

Group 1. Balanced communications:

Banks publishing brief and very similar press releases on their decisions, but disclosing detailed information in comprehensive summaries of deliberations containing a new text.

For instance, press releases on the ECB's decisions include 150 words on average, with 70% of repetitions. Its summary of deliberations contains about 5,000 words, with repetitions making up 5% of the text. The US Fed and the Bank of England repeat nearly 60% of their statements, whereas their summaries of deliberations contain as little as 5% and 10% of repetitions, respectively. Their statements provide key information on inflation, the economic situation, and the decisions made. The Bank of England also includes information on changes in the conditions and assumptions from the previous forecast and new forecasts, as well as policy choices supported by Committee members. In its meeting minutes, the US Fed describes current trends in financial markets, reviews the economic situation, speaks on the forecast and risks, and cites members' opinions regarding the situation and prospects. The Bank of England also describes developments in the world economy, monetary and financial conditions and reports on inflation as well as demand and supply. In the context of the recent decision, the materials cover changes from the moment of the previous meeting and the key factors behind the decision and specify the number of votes for various policy choices.

Group 2. Conservative communications:

Banks using a lot of repetitions in all their materials, although their length can vary.

For instance, the Central Bank of Brazil publishes statements on its decisions that are shorter than the average (about 320 words) and detailed summaries of deliberations (over 3,500 words), but both materials contain quite a high percentage of repetitions, namely 60 and 53% of the text, respectively. Another example is the Bank of Israel whose summaries of deliberations are shorter than 3,000 words, but repeat about a third of the text.

Group 3. Concise communications:

Banks releasing brief materials which can vary in terms of the use of text repetitions.

For example, the Reserve Bank of New Zealand, the Bank of Thailand, and the Norges Bank publish press releases on their policy rates that normally contain less than 500 words.

Minutes of monetary policy meetings are generally released in two formats. The first one is descriptive and presents more detailed information on current trends and factors. The second one provides details of deliberations, which show the most important aspects for monetary policy committees or executive boards and the key factors behind particular decisions. Besides, the discussion can be described as 'The Committee / Board (or certain members) discussed / decided / emphasised /

argued that...', that is, without disclosing attributed views. Most central banks combine both formats in their meeting minutes describing current changes in key indicators and trends in domestic and world markets and providing details of deliberations in the course of making monetary policy decisions. Generally, the regulators address such topics as the situation in the world (the economy, inflation, other countries' monetary policies, and financial markets), the domestic economy (economic activity, the labour and real estate markets, exports and imports, and the exchange rate), and monetary conditions. They also discuss the context of a particular decision considering the available information, reiterate the goals of their monetary policies, and signal their future actions.

The study of the experience of minutes publication raises the question of whether these materials are needed when there are sufficiently detailed statements on decisions and a number of other documents released by central banks.[18] The analysis of central banks' communications shows that, frequently, statements on decisions are structured in a similar way, address the topics that are covered in each material, and include discussion points that are repeated at every meeting. However, summaries of deliberations can be more contextual and provide information on the key factors behind particular decisions and the focus of attention of monetary policy committees or executive boards in the course of a particular discussion. Thus, in a recent review on the publication of summaries of policy deliberations, Bank of Canada employees also note the specifics of this type of communication. They believe that, although the Bank of Canada's existing communications already included some aspects of summaries of deliberations (forecasts, the description of economic and financial trends, and decisions made), the Bank did not normally provide information on the policy choices that were discussed in the course of making a particular decision. Details of deliberations could help the public understand the nature of monetary policy deliberations and the Bank's reaction function, explain its future decisions, and enhance its credibility. Publishing such documents could enhance transparency and accountability and also reinforce the Bank of Canada's independence. Besides, the review mentions that such communications in other banks give an outline on a diversity of viewpoints on the economic outlook and policy choices, including without attributing views to individual members.

3. Communications on macroeconomic forecasts

Central banks make monetary policy decisions relying on their macroeconomic forecasts. Accordingly, communication on them is an essential task for establishing credibility, first of all in the professional community.

We explore the following characteristics of forecasts: frequencies of their publication, sets of forecast indicators, types of publication of forecast variables (points / ranges / other formats), and forecast horizons.

