A. Segawa

Communication by the South African Reserve Bank: Has time yielded clarity?

ABSTRACT

In 2000, South Africa's central bank, the South African Reserve Bank (SARB), adopted flexible inflation targeting as a monetary regime, and in doing so, set its inflation target at 3-6% for the headline consumer price index (Coco & Viegi, 2020). Essential to achieving this inflation target is not only clear communication of ex-post policy actions, but a clear dissemination of the SARB's future actions.

This paper examines how the SARB has been communicating, with particular emphasis on their Monetary Policy Committee (MPC) press statements between January 2000 and January 2021. The breadth of the sample space is informed by a necessity to explore changes in the SARB's communication strategies. In particular, this study considers the role of the SARB's MPC press releases, and given the wide span of the sample, it offers an inquiry into what has changed over the 21-year period, hence considering whether there has been more clarity in the SARB's communication over that time. This question is answered using the Flesch and Flesch–Kincaid methods, which are widely accepted in central bank communication literature. The two methods gauge how difficult a passage in English is to understand, and are thus used to assess readability hence clarity. In evaluating central bank communications and upon surveying the data, the paper offers empirical evidence about the clarity of the SARB's MPC meeting statements spanning over two decades, and clearly exhibiting its evolution. This study finds that SARB communications' Flesch Reading Ease Score Computation is way above and fluctuates more than the Flesch–Kincaid Grade Level Computation, exhibiting a random fluctuation between 2000 and 2015. Therefore, despite SARB's MPC statements exhibiting more readability, their reliance on academic words has made them more complex and difficult to understand.

Keywords: South African Reserve Bank, central bank communication, central bank clarity, Flesch–Kincaid Grade Level, Flesch Reading Ease Score

---

Arnold Segawa is a PhD student at the University of the Witwatersrand after completing an MA there in Journalism and Media Studies.

INTRODUCTION

In the ultimate pursuit of central bank transparency, effective central bank communication has in the past two decades emerged as one of the most crucial tools in achieving policy targets (Geraats, 2002; Woodford, 2005; Blinder et al., 2008; Bulíř et al., 2012). As argued by Blinder (1999:71):

> A central bank that is inscrutable gives the markets little or no way to ground these perceptions [on monetary policy] in any underlying reality, thereby opening the door to expectational bubbles that can make the effects of its policies hard to predict.

While central bank communication is the new normal in the inflation targeting and post crisis era (Blot & Hubert, 2018), there is substantial academic work that shows that effective communication is not necessarily a matter of increasing the quantity of information from the central bank but more about enhancing the quality of information from the central bank. For instance, Fracasso et al. (2003) illustrated how the quality of central banks' written statements negatively correlate with monetary surprises[1], concluding that clarity in writing erases uncertainty in the financial markets on inflation forecasts. It is essential, however, to define "quality", as Fracasso et al. (2003) determined that well-written central bank texts are an extension of consistency among various communication tools, such as monetary policy reports and press releases. In their study of inflation reports from nineteen central banks, they concluded that for an inflation report to be deemed "good", it needs to lead to an improved understanding and ultimately interpretation of monetary policy decisions (Fracasso et al., 2003).

Today, it is widely accepted that clarity[2] in a central banks' communication anchors market expectations (Jansen, 2011a; Montes et al., 2016).

Rosa and Verga (2007) went on to illustrate how market expectations are influenced by the macroeconomic data published by the European Central Bank (ECB) in its monthly releases. Jansen (2011b) also investigated former Federal Reserve Bank Chairs Paul Volcker and Allan Greenspan's clarity in communication during their tenures. Jansen (2011b) established that a substantial quantity of Volcker and Greenspan's Humphrey-Hawkins testimonies were often incredibly hard to follow given the two Fed chairs' "incoherence". This is further supported by Resche (2004:1), who comments:

1 Fracasso et al. (2003) were able to investigate written central bank statements and the negative correlation with monetary "surprises" by constructing a measure of the surprise in interest-rate movements associated with the meetings of the MPCs of the set of countries. They construct a regression equation which studies the measure of "surprise" in the financial markets due to monetary policy decisions.

2 As determined by Bulíř et al. (2012) clarity can be defined relying on textual characteristics such as the number of words, sentences, and syllables. Another measure of clarity however proposed is the length of the reports. In their study, Bulíř et al. (2012), examine how clarity of various types of communications by seven central banks has evolved over the last decade. Further unpacking how the inflation outlook and the uncertainty around the outlook affected clarity.

