BANGKO SENTRAL NG PILIPINAS
BSP Working Paper Series

BSPeak: A Text Analysis of BSP's Communications

Charday V. Batac, Eduard Joseph D. Robleza I,
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Abstract

Monetary policy communication influences market's inflation perceptions and helps align them with the central bank's objectives, thus contributing to the efficacy of monetary policy. However, effective monetary policy communications largely depend on the central bank's transparency, institutional credibility, and readability of its monetary policy reports. This study focuses on evaluating the readability and content of BSP's monetary policy reports. By using the Flesch-Kincaid (FK) Readability Test, this paper assesses the readability of the BSP's monetary policy press statements and highlights of the Monetary Board meetings issued from 2002-2018, and compares the readability of these policy communications with comparable publications issued by other central banks. To assess whether the readability of such monetary policy reports remains consistent regardless of prevailing economic conditions or the BSP's corresponding actions, the study looks at readability with consideration to (a) early inflation targeting (IT) years and late IT years, (b) crisis and non-crisis periods, (c) by type of policy adjustment, (d) by type of policy instrument used, and (e) by type of adjustment and instrument used. The study also analyzes the information content of the BSP's monetary policy statements using word clouds and word frequency charts to identify the frequently used words in these communications and determine the key themes that shaped monetary policymaking.

The FK scores of the BSP's policy communication reveal that the BSP's monetary policy reports would be best understood by college graduates and working professionals, broadly suitable for the BSP's immediate target audience which consists of market analysts and financial market participants. Meanwhile, analysis of word clouds and word frequency charts show that "inflation" is the most frequently used word in the BSP's monetary policy press statements, while the words "target", "expectations", and "outlook" are closely associated with "inflation". These findings are consistent with the BSP's role as an IT central bank and its forward-looking approach in the conduct of monetary policy.

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BSPeak: A Text Analysis of BSP's Communications

Charday V. Batac, Eduard Joseph D. Robleza I,
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1. Introduction

A credible central bank may influence market expectations through effective monetary policy communication. Empirical literature shows that in recent years, some central banks have attempted to strengthen their communication strategies by providing more monetary policy information, increasing the number of press conferences, and improving the timing of communication.[2] Plosser (2008) notes that effective monetary policy communication and central bank transparency led to informed market predictions about the course of monetary policy, which, in turn, resulted in fewer expectational errors from the public. The relevance of clear monetary policy communication as well as greater central bank transparency has also increased amid growing public demand for institutional accountability, especially since central banks are independent from political intervention (Filardo & Guinigundo, 2008; Powell, 2018). In addition, effective policy communication has become even more important with the introduction and the eventual phasing-out of unconventional monetary policy in some advanced economies.

Despite an increasing number of literature focused on central bank communications, relatively few studies were conducted to analyze the readability and information content of central bank communications in developing economies, including the Philippines.[3] This research aims to assess the readability and information content of the BSP's monetary policy communications.

More specifically, the study aims to gauge the readability of the BSP's monetary policy press statements and highlights of the meeting of the Monetary Board (MB) issued from 2002-2018. To assess whether the readability of such monetary policy reports remains consistent regardless of prevailing economic conditions or the BSP's corresponding actions, the study looks at readability with consideration on the following: (a) early inflation targeting (IT) years and late IT years, (b) crisis and post-crisis periods; (c) by type of policy adjustment (i.e., no change in the monetary policy settings, tightening, easing); (d) by type of instrument used (e.g., policy rate, special deposit account (SDA) rate, reserve requirement ratio (RR)); and (e) by type of adjustment and instrument used (increase or decrease in the policy rate, SDA rate, RR). The study also compares the readability of the BSP's communications relative to other central banks' monetary policy reports issued in 2018.

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[2] For instance, the increase in the number of press conferences and speeches of the People's Bank of China has coincided with sharp stock market adjustments, changes to the exchange rate framework, interest rate liberalization, and greater financial market volatility during 2015 to 2016. (McMahon, Schipke, and Li, 2018)
[3] For the Philippines, earlier studies on BSP communication include those of Fermo (2012); Fermo and Silva (2011); and Filardo and Guinigundo (2008).

Finally, the research evaluates the information content of the BSP's monetary policy press statements to reveal the key issues that tend to shape monetary policymaking in the country and to gauge whether these are aligned with the BSP's commitment under its IT framework.

The results will aid poliycmakers in enhancing communications strategies to ensure that monetary policy decisions and outlook are clearly conveyed to the public.

The remainder of this paper is organized as follows. Part 2 discusses some of the related literature on central bank communications. Part 3 explains the methods used to assess the readability of the BSP's monetary policy reports and assess the information content of these documents. Part 4 discusses the results of the readability and information analyses. Part 5 provides concluding remarks.

2. Related Literature

It is necessary for the public to understand the central bank's actions for reasons of democratic legitimacy and for monetary policy to be effective (Woodford, 2005). **Central banks' ability to prove that they are credible and accountable, even as they are independent institutions[4] largely depends on their communication strategies.** Central bank communication, therefore, has to be clear and credible when viewed from the perspective of its target audience (Smaghi, 2007).

Effective monetary policy communication also influences the market's inflation perceptions and aligns them with the central bank's monetary policy objectives. The value of central bank communication may thus be determined by its contribution to the effectiveness of monetary policy such as by creating genuine news (e.g., by moving short-term interest rate in a desired way) or by reducing noise (e.g., by lowering market uncertainty or financial market volatility) (Blinder et al., 2008).The effectiveness of monetary policy is enhanced when the market can confidently anticipate the central bank's actions over their planning horizon (Blinder et al., 2001).[5] Managing market expectations and reducing private sector uncertainty over the future course of monetary policy depends largely on the central banks' ability to communicate effectively their monetary policy decision and outlook. In the short run, clear central bank communication improves the near-term predictability of central bank policy rate decisions, which, in turn, reduces financial market fluctuations and allows for smoother adjustment of the economy to the policy rate adjustment, if there is any (Bernanke, 2004). In the long run, clear central bank communication can help in anchoring the public's long-term inflation expectations (Bernanke, 2004; Ueda, 2010), which is considered critical to monetary policy transmission.

In this regard, the ability of central banks to communicate effectively their monetary policy decisions and outlook depends on their transparency and credibility, as well as

[4] The emphasis on transparency and communication was emphasized by the public's growing interest in central bank accountability, especially since central banks generally possess independence from political intervention. (Filardo and Guinigundo, 2016; Powell, 2018)

[5] Blinder, A., Goodhart, C., Hildebrand, P., and Lipton, D., and Wyplosz, C. (2001). Geneva Reports on the World Economy: How do central banks talk? International Center for Monetary and Banking Studies (ICMB) and Centre for Economic Policy

the readability of the communication material. Transparency, on its own, may not ensure the close alignment between market expectations and the central banks' communication intentions. According to Davis and Wynne (2016), for instance, while Federal Open Market Committee (FOMC) communications became more detailed over time, they also became more difficult to understand. At the same time, central banks also typically do not disclose all the information they possess due to fear of losing credibility, which commonly occurs when publicly-known targets are not met. Providing too much information to the public may also result in the so-called "dog-chasing-its-tail" equilibrium as described by Blinder (1998), wherein markets mimic the central bank's forecast so the central bank is simply observing or picking up its own forecast from the economic agents (Ueda, 2010).

The credibility and readability of monetary policy communications play a critical role in aligning market expectations with the central bank's monetary policy objectives. Effective monetary policy communication requires that the public understands the central bank's policy decision itself, as well as the information contained in the central bank's monetary policy statements. According to former Federal Reserve Chairman Bernanke (2004), in the past few years, financial markets tend to react more strongly to changes in the wordings of the US Federal Reserve's statement than the monetary policy decision itself. Changes in the words and tone in the central bank's monetary policy statements may affect the public's perception on the degree of hawkishness or dovishness, and ultimately, their inflation expectations.

While there is general recognition on the potency of effective communication as monetary policy tool, studies that analyze the readability and information content of monetary policy statements have been quite limited. Luangaram and Wongwachara (2017) utilized computational linguistics tools to assess the readability, content, and tone of central banks' policy statements and provide an assessment of central banks' communication strategies. Using a sample of 22 central banks, they found that central bank policy statements are more suited for advanced readers as central banks tend to use complex and academic words. Lim (2017) examined the readability and content of the monetary policy statements and minutes of the meetings of the Bank of Thailand. His results suggested that the readability of both statements are fairly similar and the information provided in both monetary policy reports tend to cluster in a similar fashion. Meanwhile, Kahveci and Odabaş (2016) focused on analyzing the tone of the monetary policy statements of the US Federal Reserve, European Central Bank, and the Central Bank of the Republic of Turkey.

3. Methodology

3.1. Estimating the readability of the BSP's monetary policy reports

The key BSP monetary policy reports considered in this study are the monetary policy statements and highlights of the MB policy meeting. The monetary policy press statement is a media release issued by the Governor after each monetary policy meeting to announce the decision of the MB and explain the overall thinking behind the policy decision. The press statement is read by the Governor at the press conference that follows each policy meeting

and is posted on the BSP's website shortly after the press conference.[6] Meanwhile, the highlights of the meeting of the MB on monetary policy is a summary of the discussions of the MB during each monetary policy meeting, published on the BSP's website with a lag of six (6) weeks.[7]

To assess the readability of the BSP's published communication materials (e.g., monetary policy press statements and MB Policy Meeting Highlights), the Flesch–Kincaid (FK) Grade Level test was used. The application of the FK Grade Level Test differentiates this research from the studies conducted by Fermo (2012) and Fermo & Silva (2012) for the BSP's monetary policy communications.[8]

The FK Grade Level Test assigns a numerical value to a document's readability, hereby defined as how difficult a passage in English language is to understand. The resulting number corresponds to a US grade level, or the number of years of education required to understand the text (especially if the score exceeds 10). Typically, one adds five (5) to the FK Grade Level to determine the average age of a person who can fully comprehend the document—i.e., the Flesch-Kincaid Reading Age.[9] The higher the FK score, the more difficult a passage is to understand (i.e., less readable). The computation of the FK score is based on the formula:[10]

$$FK\ Score = [(0.39 * average\ sentence\ length\ or\ ASL) + (11.8 * average\ syllable\ per\ word\ or\ ASW)] - 15.59$$

$$FK\ Score = 0.39\left(\frac{total\ words}{total\ sentences}\right) + 11.8\left(\frac{total\ syllables}{total\ words}\right) - 15.59$$

While the FK readability formula is relatively easy to use, it ignores the complexity of the meaning of words and phrases which may also have an impact on how readers comprehend a central bank's published messages. While the complexity of words used in communication materials are not considered in the FK Readability Test used, the approach attempts to account for the perceived "difficulty" of the words based on word length and sentence length, similar with other common measures used in readability analysis – i.e., Gunning Fog Index, Automated Readability Index, Coleman-Liau Index.