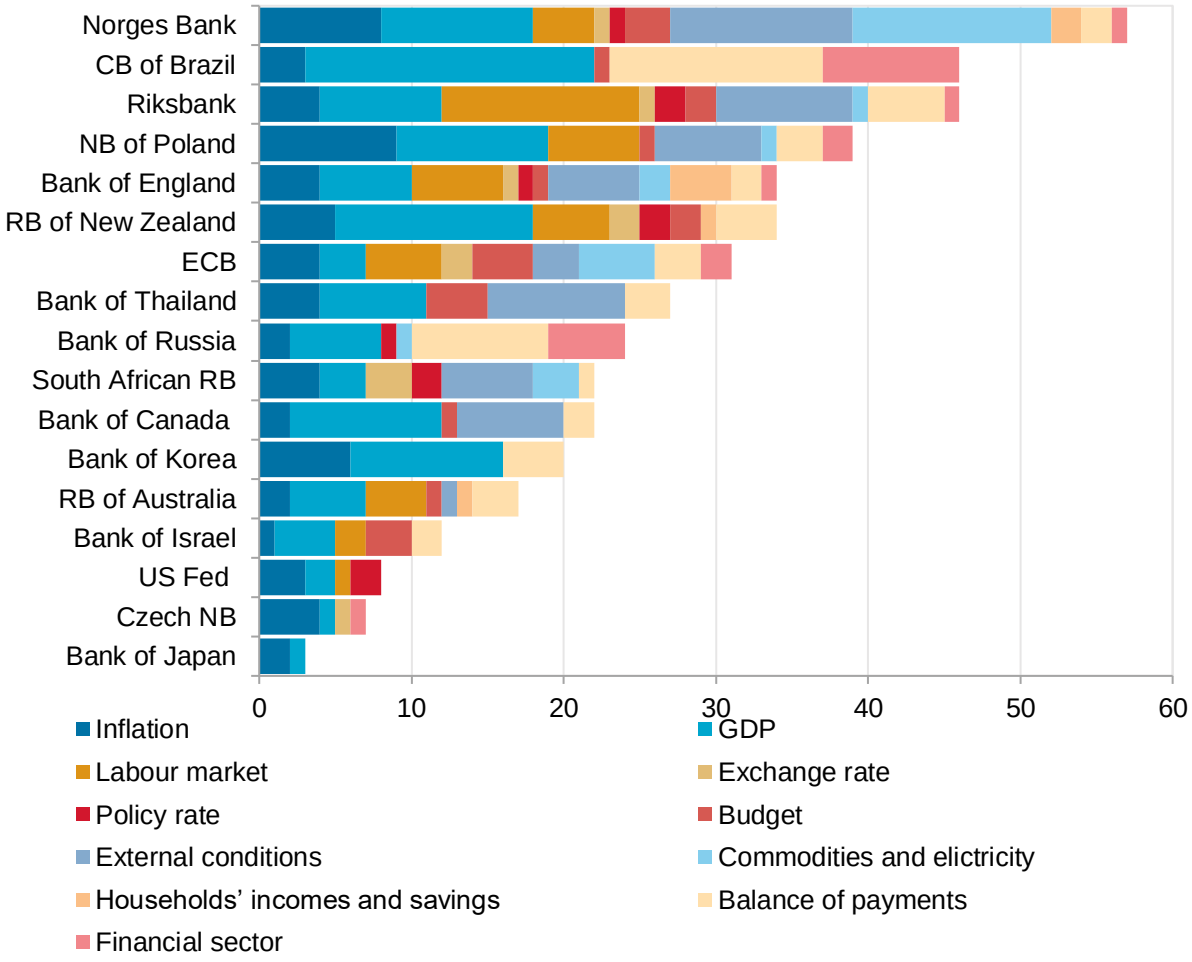
[18] When making a decision on publishing details of deliberations, the Bank of Canada also addressed this issue in a recent review of its employees on this topic.

The Bank of Russia's forecast includes 24 indicators, which is close to the world average (26.4). The regulator publishes a larger number of indicators in the forecast of the balance of payments and the financial sector, which is similar to the Central Bank of Brazil's practice. Besides, other central banks can also release forecasts of market labour indicators, the exchange rate, external conditions, the budget, and households' incomes and savings (Chart 11). The detailed list of indicators published by central banks is given in the Annex.

The TOP-10 indicators covered in macroeconomic forecasts worldwide include GDP, inflation, imports, exports, gross fixed capital formation, household consumption, unemployment, employment, government expenditures, and core inflation.

Central banks often publish various decompositions of inflation or inflation rates excluding volatile components, e.g., inflation without electric power or food products, inflation only for imported items, inflation excluding imported items, changes in prices for agricultural products, changes in real estate prices, etc. In addition, central banks frequently specify the probabilities of the inflation forecast.