> Mr Greenspan seems to have developed a style of his own. It is often referred to as "evasive", "nebulous", "opaque" or even "oracular" and "Delphic". It is true that discretion is an essential feature for the chairman of the world's leading central bank: Mr Greenspan himself once remarked that "if people could understand what he was saying, he would not be doing his job" (Time, 31 May 1999:41).

In a relatively novel methodology[3] at the time, Bulíř et al. (2008) illustrated how some of the sample central banks had not necessarily been clear[4] on what they communicated to the public.

SARB communication takes several avenues, from Governor (and Deputy Governor) speeches, to quarterly bulletins, macro- and micro-economic reviews, financial position statements, MPC statements, SARB webinars and research papers. As discussed by Fracasso et al. (2003), every one of these communication avenues has a predetermined intended audience with a particular and deliberate function which aligns with the central bank's communication strategy in question.

Furthermore, Fracasso et al. (2003) concluded that carefully and prudently articulated[5] monetary policy statements yield a substantially higher predictability of their future policy actions. It should be noted that regardless of the communication path in question, it is critical to pursue clarity in conveying monetary information.

This paper focuses on the SARB's MPC statements, thereby unpacking how these have evolved over the governorships of Tito Mboweni, Gill Marcus and Lesetja Kganyago, offering a retrospective inquiry into the SARB's communication over the past twenty-one years.

---

3 Bulíř et al.(2008) relied on a simple forward-looking policy rule and an assessment of inflation reports. This was a pioneering methodology which managed to provide an empirical evaluation of consistency in central bank communication. Bulíř et al. (2008) concluded that the three communication tools – inflation targets, inflation forecasts, and verbal assessments of inflation factors contained in quarterly inflation reports – provided a consistent message in five out of six observations between 2000 and 2005. The study sampled Chile, the Czech Republic, Hungary, Poland, Thailand, and Sweden.

4 Bulíř et al. (2008:10) define clear central bank communications by examining it in three steps and in the end verifying whether the central bank communicated its decisions clearly. First, they examine, "if the public scrutinizes the inflation forecast and target for the suggested direction of monetary policy, anticipating that forecasts projecting inflation above/below target signal monetary tightening/loosening in the period ahead. Second, actual policy rate changes either validate or contradict the signal extraction based on the inflation-forecast. If the observed policy decisions correspond to the anticipated direction of monetary policy, then the public's expectations about the rule-based policymaking are validated".

5 Blinder et al. (2001) establish a framework for what good central bank communication should entail. They establish that the: "essential message any central bank must convey to the public is its policy regime: what it is trying to achieve, how it goes about doing so, and its probable reactions to likely contingencies. Of course, no central bank can spell out in advance its reaction to every conceivable contingency; nor is it necessary to reveal every detail of its operations. Two guiding principles apply. First, the bank should reveal enough about its analysis, actions, and internal deliberations for interested observers to see the logic behind each policy decision. Second, the burden of proof should be on those who would withhold information. There are valid reasons for secrecy, but they are the exception not the rule" (Blinder et al., 2001:20).

1. WHY COMMUNICATE ANYWAY?

Central banks including the SARB have in the past made strides in enhancing accountability, buoyed by their migration towards inflation targeting (Montes & Nicolay, 2017). A stand-out benefit of more effective communication, according to Woodford (2005), is that central banks' increased willingness to share their assumptions about future policy with the public has enhanced policy predictability in ways that reciprocally improved central bank's ability to achieve their stabilisation.[6]

In 2001, Woodford[7] concluded that of monetary policy has morphed into the art of managing expectations and because literature on central bank communication has found a relationship between the speeches by central bank officials and interest rates (Blinder et al., 2008), effective communication has become an ineluctable responsibility for the modern central bank.

As many central banks migrated to inflation targeting over the past thirty years, the fundamentals of the regime such as transparency, accountability and clarity[8] (see Walsh, 2003) have never been more profound; but relevant to this paper is clarity[9] buoyed by effective communication. The role of communication in an inflation-targeting regime is underscored by Fracasso et al. (2003:1), who concluded that:

> Merely announcing IT and publishing inflation forecasts is not enough: the benefits from IT only accrue to central banks that convince the public that their decisions are rooted in the relatively tight constraints [depending on the specifics of the regime] imposed by a process that starts with forecasts, considers the optimal responses and ends with decisions which, year after year, appear as derived from the same logic.