[6] The press conference is covered by the BSP press corps and, beginning May 2018 is live-streamed at the BSP's official social media page in Facebook.

[7] The BSP employs other disclosure mechanisms for monetary policy such as the Quarterly Inflation Report, Open Letter to the President (in case of a breach to the inflation target) and statement on the month-ahead inflation target. Other regular publications of the BSP such as the Annual Report and Quarterly Report on Economic and Financial Development also contain sections detailing the monetary policy decisions of the BSP. Moreover, speeches, presentations and press interviews of senior BSP officials as well as public information campaigns are also avenues by which the BSP's outlook for inflation and monetary policy decisions are communicated to the public.

[8] Fermo (2012) discussed the basic principles used in the BSP's monetary policy statements, including content, clarity, length and structure, and other considerations. Meanwhile, Fermo and Silva (2012) applied the IMF Code in assessing the BSP's transparency practices.

[9] Note that the FK Grade Level is based on grade levels in the US education system. However, this can be similarly applied in the Philippines especially with the recent adoption of the K to 12 basic education system in the country.

[10] The FK grade level may be automatically computed using the Spelling and Grammar Check option in Microsoft Word.

The FK Readability Test may also be ideally applied in text which contains at least 200 words (Davis & Wynne, 2016). This was not an issue in the case of the BSP's monetary policy communication since all of the monetary policy press statements and MB policy meeting highlights contain at least 200 words.

FK grades were computed for each of the BSP's monetary policy press statements and MB Policy Meeting Highlights issued from 2002 to 2018. FK grades were also estimated with consideration on the following: subsample periods (early IT years and late IT years, pre-global financial crisis (GFC) and post-GFC), type of policy adjustment (no change in the policy, tightening, easing), type of instrument used (policy rate, SDA rate, RR), and type of adjustment and instrument used (increase or decrease in the policy rate, SDA rate, RR).

The readability of the BSP's latest monetary policy reports were also compared with the readability of comparable publications issued by other central banks. Average FK grades were computed and compared using the monetary policy reports issued by these central banks during 2018. Included in the comparison are the average FK grades of publications issued by the following central banks: Bank Negara Malaysia, Bank of Japan, Bank of Thailand, US Federal Reserve, Bank Indonesia, Bank of Korea, European Central Bank, Bank of England, Reserve Bank of Australia, Reserve Bank of New Zealand, Bank of Canada, Reserve Bank of India, People's Bank of China (PBOC), and Central Bank of the Republic of China (Taiwan).

3.2. Assessing the information content of the BSP's monetary policy reports

The information content of the monetary policy press statements was also analyzed to determine the key issues that shaped monetary policymaking. Word clouds and word frequency charts were generated to identify issues that are of importance to the central bank as evident in the frequently used words in the BSP's monetary policy press statements. Word clouds serve as the visual representation of keywords used by the BSP where the frequency or importance of each word is shown highlighted in terms of font size or boldness. Hence, for an IT central bank like the BSP, one may expect the words inflation and outlook to be dominantly used. Meanwhile, word association charts were used in the study to calculate the correlation between a given keyword (e.g., inflation) and other texts included in the report. These give an idea of the key issues that the central bank look at in conjunction with inflation.

4. Results

4.1. Readability of the BSP's Monetary Policy Reports

For the full period 2002-2018, the average FK score for the BSP's monetary policy statements is 17.0 (Table 1). Adding 5 to this score yields 22.0, or the average age of a person who can fully comprehend the content of the document. Similarly, for the full period 2002-2018, the average FK score for the BSP's MB policy meeting highlights is 16.1 (or, equivalently, 21.1 years old). The average FK grade results for both monetary policy press statements and MB policy meeting highlights indicate that the readability of the content of both types of documents are consistent with one another – that is, they can be understood by typical college graduates and working professionals. These results are consistent with the findings by Luangaram and Wongwachara (2017), which suggest that central bank language can be

understood by advanced readers. The authors also attributed the relative difficulty in understanding central bank language to the use of technical or specialized words.

It may be argued that based on these FK scores, the chosen communication tools for monetary policy could not cater to all types of audiences (i.e., the general public). Nevertheless, the immediate audience/readers of these monetary policy reports are market analysts and financial market players, who are likely to hold college degrees and can therefore readily understand these communication materials. In the same vein, it is deemed that these reports are also readable for other government officials as well as representatives of international multilateral organizations.

The results also show that readability, as measured by the FK grade level, does not depend on the overall length of the published report (i.e., number of words used). For the full sample 2002-2018, the BSP's monetary policy press statements, on the average, have fewer words than the MB policy meeting highlights. However, the average FK grade for the former was higher than the average FK grade for MB policy meeting highlights, as the BSP's monetary policy statements tend to have longer words (more syllables per words) and sentences (more words per sentence).[11] Although the monetary policy press statements have fewer words, the average FK score for these reports was higher than the average FK score for MB policy meeting highlights.

Table 1. Average FK Score of BSP's Monetary Policy Reports and Other Related Indicators used in Readability Assessment (2002-2018)

	Monetary Policy Press Statement*	**Monetary Policy Meeting Highlights**
Average FK Score	17.0	16.1
Average number of words	323	2,169
Average number of sentences	12	81
Average number of syllables	600	3,885
Average sentence length (average number of words per sentence)	27	26.7
Average word length (average number of syllables per word)	1.9	1.8

Source: Authors' estimates

Early IT and Later IT Subsamples

On 24 January 2000, the MB approved in principle the shift to IT as a framework for conducting monetary policy. The IT framework entails the announcement of an explicit inflation target that the BSP aims to achieve over a given period. As such, it **recognizes the importance of accountability and transparency, as reflected in a variety of disclosure and reporting mechanisms.**

[11] For the full sample 2002-2018, the average sentence length is estimated at 27.2 for the BSP's monetary policy reports and 26.7 for MB Meeting Highlights. Meanwhile, the average word length is calculated at 1.9 for the BSP's monetary policy reports and 1.8 for MB Meeting Highlights. Nevertheless, by rounding off the figures, the average sentence length and average word length of the BSP's monetary policy reports and MB highlights are nearly the same.

In order to account for the possible changes in the readability of the BSP's policy communications following the implementation of the IT, the FK Readability Test was applied for the BSP's monetary policy press statements and MB policy meeting highlights for the subsample early IT (2002-2004) and subsample later IT (2005-2018). The FK scores suggest that the readability of both monetary policy press statements and the MB policy meeting highlights have improved under the BSP's IT regime (Table 2). During the early IT years, the average FK score for the BSP's monetary policy press statement was 18.0, while the average FK score for MB Policy Meeting Highlights was 16.9. For later IT years, there has been an improvement in readability as the average FK score for the BSP's monetary policy press statement and the MB Policy Meeting Highlights decreased to 16.7 and 15.9, respectively. Moreover, both reports were typically longer in the early years of IT. There are two possible explanations for these results. First, in the early years of IT, the press statements were also used as a necessary vehicle to explain the IT framework, resulting in longer and more complex statements. Second, the implementation of a tiering scheme for interest rates applied on placements in BSP facilities during the early years of IT complicated the discussion in the press statements.[12]

GFC and Non-Crisis Period Subsamples

Meanwhile, the average FK scores of the BSP's monetary policy press statements and MB policy meeting highlights were slightly lower during the GFC (2008-2009) than during the non-crisis periods (pre-GFC (2002-2007) and post-GFC (2010-2018)) (Table 2), which may be attributed to the slightly lower average sentence length (number of words per sentence) of the BSP's policy communications during the GFC. This could indicate that the BSP's monetary policy reports were a bit easier to understand during the 2008-2009 GFC than during normal periods. Perhaps, this reflects the greater effort on the part of monetary authorities to improve communication to better manage expectations during a crisis period.

Table 2. Average FK Score and Average Number of Words by Sample Period (2002 - 2018)

Period		Average FK Score		Average No. of Words	
		Monetary Policy Press Statement	Monetary Policy Meeting Highlights	Monetary Policy Press Statement	Monetary Policy Meeting Highlights
Full Sample	2002-2018	17.0	16.1	323	2,169
Early IT	2002-2004	18.0	16.9	375	2,943
Later IT	2005-2018	16.7	15.9	306	1,920
Pre-GFC	2002-2007	17.2	16.3	357	2,427
GFC	2008-2009	16.4	15.7	273	2,301
Post-GFC	2010-2018	17.0	16.1	301	1,879

Source: Authors' estimates

These results are in contrast with the conclusions by Bulíř , Čihák , and Jansen (2012), which found that the GFC had a negative impact on the clarity of some central bank communication materials (Poland, Sweden, US).[13] In a separate study, Lim (2017) observed that there were

[12] The tiering scheme was used in 2002 – 2003 and was lifted on 28 August 2003.

[13] The study by Bulíř, Čihák, and Jansen (2012) similarly used the FK Grade Level Test. However, these authors attempted to explicitly distinguish crisis-related measures and messages of central banks from those related to the

apparent spikes (lower readability) in the FK scores of the Bank of Thailand's press releases and Monetary Policy Committee (MPC) meeting minutes during the GFC and the euro debt crisis.

By type of policy adjustment

Based on the average FK grade score, the readability of the BSP's published monetary policy reports when the monetary policy settings are maintained or adjusted through either a policy rate tightening or easing are nearly the same (Table 3).