Chart 11. Forecast indicators published by central banks[19]



Sources: central banks' websites, the authors' calculations.

[19] For the US Fed – the FOMC's dot plot.

The GDP forecast can contain a breakdown by the industry, e.g., forecast dynamics in agriculture, industrial production, high technology sectors, transportation and storage, mining and quarrying, etc.

Less than a half of the banks under review release policy rate forecasts. These are the US Fed, the Riksbank, the Bank of England, the South African Reserve Bank, the Norges Bank, and the Reserve Bank of New Zealand. Beginning in April 2021, the Bank of Russia also started to publish the projected path of the average key rate over the year. The ECB, the Czech National Bank, and the National Bank of Poland release forecasts of their three-month interbank rates (EURIBOR, PRIBOR and WIBOR, respectively).

The publication of forecast ranges by the Bank of Russia differs from the global practice of publishing forecast point values. Of the 449 reviewed forecast indicators published by 17 central banks, 97% are published as points, and the others – as ranges. The authors do not review charts as a format for presenting forecasts, and thus, they are not included in the above number. Along with the forecasts, some central banks also release statistics on indicators (e.g., ranges, central projections, distributions, and confidence intervals).

As to information on non-observable variables in forecasts (neutral rates, output gaps, potential output, labour productivity, etc.), this practice cannot be considered a mainstream today. Of the reviewed banks, 6/17 publish estimates of the output gap and 5/17 – potential GDP. The point value of the neutral rate is published only by the South African Reserve Bank, and labour productivity – only by the Riksbank.

4. Targeting various audiences in communications

One of the issues most widely discussed in professional community in recent years is the adaptation of central banks' communications for the general public (*Evstigneeva, Sidorovskiy, 2021*).

One of the ways to enhance the readability of central banks' texts is 'multi-layered' communication that is currently used by the Bank of England, the Reserve Bank of Australia, the Reserve Bank of New Zealand, and others. This method implies that each of the documents on monetary policy that are important for society is released simultaneously in three versions: a short one which is frequently visualised – for the general public and a lengthier one that includes a lot of technical details – for the professional community.

There are examples of the efficiency of 'multi-layered' communication. Thus, in 2017, the Bank of England released its Inflation Report (today – Monetary Policy Report), which was a brief version in plain language meant for readers who are not economically savvy. As a result, activity on the Bank's website nearly doubled over the 24 hours after the publication, as compared to the previous reports. The Bank of England's regional agents carried out a survey about the new material: 70% of respondents said that this version helped them better understand the content of the

report. *Haldane and McMahon, 2018* later on carried out a special analysis of the new format on two groups – the general public and MPhil students. The results confirm that the adapted brief version of the report is easier to read and understand even for technically-advanced MPhil students, which means that this material improves the reach to any audience. The research also finds that more straightforward communication with a wider audience boosts the chances that people's beliefs move more closely into alignment with the central bank's forecasts.

Today, there are several central banks using the format of 'multi-layered' communication to target various audiences. Most of them release different versions of monetary policy reports targeting various groups of readers. Furthermore, there are examples of 'multi-layered' communication in meeting minutes, speeches preceding press conferences, and statements on decisions.

The Bank of England's webpage with its Monetary Policy Reports presents three layers of this document. The Riksbank also publishes a brief version of its Monetary Policy Report (In brief) which contains several paragraphs covering the main arguments regarding inflation, the economy, the situation in the world, and the decision made, with subject-related icons for each of the paras. The Reserve Bank of New Zealand releases its Monetary Policy Report in two versions. The first layer (Monetary Policy Snapshots) – a visual version of the report presented as a several-page brochure. The decision and key factors are given at the beginning, followed by disclosing the arguments in greater detail. The full version of the Monetary Policy Report is released in a PDF file.

The Bank of Canada has a webpage with the preview of its Monetary Policy Report. The first layer of the document contains a brief paragraph on inflation, the forecast, and the underlying factors and the video Monetary Policy Report – In Brief of about one minute presenting the key arguments and associative visuals. The full version of the report is available in PDF. It contains information on the monetary policy strategy, a summary, sections about the economic situation in the country and worldwide, and risks to inflation.

The Bank of Korea also publishes a brief version of its Monetary Policy Report (Executive Summary of about 10 pages), with its full version (over 100 Pages) released on the Bank's website only 1.5 months later.