---

6 Woodford's (2005) study on central bank communication offers two detailed contexts in which central banks have been forced to consider how much they are willing to say about the future path of interest rates. The first is an experiment with policy signaling by the Federal Open Market Committee in the U.S., using the statement released following each Committee meeting, since August 2003. The second is selected central banks' need to make some assumption about future policy when producing the projections (for future inflation and other variables) that are central to inflation-forecast targeting procedures. In both cases, he finds that that an increased willingness to share the central bank's own assumptions about future policy with the public has increased the predictability of policy, in ways that are likely to have improved central bank's ability to achieve their stabilization objectives.

7 Woodford (2001) explores two premises: firstly, that challenges around improvements in private-sector information-processing capabilities may pose for the effectiveness of monetary policy. It first considers the consequences of improved information about central-bank actions, and argues that the management of expectations will become even more important to effective monetary policy. The paper next considers the consequences of the potential erosion of private-sector demand for central-bank money. He however concludes that while advances in information technology may well require changes in the way in which monetary policy is implemented in countries like the United States, the ability of central banks to control inflation will not be undermined by advances in information technology.

8 Woodford (2001) expl Jansen (2011a) argues that clear communication is essential for a central bank's transparency, and that frequent but opaque communications cannot be deemed transparent.

9 This study relies on the readability index proposed by Jansen (2011a, 2011b). Bulíř et al. (2013) further examine central bank clarity of inflation reports the Czech National Bank, the European Central Bank, the Bank of England, and Sveriges Riksbank. Relying on the Flesch-Kincaid grade level as a measure of textual clarity (Kincaid et al., 1975), they were able to quantify the inflation reports' readability.

Because the inflation-targeting framework is explicitly outlined by the central bank (and typically imposed by the Treasury in question), it becomes fundamental for the monetary authority (that could theoretically be a central bank that is not independent) to share their inflation forecasts in a bid to justify their actions.

In the same way, by efficaciously communicating their inflation forecasts, growth outlooks, and future policy actions, central banks also advertently and heedfully find themselves guiding expectations (Blinder et al., 2008).

Another critical aspect of communicating is the push towards accountability. Now, despite accountability being theoretically a separate concept from central bank communication, Walsh (2003:2) has argued that by a central bank establishing an explicit target, this advertently "strengthens accountability by providing a clear goal against which the public can judge the conduct of the central bank". Today, a central bank's accountability is almost wholly evaluated by its transparency. Amato et al. (2003:495) affirm this view, remarking:[10]

> In general, greater accountability has meant an increase in communication with the public regarding the beliefs of policy-makers and the operations of monetary policy. In turn, fair evaluation of central bank performance can only be achieved through greater transparency.

Furthermore, as Solnik (1983) argues, because there is a clear relation between stock returns and inflationary expectations[11], central banks can undeniably guide stock market performance using effective communication as a conduit to containing and managing expectations. This is affirmed by Lee et al. (2016), whose study examines changes in stock market liquidity in response to the monetary policy announcements of the Bank of Korea. They concluded that central bank communication plays a significant role in reducing liquidity impairment by enhancing the predictability of policy actions, and therefore mitigating information asymmetry.

However, Blinder et al. (2008:9) reject this notion, submitting that because central banks broadly manage only the overnight interest rates, "central bank communication has no independent role to play".

Blinder et al. (2008:9), however, argue:

____Nowadays, it is widely accepted that the ability of a central bank to affect the economy

10 There has been some criticism here that all this would assume is the central bank's understanding of the economy, in reality imperfect knowledge. However, as argued by Walsh (2003), the ability to monitor can also be pronounced in terms of the "transparency" of policy given the fact that a transparent policy improves the ability to monitor. Ergo, if monitoring is perfect, the central bank is instructed to care only about achieving a state contingent target for inflation; this solves the accountability problem without distorting stabilisation policy.

11 Solnik (1983) study reveals empirical evidence of the relation between stock returns and inflationary expectations for nine countries between 1971 and 1980. This study rejects the 'Fisherian' assumption that real returns are independent of inflationary expectations and the study concurs with the Geske and Roll model which hypothesises that stock price movements signal (negative) revisions in inflationary expectations.

depends critically on its ability to influence market expectations about the future path of overnight interest rates, and not merely on their current level. The reason is simple. Few, if any, economic decisions hinge on the overnight bank rate. According to standard theories of the term structure, interest rates on longer-term instruments should reflect the expected sequence of future overnight rates.