Table 3. Average FK Score and Average Number of Words by Type of Policy Adjustment (2002-2018)

Period	Average FK Score		Average No. of Words	
	Monetary Policy Press Statement	MB Policy Meeting Highlights	Monetary Policy Press Statement	MB Policy Meeting Highlights
No change	17.0	16.2	328	2,173
Tightening	17.5	16.0	300	2,088
Easing	16.5	15.9	324	2,231

Source: Authors' estimates

By type of policy instrument

By type of policy instrument used, the average FK scores of the BSP's monetary policy reports are almost unchanged. Monetary policy press statements which contain text indicating adjustments to the SDA have the lowest average FK score (Table 4).[14]

Table 4. Average FK Score and Average Number of Words by Type of Policy Instrument (2002 - 2018)

Period	Average FK Score		Average No. of Words	
	Monetary Policy Press Statement	MB Policy Meeting Highlights	Monetary Policy Press Statement	MB Policy Meeting Highlights
Policy Rate	17.5	16.0	300	2,088
SDA rate*	16.4	15.6	304	2,169
RR	17.5	16.2	260	2,080

Source: Authors' estimates

* The SDA facility was discontinued in 2016 with the introduction of the Interest Rate Corridor, and then replaced by the overnight deposit facility (ODF) and the auction-based term deposit facility (TDF).

regular conduct of monetary policy during the crisis period. In the case of this study, there was no such distinction made.

[14] Pronouncements of reduction in RR on 15 February 2018 and 24 May 2018 are not included in this study as those adjustments are operational in nature and do not constitute a change in the BSP's monetary stance. The FK score for the 15 February 2018 RR press statement is 19.9 with an average word count of 238 words. Meanwhile, the FK grade for the 24 May 2018 RR press statement is 19.2 with an average word count of 291 words.

By type of policy instrument and adjustment

By type of policy instrument used and adjustment made, the BSP's monetary policy press statement was more difficult to understand when the RR was reduced, as reflected in a relatively higher FK grade of 18.6 (Table 5). This may be partly attributed to the relatively longer average sentence length (number of words used per sentence) in this type of communication. This is expected as the BSP has reduced the RR ratio less frequently, and thus has limited experience in explaining RR cuts.

Moreover, the use of technical terms in the BSP's monetary policy reports when RR adjustments were made possibly contributed to the higher FK score (lower readability) of these published materials. For instance, the term "reserve requirement" may be easily understood by a central banker or anyone from the financial sector but may not always be a familiar term for other professionals. Nevertheless, even with a higher FK grade, the BSP's communications on RR adjustments cater to the 24-year old and above age segment, which is still part of the BSP's immediate target audience.

Table 5. Average FK Score and Average Number of Words by Type of Policy Instrument and Adjustment (2002 – 2018)

By Type of Instrument and Adjustment	Average FK Grade		Average No. of Words	
	Monetary Policy Press Statement	Monetary Policy Meeting Highlights	Monetary Policy Press Statement	Monetary Policy Meeting Highlights
Policy rate increase	17.6	16.0	307	2,107
Policy rate reduction	16.4	16.0	319	2,249
SDA rate* increase	16.1	15.3	294	2,277
SDA rate reduction	16.6	15.7	309	2,122
RR increase	17.3	16.2	271	2080
RR reduction	18.6	-	193	-

Source: Authors' estimates

* The SDA facility was discontinued in 2016 with the introduction of the Interest Rate Corridor, and then replaced by the overnight deposit facility (ODF) and the auction-based term deposit facility (TDF).

Readability comparison with other central banks

The readability of central banks' monetary policy reports may depend on the language used in the communication materials. In some countries where English is not the dominant language, central banks usually publish the native language version as well as the English translation of their monetary policy reports. In these countries, central bank communications that are published in the dominant native language are likely to be more readable to locals. However, the English version of the same communication materials may be less readable compared to the monetary policy reports of English-speaking central banks as text translations may affect the interpretation of some information and reduce overall readability.

Among the 15 central banks considered in terms of readability, the BSP placed 12th with an average FK score of 17.0 for its 2018 monetary policy press statements (Table 6). The BSP's press statements issued during 2018 are less readable (more difficult to understand) relative

to similar materials released by the Reserve Bank of Australia, Reserve Bank of New Zealand, US Federal Reserve, Bank of Canada, Bank Negara Malaysia, Reserve Bank of India, Bank of England, Bank of Japan, Bank of Korea, Bank of Thailand, and the Central Bank of the Republic of China (Taiwan). Meanwhile, the average FK score of the BSP's 2018 press statements is lower compared to the FK scores of Bank Indonesia, the PBOC, and the European Central Bank.

Focusing on non-English speaking central banks (or those that use English as a secondary language), the BSP's monetary policy press statements are more readable (easier to understand) than the PBOC and Bank Indonesia. Meanwhile, the BSP's average FK score is almost the same as the score of the Central Bank of the Republic of China (Taiwan), but it is higher (less readable or more difficult to understand) compared with Bank of Thailand, Bank of Korea, Bank of Japan, and Bank Negara Malaysia.

Table 6. Average FK Score and Average Number of Words of Monetary Policy Statements issued by Various Central Banks (2018)

Central Bank	Average FK Score	Average No. of Words
Reserve Bank of Australia	11.5	716
Reserve Bank of New Zealand	11.5	291
Federal Reserve	11.9	366
Bank of Canada	13.3	526
Bank Negara Malaysia	14.4	465
Reserve Bank of India	14.4	2,865
Bank of England	14.6	727
Bank of Japan	15.5	605
Bank of Korea	15.8	634
Bank of Thailand	15.9	953
Central Bank of the Republic of China (Taiwan)	16.8	944
Bangko Sentral ng Pilipinas	**17.0**	**323**
Bank Indonesia	17.7	1,340
The People's Bank of China	20.3	632
European Central Bank	21.9	25

Source: Authors' estimates

*Computation for the average FK score of the press statements of the PBOC are based only on the Q3 and Q4 2018 Monetary Policy Reports due to unavailability of other reports

Meanwhile, the average FK score of the BSP's monetary policy meeting highlights issued in 2018 places the BSP at 5th among the 10 central banks covered in terms of readability (Table 7). With an FK score of 16.4, the BSP's monetary policy meeting highlights can be considered as less readable than the materials issued by the Reserve Bank of India, Reserve Bank of Australia, Bank of England, and the Central Bank of the Republic of China (Taiwan). However, the monetary policy meeting highlights issued by the BSP in 2018 are more readable compared to similar reports released by Bank of Thailand, the US Federal Reserve, Bank of Japan, European Central Bank, and the Bank of Korea.[15] However, since the differences in the average

[15] The readability scores for the monetary policy statements released by the US Federal Reserve and Bank of Canada in 2017 are consistent with the assessment of Davis and Wynne (2016), although their study covered the two central

FK grades of the reports from these central banks are small, the readability of their reports generally cater to a similar audience which are college students and college graduates.

Table 7. Average FK Score and Average Number of Words of Monetary Policy Meeting Highlights/Minutes issued by Various Central Banks (2018)

Central Bank	Average FK Score	Average No. of Words
Reserve Bank of India	14.2	6,603
Reserve Bank of Australia	14.4	3,259
Bank of England	14.7	3,854
Central Bank of the Republic of China (Taiwan)	15.4	4,497
Bangko Sentral ng Pilipinas	16.4	1,564
Bank of Thailand	16.5	2,388
Federal Reserve	16.5	7,271
Bank of Japan	16.9	7,354
European Central Bank	17.1	6,244
Bank of Korea	20.1	2,859

Source: Authors' estimates

* Similar reports not available for Bank Indonesia, Bank Negara Malaysia, Reserve Bank of New Zealand, Bank of Canada, and the PBOC

4.2. Information content of the BSP's monetary policy press statements

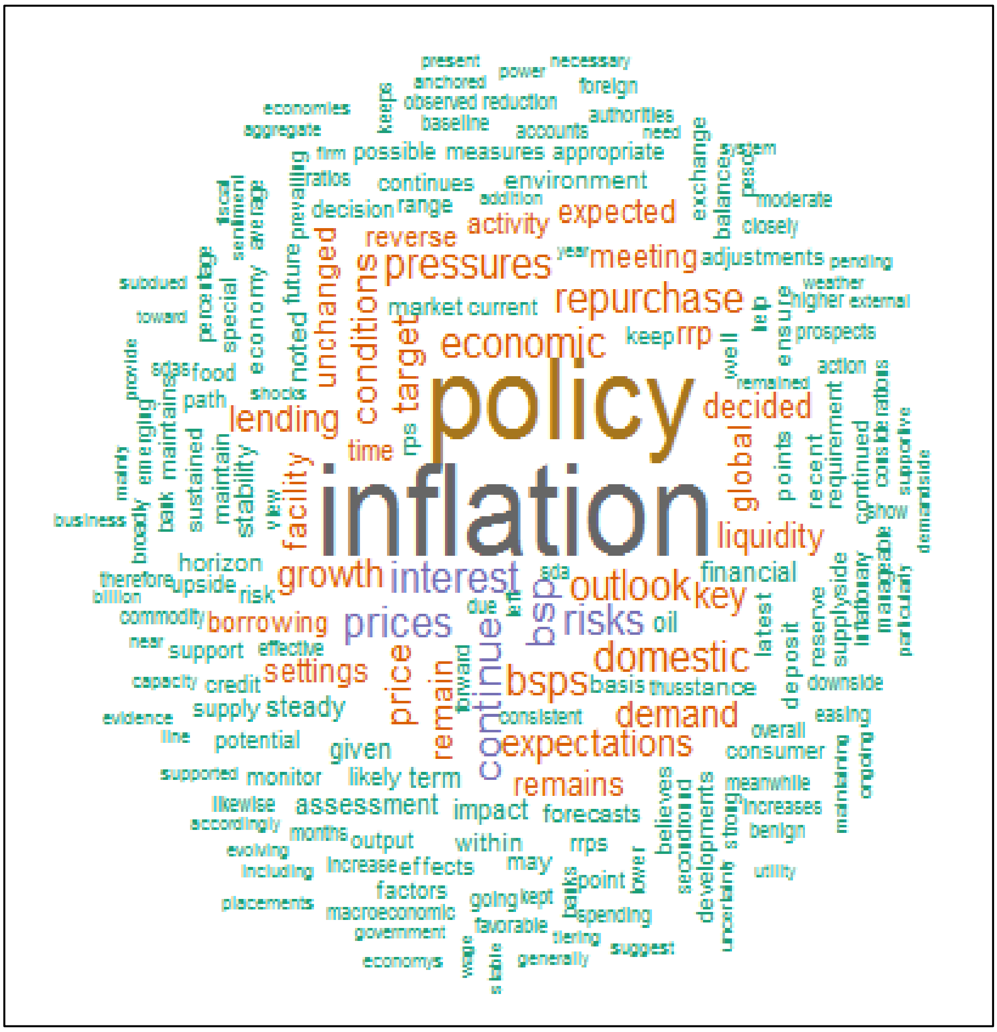
The word frequency cloud and word frequency chart based on the BSP's monetary policy press statements issued during 2002-2018 showed that "inflation" is the most frequently used word (Figures 1 and 2). A close second is the word "policy", followed by "interest', "BSP", and "prices".[16] These results are aligned with the BSP's primary mandate of promoting price stability and its IT approach to monetary policy. This is also consistent with the study by Luangaram and Wongwachara (2017), which suggests that IT central banks had generally communicated more on inflation than economic growth.