The ECB, the Bank of Uganda, and the Riksbank adapt their key monetary policy documents for the general public. The Bank of Uganda publishes a brief version of its monetary policy statements as a one-page leaflet At a Glance. Besides, the Bank of Uganda also releases a one-page brochure with answers to frequently asked questions about monetary policy – Monetary Policy Statement FAQs. The answers are given in three to five concise bullets. The monetary policy statement is published in a PDF file.

The ECB, in its statement following the Strategy Review (carried out in 2020–2021), announced that it would complement its monetary policy statement, the press conference, the Economic Bulletin (monetary policy report), and the monetary policy accounts by layered and visualised versions of monetary policy communication. According to the ECB's assessment, this approach is essential for better public

understanding of and ensuring trust in the actions of the ECB. Currently, the ECB publishes a brief visual version of the President's statement before the press conference (Our monetary policy statement at a glance). In addition, the ECB releases regular podcasts covering various issues. On the days when the ECB makes its monetary policy decisions, it broadcasts the full version of the President's statement on this webpage, and at the end, the presenter reminds the audience of the possibility to read the discussion with journalists and macroeconomic projections and announces the date of the next decision on monetary policy.

The Riksbank adapts not only its Monetary Policy Report, but also the minutes of its monetary policy meetings for various audience. The Riksbank's webpage presents a brief summary with the main arguments regarding inflation, the decision and future actions, without any visualisation. The full version of the document is published in a PDF file.

The Bank of Russia has also been actively developing its communication with the general public, including by releasing documents in different formats. Beginning from 2019, the Bank of Russia has been publishing brief versions of the Monetary Policy Report and Monetary Policy Guidelines on its website. From 2022, the Bank of Russia has been using a similar 'multi-layered' format to publish regular analytical commentaries on consumer price dynamics, the regional economy, monitoring of businesses, inflation expectations and consumer sentiment. Furthermore, in 2022, the Bank of Russia released the first brochure briefly presenting its Monetary Policy Guidelines in plain language with pictures.

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Annex

The detailed list of indicators published by central banks as part of macroeconomic forecast

Central bank	Inflation	GDP	Labour market	Exchange rate	Policy rate	Budget	External conditions	Commodities and electricity	Households' incomes and savings	Balance of payments	Financial sector
ECB	-HICP -HICP excl. energy -HICP excl. energy and food -HICP excl. energy, food and changes in indirect taxes	-Real GDP -Private consumption -Gross fixed capital formation	-Unemployment rate -Employment -Unit labour costs -Compensation per employee -Labour productivity	-USD/EUR exchange rate -Euro nominal effective exchange rate		-General government gross debt -General government budget balance -Structural budget balance -Fiscal stance	-World real GDP (excl. the euro area) -Global trade (excl. the euro area) -Euro area foreign demand	-Oil price -Natural gas prices -Wholesale electricity prices -Non-energy commodity prices -EU Emissioms Trading Scheme allowances		-Exports -Imports -Current account balance	-3M EURIBOR -10Y government bond yields
US Federal Reserve System	-PCE inflation -PCE inflation Central Tendency -Core PCE inflation	-Change in real GDP -Change in real GDP Central Tendency	-Unemployment rate -Unemployment rate Central Tendency		-Federal funds rate -Federal funds rate Central Tendency						
Bank of Japan	-CPI (all items less fresh food) -CPI (all items less fresh food and energy)	-Real GDP									
Riksbank	-CPIF -CPIF excl. energy -CPI -HICP	-Household consumption -Gross fixed capital formation -Inventory investments -GDP -GDP, calendar-adjusted -Final domestic demand -Potential GDP -GDP gap	-Population, aged 15–74 -Potential hours worked -Hours worked, calendar-adjusted -Number of employed -Labour force -Unemployment -Hours gap -Hourly wage, NMO -Hourly wage, NA -Employer's contributions -Hourly labour costs -Productivity -Unit labour costs	-Exchange rate, KIX	-Policy rate (quarterly) -Policy rate (yearly)	-Public consumption -General government net lending	-Euro area GDP -United States GDP -China GDP -KIX weighted GDP -The World (PPP) GDP -Euro area (HICP) inflation -United States inflation -KIX weighted inflation -International policy rate	-Crude oil price, Brent		-Exports -Imports -Net exports -Current account -Swedish export market	-10-year rate