Amato et al. (2003) note that shorter-term interest rates such as the one-year rates are often steered by the market's projection of future overnight rates for the year in question. Amato et al. (2003) note that the links from the overnight rate to the prices that matter depend almost entirely upon market expectations, citing an example that if one-year rates are affected by the market's expectations of overnight rates over the year, then market expectations of the intentions of the central bank are pivotal in determining prices. With this logic, then, "communication between the central bank and the market is critical" (Amato et al., 2003:3). In other words, market expectations (which are buoyed by effective central bank communication) of future policy actions of the central bank would become a vital variable in shaping asset prices; therein rationalising the need for effective communication.

Woodford (2005) made a case for central bank communication by citing the complexity of central banking as a whole. Woodford (2005:2) reasoned:

> Central banking is not like steering an oil tanker, or even guiding a spacecraft, which follows a trajectory that depends on constantly changing factors, but that does not depend on the vehicle's own expectations about where it is heading. Because the key decision makers in an economy are forward-looking, central banks affect the economy as much through their influence on expectations as through any direct, mechanical effects of central bank trading in the market for overnight cash.

It is worth underscoring that communication provides market participants with certain modelling tools that shed light on how the central bank in question determines its nominal interest-rate setting (Eusepi & Preston, 2010).

Eusepi and Preston (2010:250) underscore:

> Perfect knowledge about the central bank's policy framework does not guarantee that the agents' learning process converges to the rational expectations equilibrium, since market participants do not fully understand the true model of the economy. However, it does tighten the connection between the projected paths for inflation and the normal interest rates. This property proves fundamental.

It is this same information that answers the expectations predicament alluded to earlier as this same information eases the "forecasting problem" as substantiated by Eusepi and Preston (2010:250). All the same, central bank communication is always improving and improvements

are made by the day (Arseneau, 2020; Reid et al., 2020; Su et al., 2020; Anand et al., 2021; Anderes et al., 2021; Candian, 2021; Möller & Reichmann, 2021; Rholes & Petersen, 2021), hence making communication relatable to the general public would foster the public's understanding of monetary communications (Bholat et al., 2019).[12]

Communication today is a vital instrument in any central bank's toolkit. Nevertheless, as emphasised by Jansen (2011b), however much a central bank may communicate, if this is done in an unintelligible fashion then it simply does not pass for a transparent central bank. To this end, this study will examine clarity in the SARB's MPC statements, relying on word counts for detail and the Flesch indexes (Flesch, 1948) to examine readability and clarity.

2. QUANTIFYING CLARITY IN COMMUNICATION

A widely accepted method to measure central bank communication clarity today is through probing whether the public can easily comprehend the information put forth by the central bank in its communication (Čihák et al., 2012).

Relying on this premise, central bank communications' clarity can be quantified using either the Flesch or the Flesch–Kincaid grade level indices, as these show the number of years of education required by the reader to adequately grasp any text[13].

Given the Flesch and the Flesch–Kincaid indices' reliance on plain text to quantify their readability, both of the indices have in the past decade gained prominence as means to elucidate central bank communication readability attested by the work of Jansen (2011a; 2011b). Relying on the work of Flesch (1948) and Kincaid (1975), the study relies on textual analysis which follows text characteristics such as lengths of words and sentences, as good predictors of readability. The two methods denote the words, sentences and syllables which as noted by Bulíř et al. (2014) three key textual characteristics of individual communications given that a higher average number of words per sentences, or longer words (syllables=words) makes it harder to understand the text.

It should be noted that the Flesch–Kincaid grade level index offers comparability with other readability scales in other disciplines, and offers adequate contrasts with other readability

indices such as the fog index. Comparability is fostered by the high correlation of the Flesch–Kincaid grade level index with alternative indices such as the fog index. As expounded by Čihák

12 Bholat et al. (2019) further probe the public's understanding of Bank of England's monetary policy summaries, the visual summaries, and the inflation report which was sanctioned to simplify economic information hence make the information more relatable. To this end, they provide a measure and suggestions for how central banks could structure their communications by testing additional techniques for communicating economic information.