Annexes 1 and 2 show word clouds and word frequency tables by year. For 2004-2006, 2008, and 2010-2018, "inflation" emerged as the most frequently used word. Meanwhile, the word "policy" was the most frequently used word in the BSP's monetary policy reports released in 2002, 2003, 2007, and 2009.

banks' monetary policy statements from 1990 to 2013. During the period, the FK scores for FOMC policy statements are higher than the scores for Bank of Canada's policy statements.

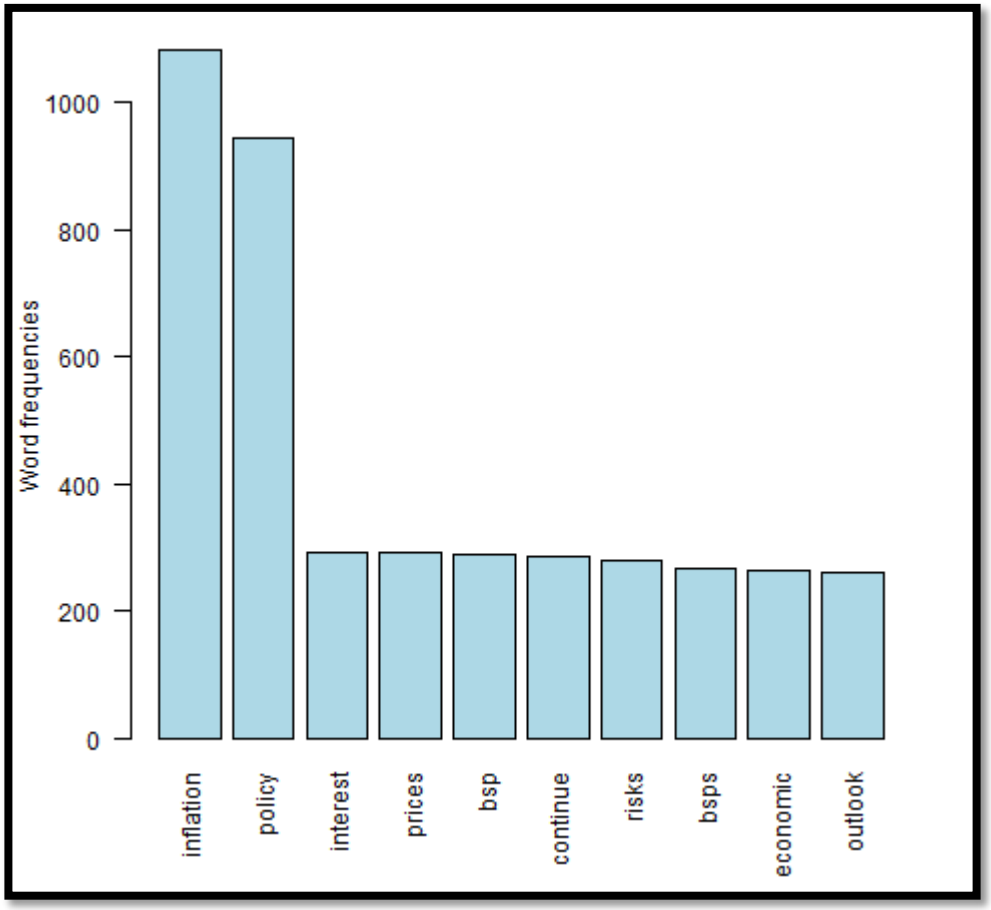
[16] Other words which occurred frequently in the BSP's reports issued from 2002 to 2018 are "continue", "risks", "outlook", and "economic".

Figure 1. Word Cloud for the BSP's Monetary Policy Press Statements (2002 - 2018)



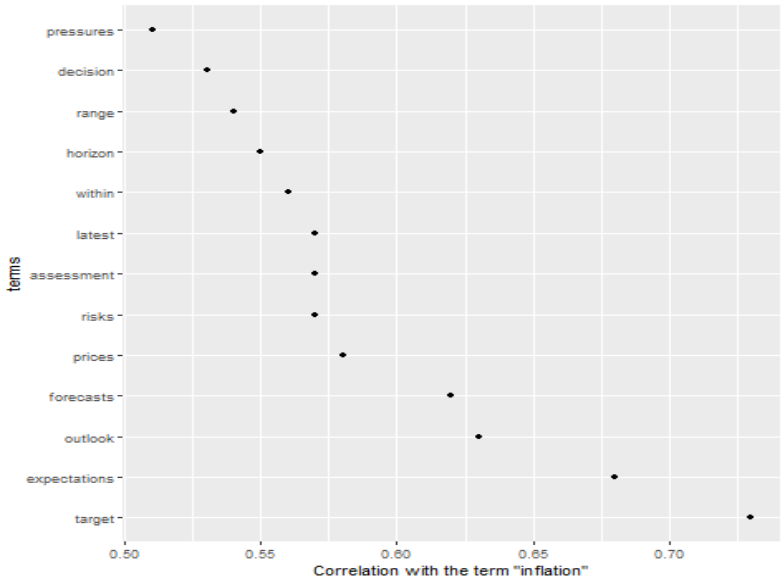
Source: Authors' estimates

Figure 2. Word Frequency Chart for the BSP's Monetary Policy Statements (2002 - 2018)



On the average, from 2002 to 2018, the word "target" is the most highly associated word with "inflation", followed by "expectations" and "outlook" (Figure 3). During the GFC, the word "expectations" appeared as the most associated term with "inflation". The appearance of "target", "expectations", and "outlook" as the most associated words with "inflation" are consistent with the BSP's IT framework and its forward-looking approach to monetary policy. This suggests that in deciding the stance of monetary policy, the BSP – just like any IT central bank – assesses the inflation outlook relative to its target and considers expectations as a key factor in its assessment. Annex 3 shows the word association chart by year.

Figure 3. Words associated with "inflation" based on the BSP's monetary press statements (2002 – 2018)



Source: Authors' estimates

5. Concluding Remarks

The BSP recognizes that to bolster transparency, central banks need to relate with various audiences. However, each audience group has different informational needs, thus requiring unique communication strategies/tools (Blinder, 2017 and Smaghi, 2007). As Blinder (2017) puts it, a central bank may "speak one way if addressing experts who understand the jargon and dote on every word, quite another if talking to members of the broad public who lack both the expertise and interest and who are half listening at best."

This study used the FK Grade Level Test developed by Rudolf Flesch and J. Peter Kincaid in 1975 to measure the readability of the BSP's monetary policy press statements and MB policy meeting highlights. **Readability analysis of the BSP's monetary policy reports based on the average FK grades shows that the information content of these publications would be best understood by college graduates and working professionals.**

Estimates suggest an improvement in the readability of the BSP's monetary policy reports during the IT years, consistent with expectations that central bank transparency tends to be greater following a shift to IT. Similarly, the readability of the BSP's

monetary policy reports improved during the GFC in 2008 to 2009 relative to the pre- and post-GFC period. This particular finding is significant since there is a greater need for effective central bank communication during crisis periods to reduce market uncertainty and to better anchor inflation expectations. Following the GFC, the BSP was also able to maintain the readability of its monetary policy reports as reflected in the lower FK scores compared to pre-GFC numbers.

Moreover, the readability of the BSP's published monetary policy reports are nearly the same, regardless of the monetary policy action discussed in the text. The BSP's reports can be understood by college graduates and working professionals, whether the text is an announcement of unchanged monetary policy stance or adjustments to the settings (tightening or easing). Even after taking into account the type of monetary policy instrument used, the readability of the BSP's monetary policy reports are almost unchanged. There is, however, a slight increase in the FK score when the RR is adjusted. This may be attributed to the use of more technical terms related to the RR change as well as the limited experience of the BSP in explaining RR adjustments as these are less frequent than policy rate changes.

The BSP's monetary policy press statements in 2018 are easier to understand relative to similar monetary policy communication materials issued by Bank Indonesia, the PBOC, and the European Central Bank based on the average FK score. However, the BSP's monetary policy press statements are relatively difficult to understand than the press statements of the Reserve Bank of Australia, Reserve Bank of New Zealand, US Federal Reserve, Bank of Canada, Bank Negara Malaysia, Reserve Bank of India, Bank of England, Bank of Japan, Bank of Korea, Bank of Thailand, and the Central Bank of the Republic of China (Taiwan). The BSP's monetary policy press statements released in 2018 contain fewer words than most central banks press statements, except for the European Central Bank and the Reserve Bank of New Zealand. Thus, the lower readability of the BSP's monetary policy press statements may be attributed to the complexity of words used as measured by the number of syllables per word.

Meanwhile, the average FK grade for the BSP's 2018 monetary policy meeting highlights indicate that these are generally less readable than similar materials issued by the Reserve Bank of India, Reserve Bank of Australia, Bank of England, and the Central Bank of the Republic of China (Taiwan). However, the monetary policy meeting highlights issued by the BSP in 2018 are more readable compared to similar reports released by Bank of Thailand, the US Federal Reserve, Bank of Japan, European Central Bank, and the Bank of Korea.