Bank of Israel	-Inflation	-GDP -Private consumption -Fixed capital formation -GDP deviation from the precrisis trend	-Unemployment rate -Employment rate			-Public consumption (excl. defense imports) -Government deficit -Debt to GDP ratio				-Exports (excl. diamonds and startups) -Civilian imports (excl. diamonds, ships, and aircraft)	
Bank of Canada	-CPI inflation (yearly) -CPI inflation (quarterly)	-Consumption -Housing -Business fixed investment -Final domestic demand -Inventories -GDP -Real GDP (quarterly) -Real GDP (quarterly, q/q at annual rates) -Range for potential output -Real gross domestic income				-Government	-United States GDP -Euro area GDP -Japan GDP -China GDP -Oil-importing EMEs GDP -Rest of the world GDP -World GDP			-Exports -Imports	
Norges Bank	-CPI (monthly) -CPI-ATE (monthly) -Imported consumer goods in the CPI-ATE (monthly) -Domestically produced goods and services in the CPI-ATE (monthly) -House prices (monthly) -CPI (yearly) -CPI-ATE (yearly) -House prices (yearly)	-GDP for mainland Norway (monthly) -GDP for mainland Norway (quarterly) -GDP -GDP, mainland Norway (yearly) -Output gap, mainland Norway -Mainland demand -Household consumption -Business investment -Housing investment -Petroleum investment	-Registered unemployment (rate, monthly) -Annual wages -Employment -Registered unemployment (yearly)	-Import-weighted exchange rate	-Policy rate	-Public demand -Structural non-oil deficit as a percentage of GPFG -Structural non-oil deficit as a percentage of trend GDP	-US GDP -Euro area GDP -UK GDP -Sweden GDP -China GDP -13 trading partners GDP -5 trading partners GDP -Underlying inflation -Wage growth -Prices for consumer goods imported to Norway -German electricity prices -Money market rates, trading partners	-Oil prices -Oil prices, Brent -Gas prices -Petroleum prices -Coal prices -Emission allowance prices -Nordic electricity prices -Electricity in southern Norway prices -Electricity in northern Norway prices -Aluminium prices -Copper prices -Wheat prices -Maize prices	-Real disposable income excl. dividend income -Saving ratio excl. dividend income	-Mainland exports -Imports	-Household credit

Reserve Bank of New Zealand	-CPI inflation (quarterly, q/q) -CPI inflation (quarterly) -CPI (yearly) -Export prices -Import prices	-GDP growth (quarterly) -Final consumption expenditure, Private -Final consumption expenditure -Gross fixed capital formation (Residential) -Gross fixed capital formation (Other) -Gross fixed capital formation -Final domestic expenditure -Stockbuilding -Expenditure on GDP -GDP (production) -GDP (production, March qtr to March qtr) -Potential output -Output gap	-Unemployment rate (quarterly) -Labour costs *Total employment -Unemployment rate (March qtr) -Trend labour productivity	-TWI (quarterly) -TWI (year average)	-OCR (quarterly) -OCR (year average)	-Final consumption expenditure, Public authority -Government operating balance			-Household saving rate	-Exports of goods and services -Imports of goods and services -Current account balance -Terms of trade	
Bank of Korea	-CPI inflation (half year) -CPI inflation (yearly) -CPI excluding food & energy (half year) -CPI excluding food & energy (yearly) -CPI excluding agricultural products & oil (half year) -CPI excluding agricultural products & oil (yearly)	-GDP (half year) -GDP (yearly) -Private consumption (half year) -Private consumption (yearly) -Facilities Investment (half year) -Facilities Investment (yearly) -Intellectual property products investment (half year) -Intellectual property products investment (yearly) -Construction investment (half year) -Construction investment (yearly)					-Goods export (half year) -Goods export (yearly) -Goods imports (half year) -Goods imports (yearly)				

Bank of England	-CPI inflation -CPI inflation (quarterly) -UK import prices -Energy prices direct contribution to CPI inflation	-GDP -Excess supply/Excess demand -Household consumption -Business investment -Housing investment -Contribution of net trade to GDP	-Unemployment rate -Hourly labour productivity -Employment -Average weekly hours worked -Participation rate -Private sector regular pay based unit wage costs	-Sterling effective exchange rate	-Bank Rate	-Nominal government expenditure	-World GDP (UK-weighted) -World GDP (PPP-weighted) -Euro-area GDP -US GDP -Emerging market GDP (PPP-weighted) -China GDP	-Oil prices -Gas prices	-Real post-tax labour income -Real post-tax household income -Household saving ratio -Average weekly earnings	-Exports -Imports	-Credit spreads
Reserve Bank of Australia	-CPI	-GDP -Household consumption -Dwelling investment -Business investment -Gross national expenditure	-Unemployment rate -Employment -Wage price index -Nominal (non-farm) average earnings per hour			-Public demand	-Major trading partner (export-weighted) GDP		-Real household disposable income	-Exports -Imports -Terms of trade	
Czech National Bank	-Headline inflation (yearly) -Headline inflation (monthly, current quarter) -Monetary policy-relevant inflation (yearly) -Monetary policy-relevant inflation (monthly, current quarter)	-GDP		-Exchange rate (CZK/EUR)							-Interest rates 3M PRIBOR