13 Montes and Nicolay (2017) note that readability is important to the public in order to understand the information that the central bank reports. In addition, Jansen (2011a) submits that complicated texts can lead to missed or misunderstood information.

et al. (2012:13):

> As documented in the literature [i.e., Kincaid et al., 1975], the correlation between the Flesch–Kincaid measure and these alternative measures is quite high (about 0.9).

In their ground-breaking study of central bank communications across 17 central banks Čihák et al. (2012:8) revealed that a document's length does not necessarily yield clarity, concluding that:

> On the one hand, crafting a more precise, more nuanced message in an uncertain environment typically requires a longer communication. On the other hand, such a communication risks burying the message in a long or complex document, and ultimately becoming less clear.

Indeed this creates another course of inquiry as it is empirically proven that a steeper word count may not increase clarity.

3. DATA SOURCES

he SARB's MPC statements, which are the primary data source, are publicly available on the SARB website and can be directly downloaded from: https://www.resbank.co.za/en/home/publications/statements. This tally makes up statements from January 2000 to January 2021. These were converted from PDF to text files which are recognisable to the readability scoring software. After converting the files to text format, these text files were "cleaned up" by ridding them of "stop words". In textual analysis, this is a referred to as noise entity removal where the manuscript is processed to remove repetitive words which do not necessarily add meaning to the sentence such as "to", "is", "and" to mention but a few.

Using the Flesch and Flesch-Kincaid methods, the researcher tallied each MPC statement. It should be noted that this study solely relied on the monetary policy committee (MPC) statements that are publicly available on the SARB's website, without access to unpublished minutes of MPC meetings.

4. TEXT ANALYSIS

This study examined SARB MPC statements from 13 January 2000 to 21 January 2021, which encompass statements from three Governors during that period. Central bank communication takes many forms as described earlier, and one of them is the detail and quantity of information a central bank disseminates (Blinder et al., 2001; Weidmann, 2018). As this study examines MPC statements from the past twenty-one years, there is a clear fluctuation in the word count

from the MPC statements by former Governor Tito Mboweni in the 2000s to his successors in

the 2010s, but the question remains whether this equates to effective communication.

An examination of the SARB statements quickly reveals how the SARB has evolved over the past two decades. For instance the MPC statement from January 2000 was over 2 840 words but in January 2021, the MPC statement's word count was a mere 1 356 words but with more detail. According to Flesch (1948), text characteristics such as the lengths of words and sentences are good predictors of readability. Furthermore, a higher average number of words per sentence makes it harder to understand the text. This provides an entry point into the comparative examination of the MPC statements. As established by Bholat et al. (2019) whose study examined the public's understanding of Bank of England's Monetary Policy summaries, the visual summaries, and the inflation reports, it was found that short and relatable information from Bank of England fostered clarity hence showing the relevance of concise monetary information.

In addition, by 2021, SARB's MPC communications were accompanied by assumptions and forecasts such as the Quarterly Projection Model[14] projections and quarterly projection model projections forecasts and it is critical to highlight that these are alluded to in the later SARB MPC statements[15] as a rationalisation for the MPC decisions in question.

5.1 Flesch Reading Ease score

This study relies on the Flesch Reading Ease score to analyse the readability and ultimately clarity of the SARB's MPC statements. The Flesch Reading score, initially developed in 1948, allows researchers to explore textual facets of a statement through analysis of several variables such as the number of words per sentence and the number of syllables per word (Flesch, 1948), and ultimately score the statement on a scale of 0 to 100. The Flesch Reading Ease score formula for readability is:

$$206.835 - 1.015\left(\frac{\text{total words}}{\text{total sentences}}\right) - 84.6\left(\frac{\text{total syllables}}{\text{total words}}\right)$$

Source: Flesch (1948)

14 As noted by Botha et al. (2018), the Quarterly Projection Model is a simplified, user-friendly version of the more rigorous dynamic stochastic general equilibrium models that enable central banks to analyse the nature of the shocks that are impacting on the economy, as well as the longer-term equilibrating forces that influence economic behaviour over time.

15 An example here is the SARB MPC statement dated 21 January 2021 where SARB (2021) exposes, "Global growth in the QPM model is a trade-weighted average of South Africa's trading partners. For 2020 this is now at -3.6% (up from -3.9% in November) and revised up to 5.0% for 2021. Based on the October 2020 World Economic Outlook, the IMF expects global growth of 5.2% in 2021".