Analysis of word clouds and word frequency charts showed that "inflation" is the most frequently used word in the BSP's monetary policy press statements while the words "target", "expectations", and "outlook" are closely associated terms with "inflation". The results are consistent with the BSP's role as an IT central bank as well as its forward-looking approach in the conduct of monetary policy.

Since the BSP's monetary policy press statements and monetary policy meeting highlights are readable for its intended audience, have broadly similar FK scores with most other central banks, and reflect key themes that an IT central bank should be communicating, it would not be necessary to significantly alter the BSP's monetary policy communication structure and

content. Nevertheless, to further enhance its policy communications strategy and broaden its reach to the general public, the BSP has started to implement the following:

1. **Publication of the annual inflation forecast in the Highlights of the Meetings of the MB on Monetary Policy.** In the previous practice, the annual inflation forecasts are verbally released to the BSP Press Corps after the monetary policy press statement has been released. The publication of the annual inflation forecasts enhances the transparency of the BSP's communications and avoid confusion when the press reports the BSP's forecasts to the general public.

2. **Provision of a live broadcast of the monetary policy press statement via social media, including the question and answer (Q&A) forum with the BSP Press Corps.** Previously, the BSP releases a recorded YouTube video of only the monetary policy press statement to accompany the text provided in the BSP's website. Given the increasing use of various social media platforms, releasing a live broadcast of the monetary policy press statement improves the public's access to the BSP's communications with real-time availability. Moreover, including the Q&A portion of the press statement in the broadcast will provide the public with more information in addition to the press statement.

3. **Provision of a live broadcast of the Quarterly Inflation Report, including the Q&A forum with the press, analysts, and other stakeholders via social media.** The Quarterly Inflation Report is one of the BSP's main channels to convey to the public the overall thinking and analysis behind the BSP's decision on monetary policy. Given the limited availability of space during the press conference, a live broadcast provides the public greater access to the contents of the Inflation Report.

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Annex 1. Word Clouds for the BSP's Monetary Policy Press Statements

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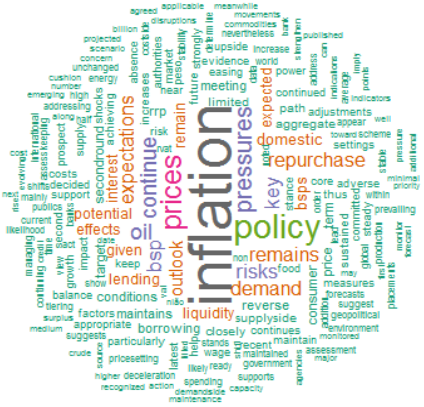
2003

2004

2005



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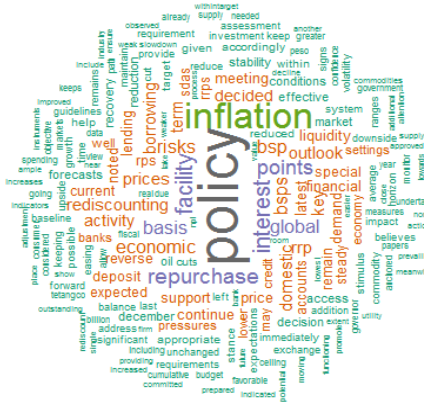

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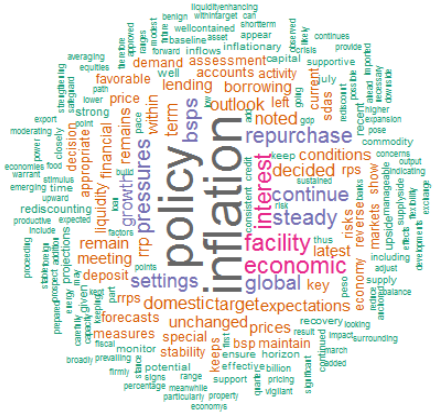


2010

Annex 1. Word Clouds for the BSP's Monetary Policy Press Statements

2011

2012

2013

2014

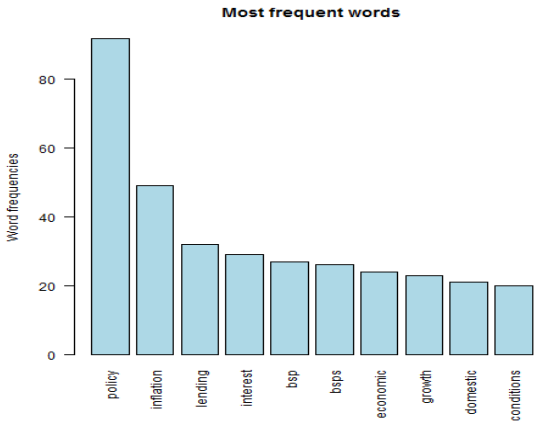
2015

2016

2017

2018

Annex 2. Word Frequency Charts for the BSP's Monetary Policy Statements



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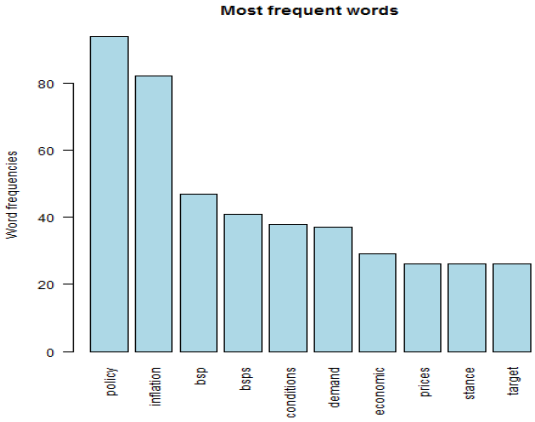

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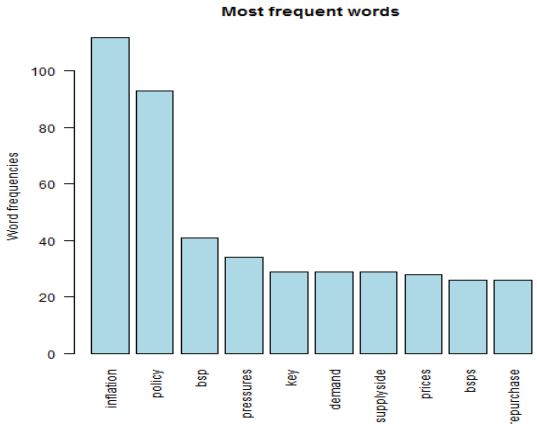

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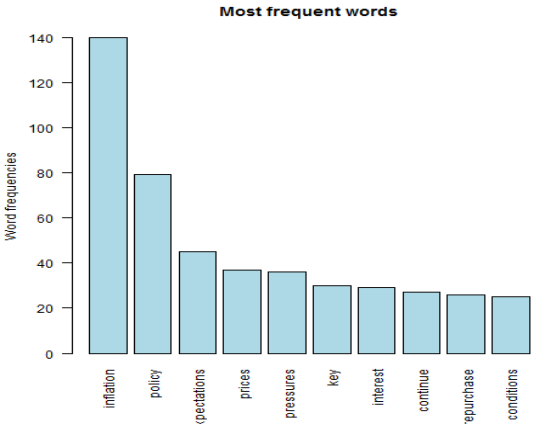

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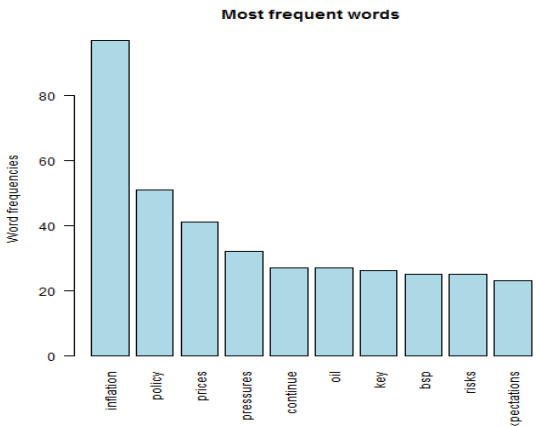

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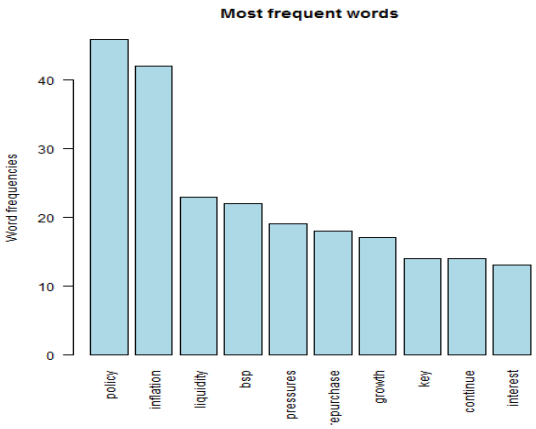

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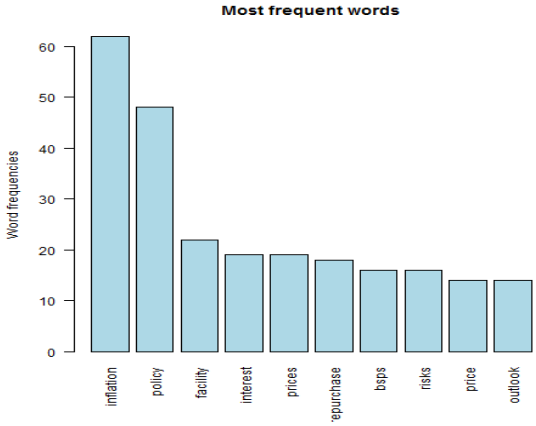

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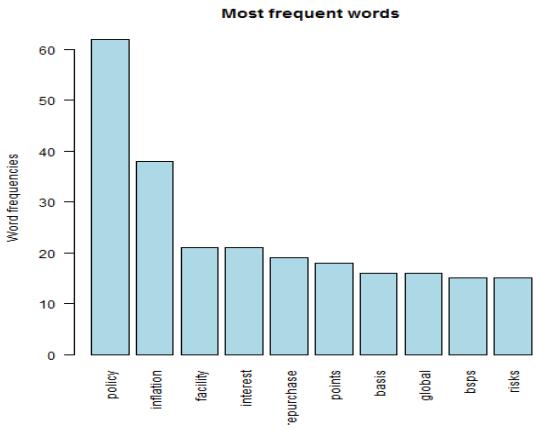