Bank of Thailand	-Headline Inflation -Core Inflation -Probability distribution of headline inflation forecast -Probability distribution of core inflation forecast	-GDP Growth -Domestic Demand -Private Consumption -Private Investment -Farm income -Probability distribution of GDP growth forecast -Number of foreign tourists				-Government Consumption -Government consumption at current price -Government Investment -Public investment at current price	-Fed funds rate assumption -US GDP Growth -Euro Area GDP Growth -Japan GDP Growth -China GDP Growth -Asia GDP Growth -Total Trading Partners' Growth -Regional currencies (excl. China) vis-à-vis the U.S. dollar -Dubai cride oil prices			-Current account -Value of merchandise exports -Value of merchandise imports	
National bank of Poland	-CPI inflation -The impact of rising rates on inflation -Probability of inflation running -Core inflation Quarterly: -CPI inflation -Core inflation -Food prices -Energy prices -Index of agricultural commodity prices	-GDP -Probability of GDP running -Domestic demand -Household consumption Quarterly: -Domestic demandc -Household consumption -Gross fixed capital formation -Contribution of net exports -Potential output -Output gap	Quarterly: -Gross wages -Total employment -Unemployment rate -NAWRU -Labour force participation rate -Unit labour cost			Quarterly: -Public consumption	-GDP in Euro Area -GDP in Germany -GDP in United Kingdom -GDP in United States -GDP in China Quarterly: -Gross value added deflator abroad *GDP abroad	Quarterly: -Index of energy commodity prices		Quarterly: -Exports -Imports -Current account balance	-WIBOR 3M Quarterly: -WIBOR 3M

Central Bank of Brazil	-Short-term inflation projection -Inflation projection and probability intervals, quarterly -Year-on-year IPCA inflation, quarterly	-Agriculture and livestock -Industry -Mining (current year) -Manufacturing (current year) -Construction (current year) -Public utilities (current year) -Services -Trade (current year) -Transportation and storage (current year) -Information services (current year) -Financial and related services (current year) -Other services (current year) -Real estate (current year) -Public admin., health and education (current year) -Taxes on products -Value added at basic prices -GDP at market prices -Household consumption -Gross fixed capital formation				-Government consumption				-Exports -Imports -Current account -Balance on goods -Services -Travel -Transportation -Primary income -Interests -Dividens -Investment - liabilities -DI liabilities -Portfolio investments -Other investments	-Credit balance -Non-earmarked credit -Non-earmarked credit, households -Non-earmarked credit, corporations -Earmarked credit -Earmarked credit, households -Earmarked credit, corporations -Total Households credit -Total Corporations credit
South African Reserve Bank	-Headline CPI, quarterly -Core CPI, quarterly -Headline CPI, yearly -Core CPI, yearly	-GDP growth -Output gap -Potential growth		-Nominal effective exchange rate -Real effective exchange rate -Real exchange rate gap	Repurchase rate -Neutral real interest rate		-Real GDP growth in major trading partner countries *Output gap in major trading partner countries *International commodity prices (excludes oil but includes petroleum products) -World food prices -International consumer prices -International policy interest rate	-Electricity price -Fuel taxes and levies -Brent crude		-Current account balance	

Bank of Russia	-Inflation, as % in December year-on-year -*Inflation, average for the year, as % year-on-year	-GDP -GDP % change, Q4 – Q4 previous year -Final consumption expenditure -Final consumption expenditure, households *Gross capital formation -Gross fixed capital formation			-Key rate			-Urals oil price		-Exports -Imports -Current account -Goods and services -Primary and secondary income balance -Current and capital accounts balance -Financial account -Net errors and omissions -Financial transactions of private sector	-Money supply in national definition -Claims on organisations and households in rubles and foreign currency -Claims on organisations -Claims on households -Mortgage loans