Resultantly, the Flesch-Reading-Ease Formula lies between 1 and 100, defining 100 as very easy to understand and 0 as very difficult. The underlying premise is that readability is decreased as the number words per sentence increases, and that a higher number of syllables per word also decreases readability. Again, this is in line with the assumption that the MPC statements are being directed to the intended market agents who grasp the macroeconomic discussion in question. Assuming this criterion is met, then readability with foster clarity which then ultimately buoys credibility.

It should be noted that Flesch's (1948) formula accounts for many aspects of readability such as the word count and syllable count in a bid to measure the mental work the reader will require to comprehend a text. As illustrated by Flesch (1948), a sentence "John loves Mary" is short and presents no reading difficulties. To this end, its Flesch reading ease score is 93.8, which means "very easy." However, if one adds more complexity to it such as- "John has a profound affection for Mary" then its Flesch reading ease score drops to 64.4.

A further appreciation of the word and syllable count is underscored if the same sentence is augmented to: "Even though John is not normally given to a display of his deeper emotions, he allegedly has developed a profound affection for Mary, as compared to the more equable feelings he seems to have for Lucy, Fran and, to a lesser extent, Sue." This has a Flesch reading ease score of 36.3. As a yardstick, this sentence's difficulty compares with the Harvard Law Review.

5.2 Flesch–Kincaid grade level

Kincaid et al. (1975), later augmented Flesch's (1948) formula, yielding the Flesch–Kincaid grade level index from Flesch's initial work. The index devised by Kincaid et al. (1975) denotes the years of study one would need to adequately comprehend the text in question. This interpretation makes it easier to compare different values. The Flesch Reading Ease score is arrived at by using this equation:

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

Source: Kincaid et al. (1975)

From the Flesch-Kicaid grade level formula, texts can be scored from 0 to 18 with the conclusion that the higher the grade level, the more difficult to read. The Flesch-Kincaid grade level formula distinguishes itself from Flesch's reading ease score as it offers a more precise number of years of education one should have in order to comprehend the text in question. This premise

is founded on the assumption that increasing the length of both, words and sentences makes it harder to read and to understand a text (Hensel, 2014). Furthermore, the overall score of the Flesch-Kincaid grade level is founded on the American education system and in essence specifies the number of years of education the reader has had since age 6. To this end, if a text scores 8, the text should be comprehensible for an average American student that has had 8 years of education ergo, an adolescent between the ages of 13 and 14.

A contrast of both the Flesch reading ease formula and the Flesch-Kincaid grade level is illustrated in Table 1.

Table 1: Interpretation of the Reading Ease scores with estimated Reading Grade, by Flesch (1948)

Reading Ease Score	Interpretation	Estimated Reading Grade
0–30	Very difficult	College graduate
30–50	Difficult	13th to 16th grade
50–60	Fairly difficult	10th to 12th grade
60–70	Standard	8th and 9th grade
70–80	Fairly easy	7th grade
80–90	Easy	6th grade
90–100	Very easy	5th grade

Source: Hensel (2014)

As affirmed by Luangaram and Wongwachara (2017:5), “the Flesch–Kincaid grade level index is probably the most widely cited measure of readability in the literature on central bank communication”. As Graesser et al. (2004:7) cautioned, however, the Flesch–Kincaid grade level score yields the best results if the text being studied has more than 200 words. This reservation does not apply to this study, as all the SARB MPC statements are well over the 1 000 word mark. This study relies on the two methods as the Flesch ease score (Flesch, 1948) can examine ease of reading the SARB MPC statements, whilst the Flesch–Kincaid grade level index simultaneously acts as proxy to clarity (Jansen (2011a).

6. RESULTS

The computation results are consistent with the graphical evidence discussed under the methodology. As per the discussion, readability of SARB’s MPC statements is measured by the

Flesch reading ease score and the Flesch–Kincaid grade level.

The SARB MPC statement data was structured at a 2-month interval, which is in line with SARB's MPC meetings and hence post-MPC meeting statements. The first set of results is a computation of SARB's Flesch–Kincaid Grade Level scores over the 20 years, as illustrated in Figure 1.