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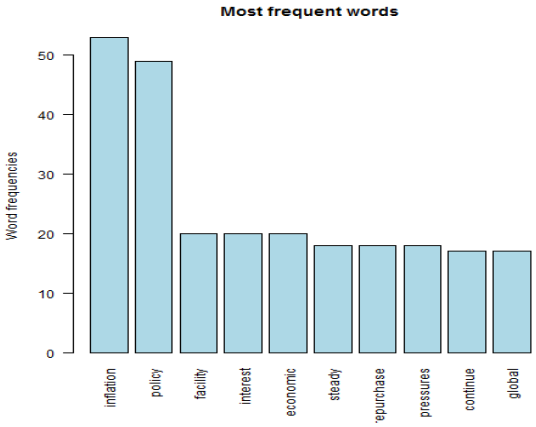

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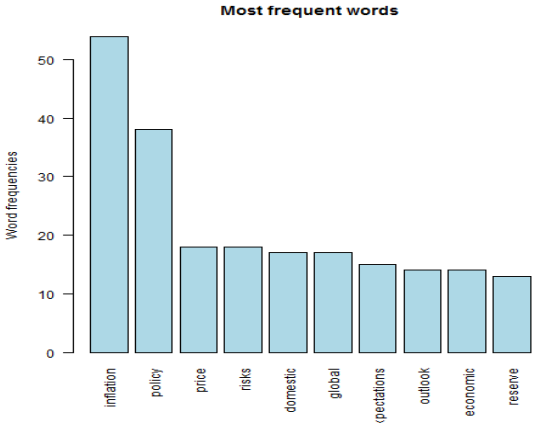

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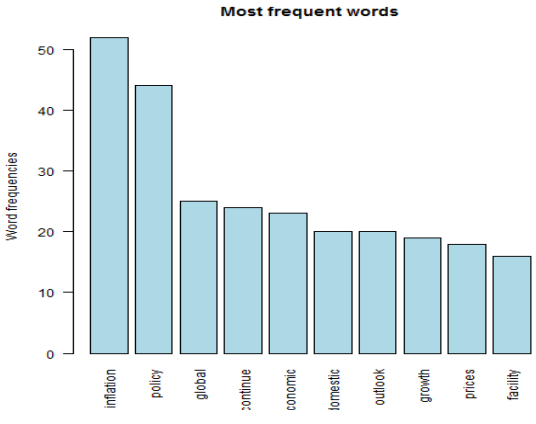

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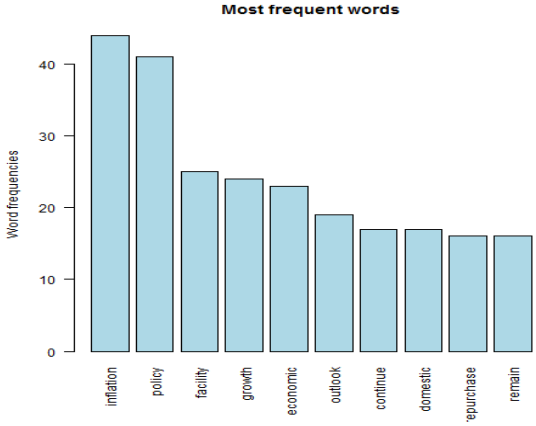

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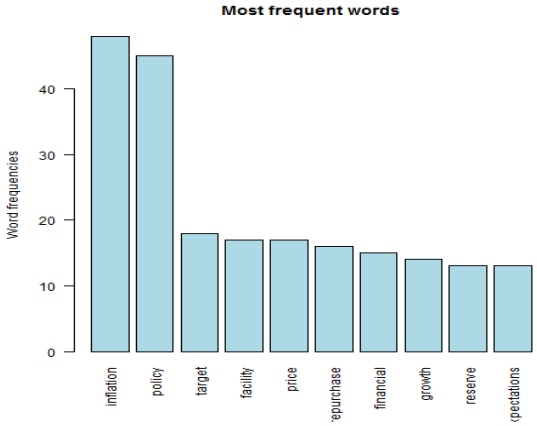
Annex 2. Word Frequency Charts for the BSP's Monetary Policy Statements



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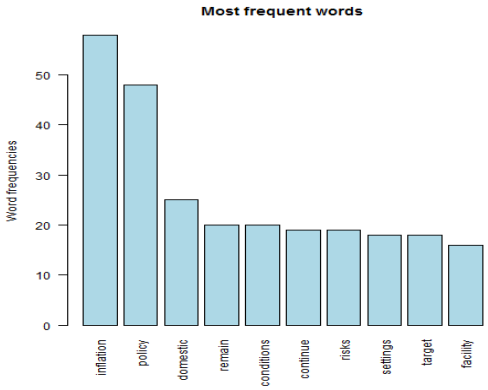

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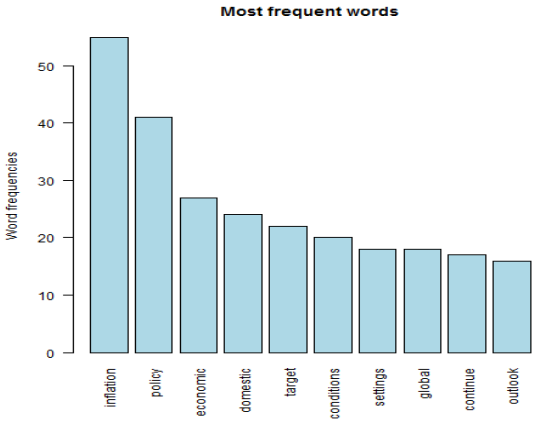

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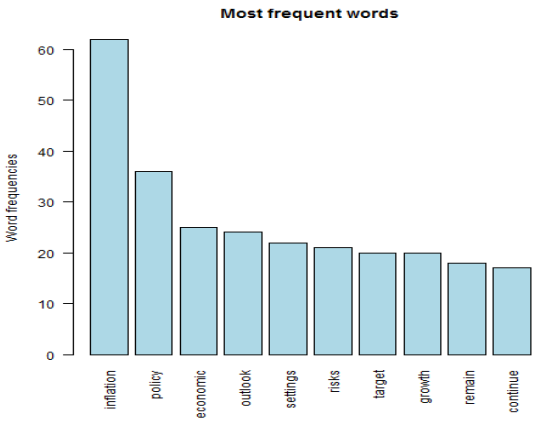

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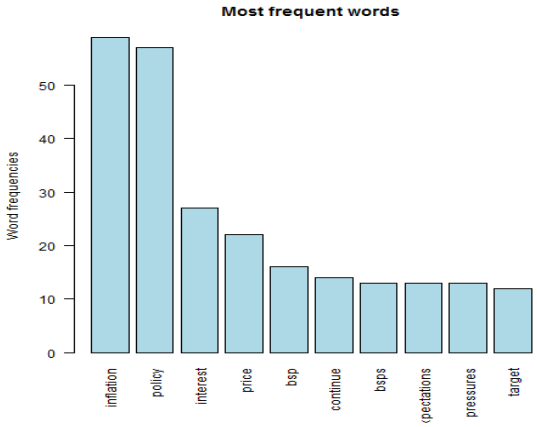
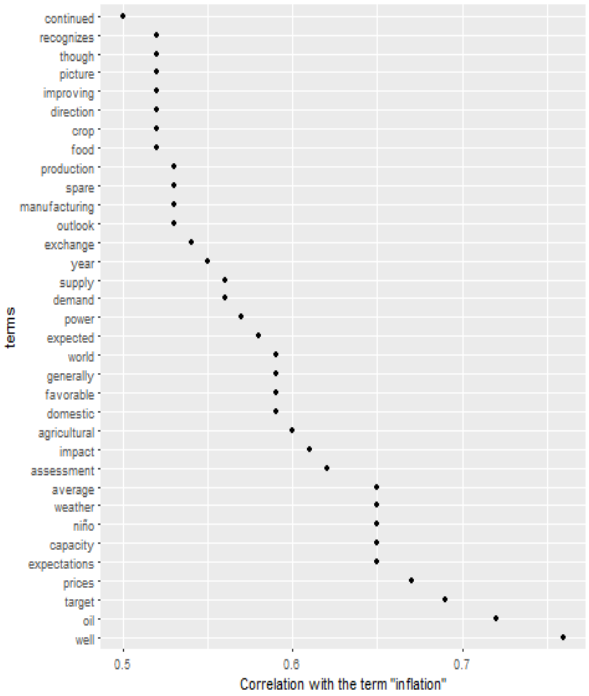


2018

Annex 3. Words Associated with "Inflation"



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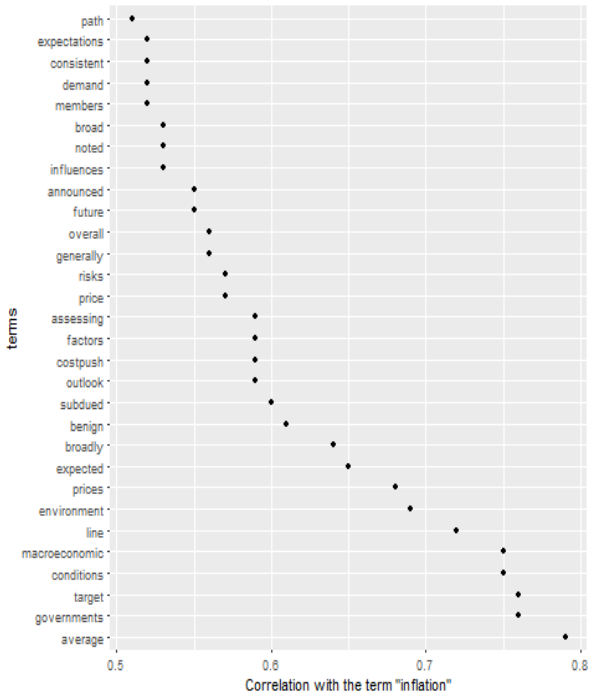

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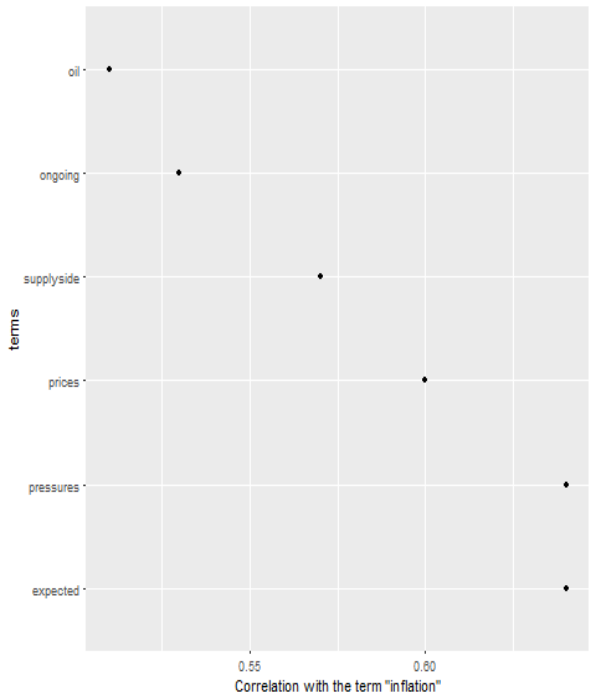

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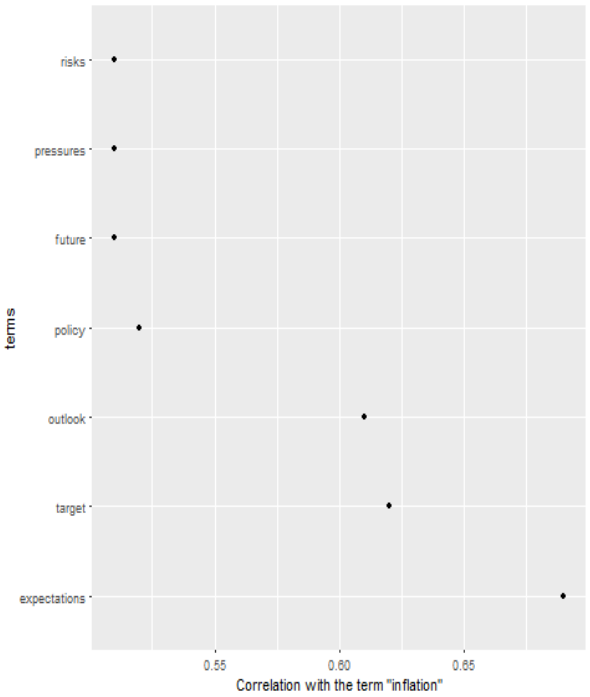

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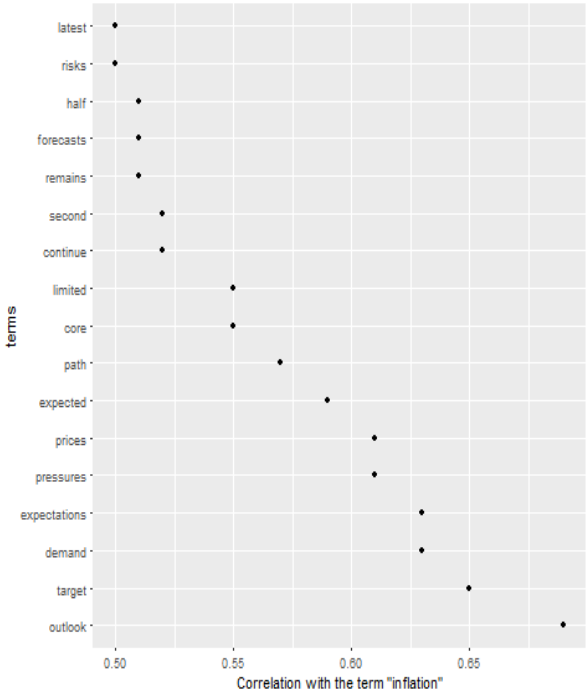

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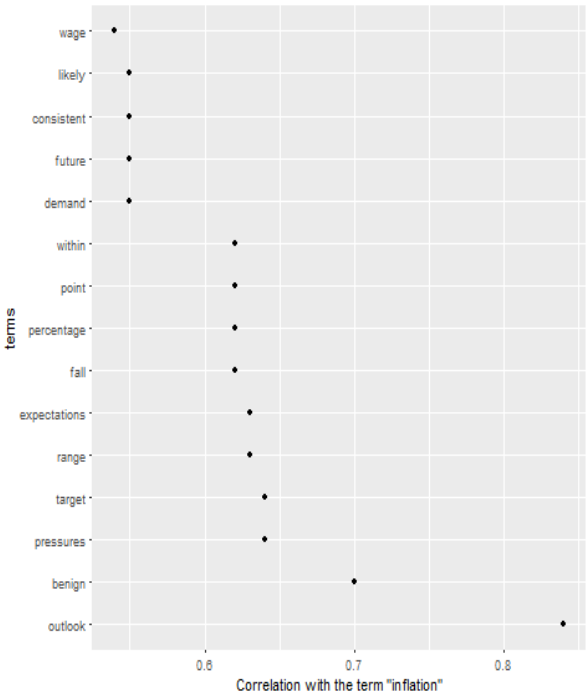

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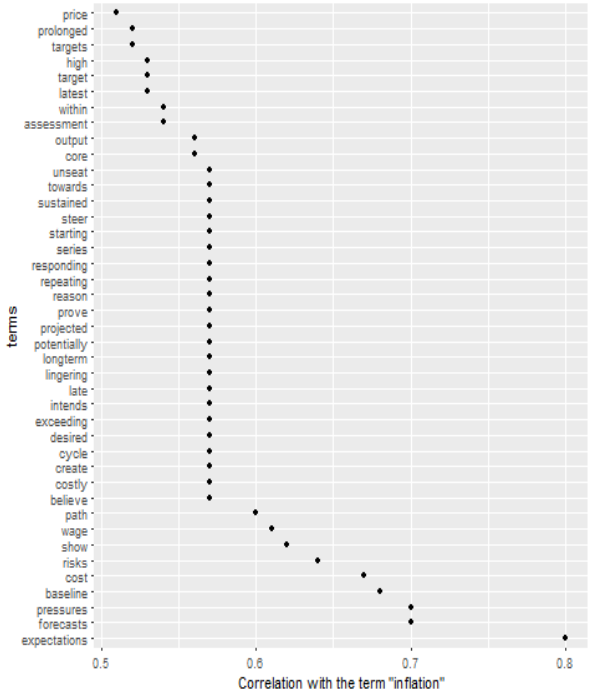

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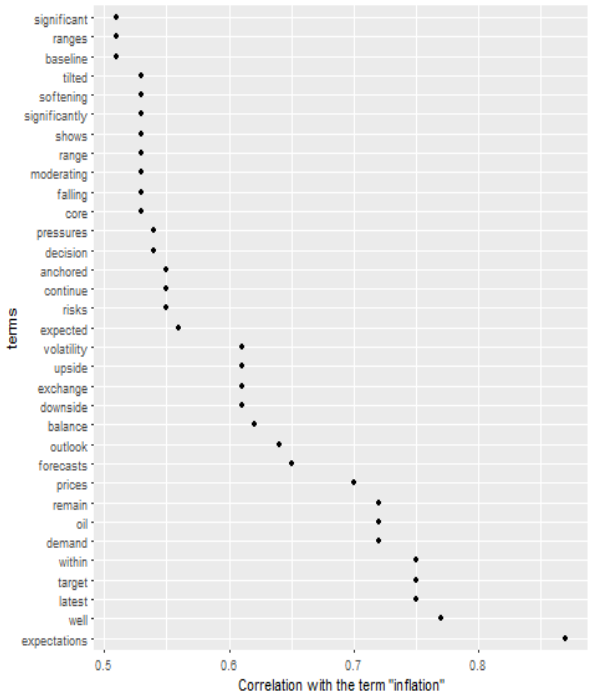

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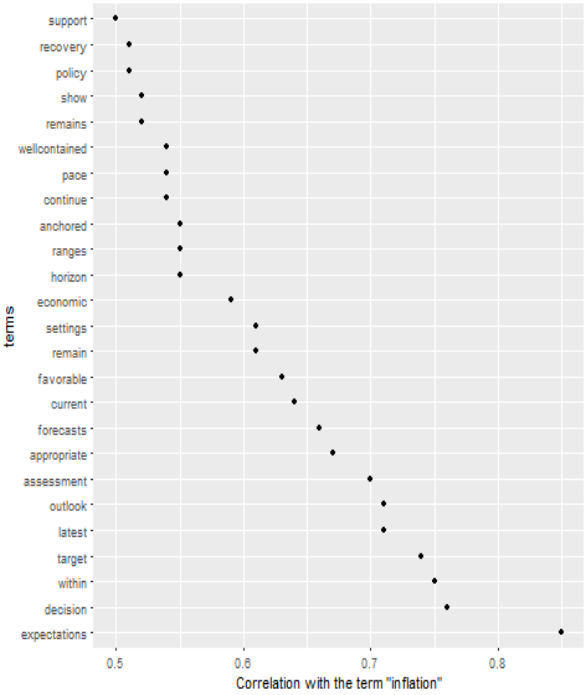

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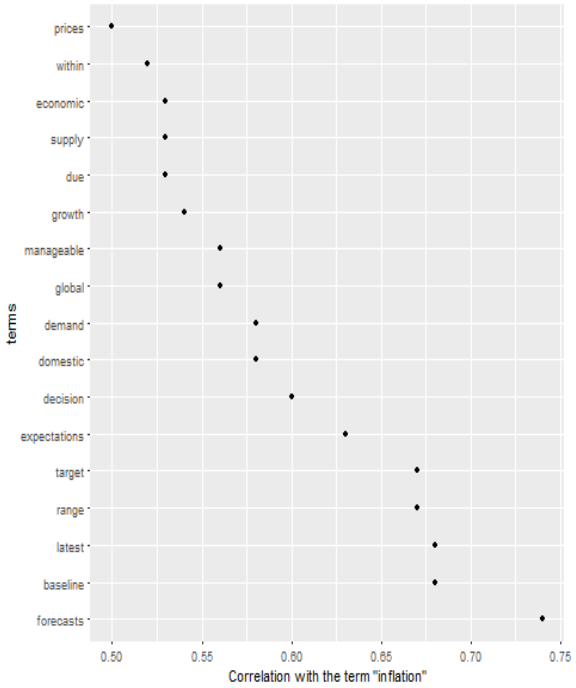

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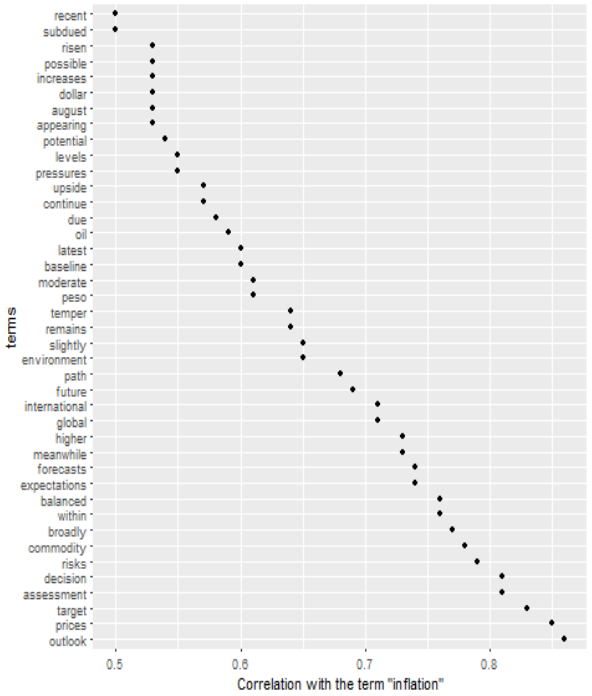

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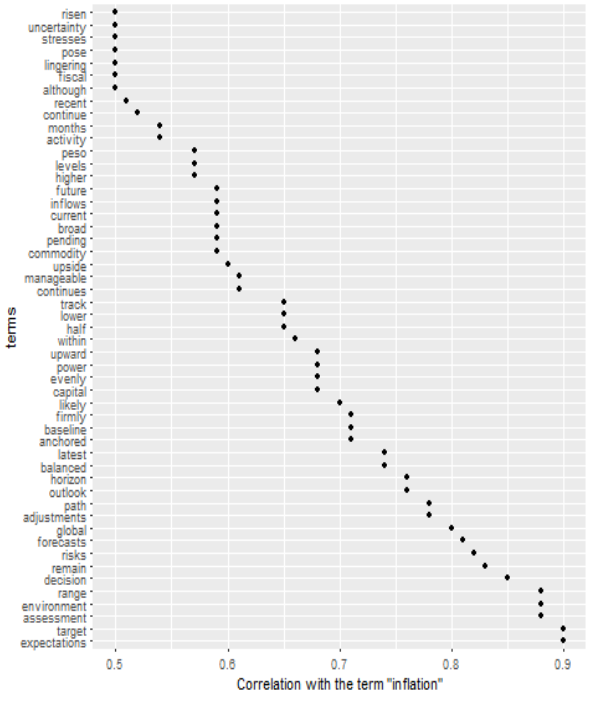
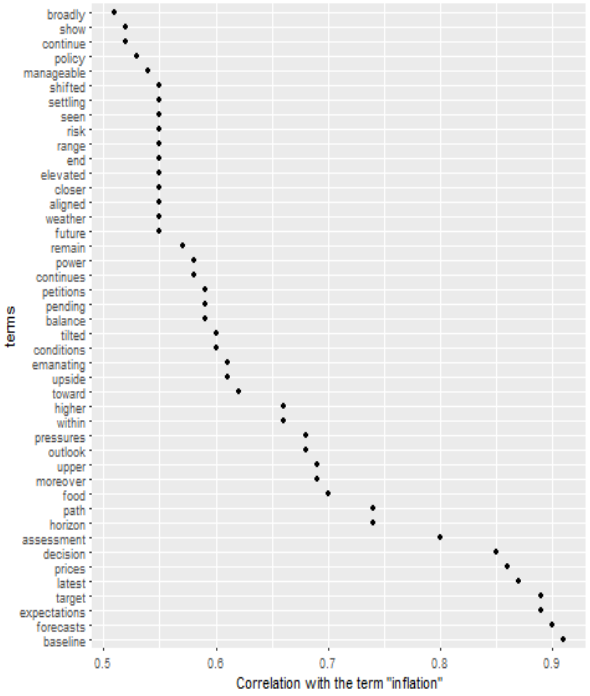


2013

Annex 3. Words Associated with "Inflation"



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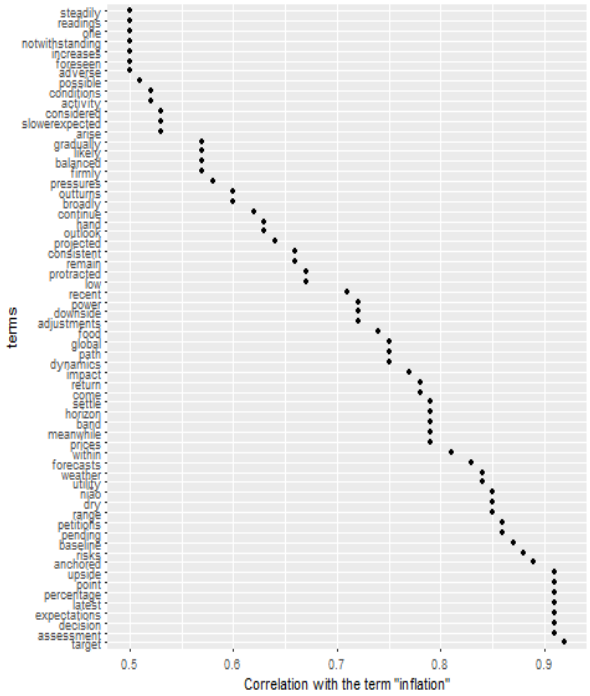

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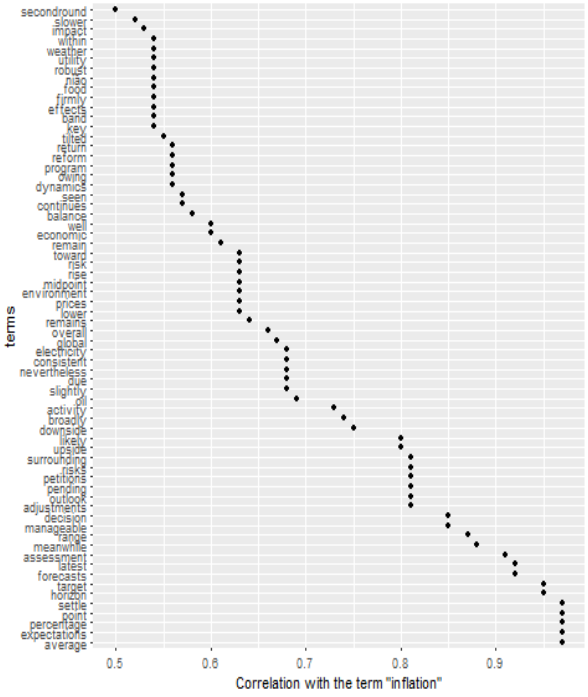

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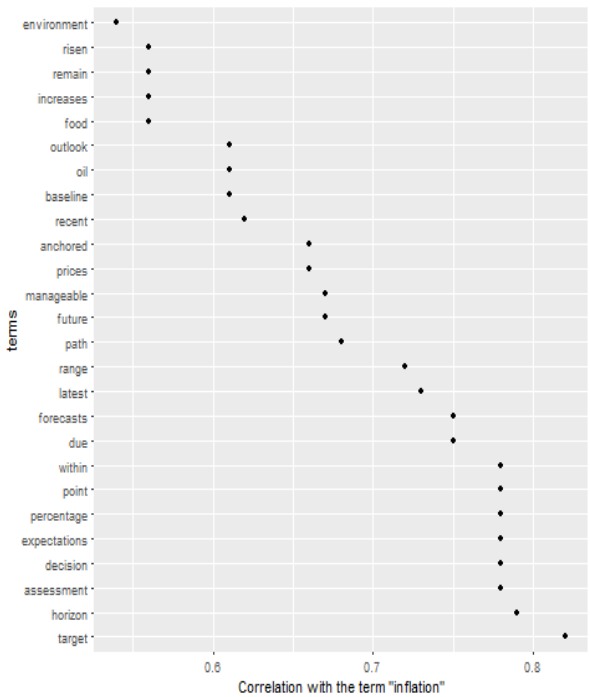
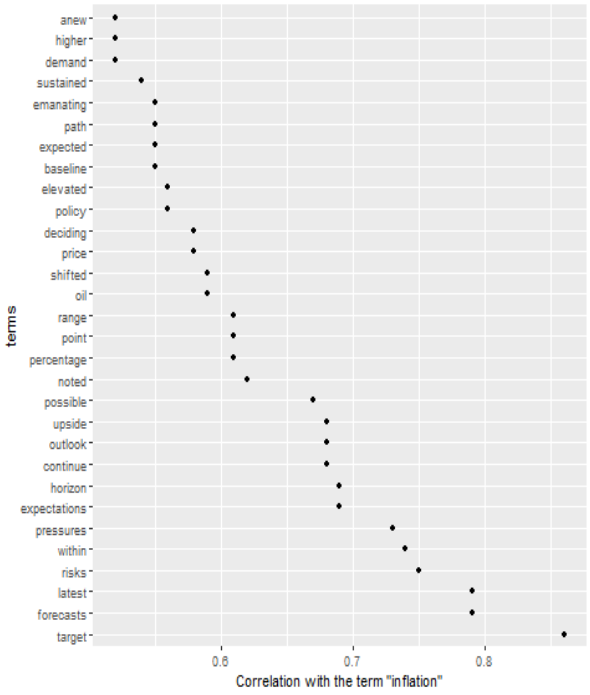


2017

Annex 3. Words Associated with "Inflation"



2018

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No	Author	Title	Date
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