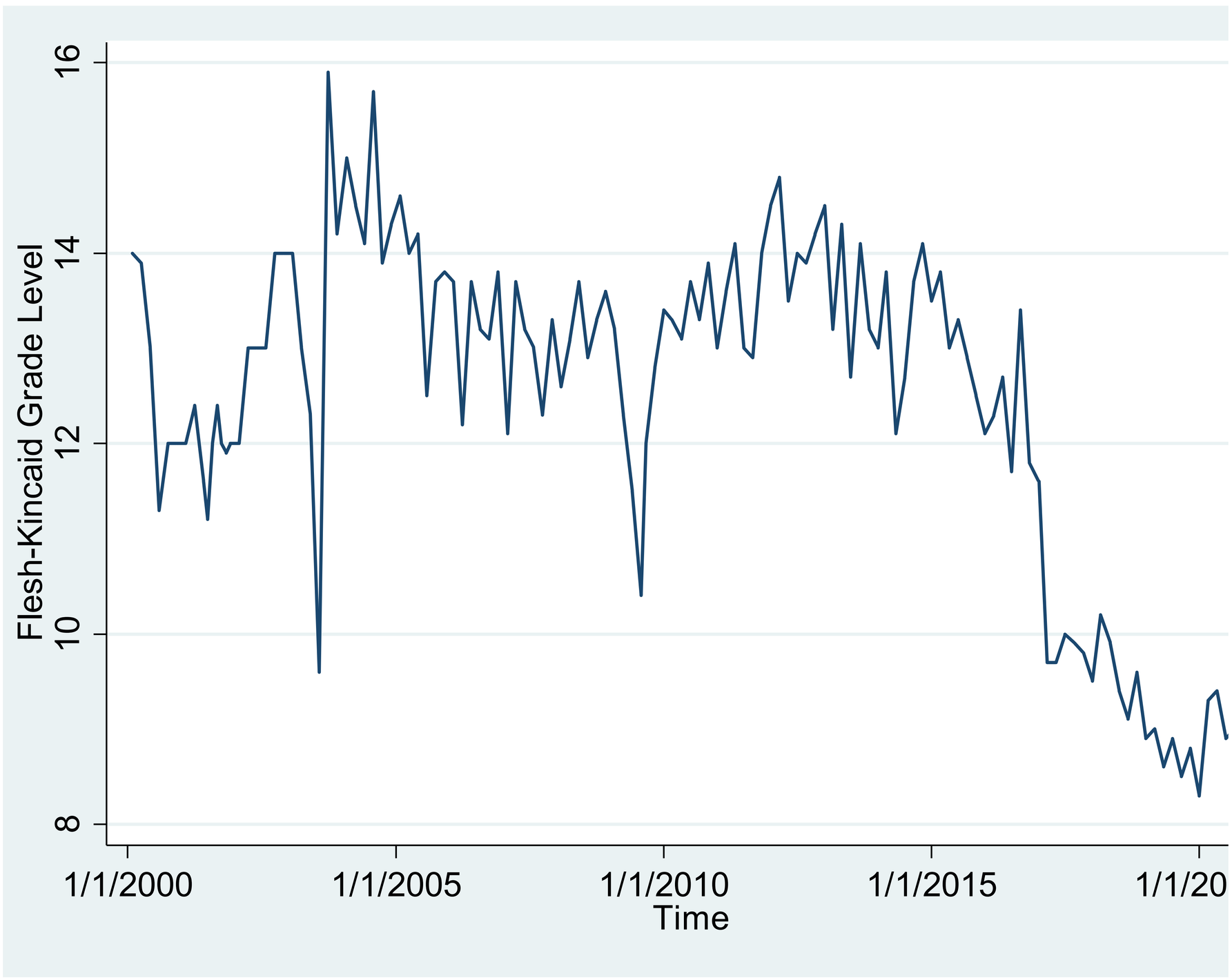

Figure 1: Flesch–Kincaid Grade Level scores for the SARB MPC statements

As highlighted earlier, the Flesch–Kincaid grade level index represents the years of study needed to fully understand the text. The computation ably illustrates how the SARB's earlier MPC statements averaged around 13 which by any standard is a high score. As illustrated in Table 1, a Flesch–Kincaid grade level of 13 is difficult to comprehend. However, it is clear that by 2016, the score had dropped to below 10 illustrating higher readability and perhaps more clarity in communication.

Given the inverse nature of the Flesch Reading Ease Score and Flesch–Kincaid grade level score, the Flesch Reading Ease Score computation (see figure 2) post 2016 only affirms the Flesh-Kincaid findings as it soars above the 50 score which markedly indicates that the MPC statements were relatively easier to read post 2016.

The computations however fluctuate randomly around 40 from 2000 to about January 2015. Thereafter there was an upward trend between 2015 and 2020.

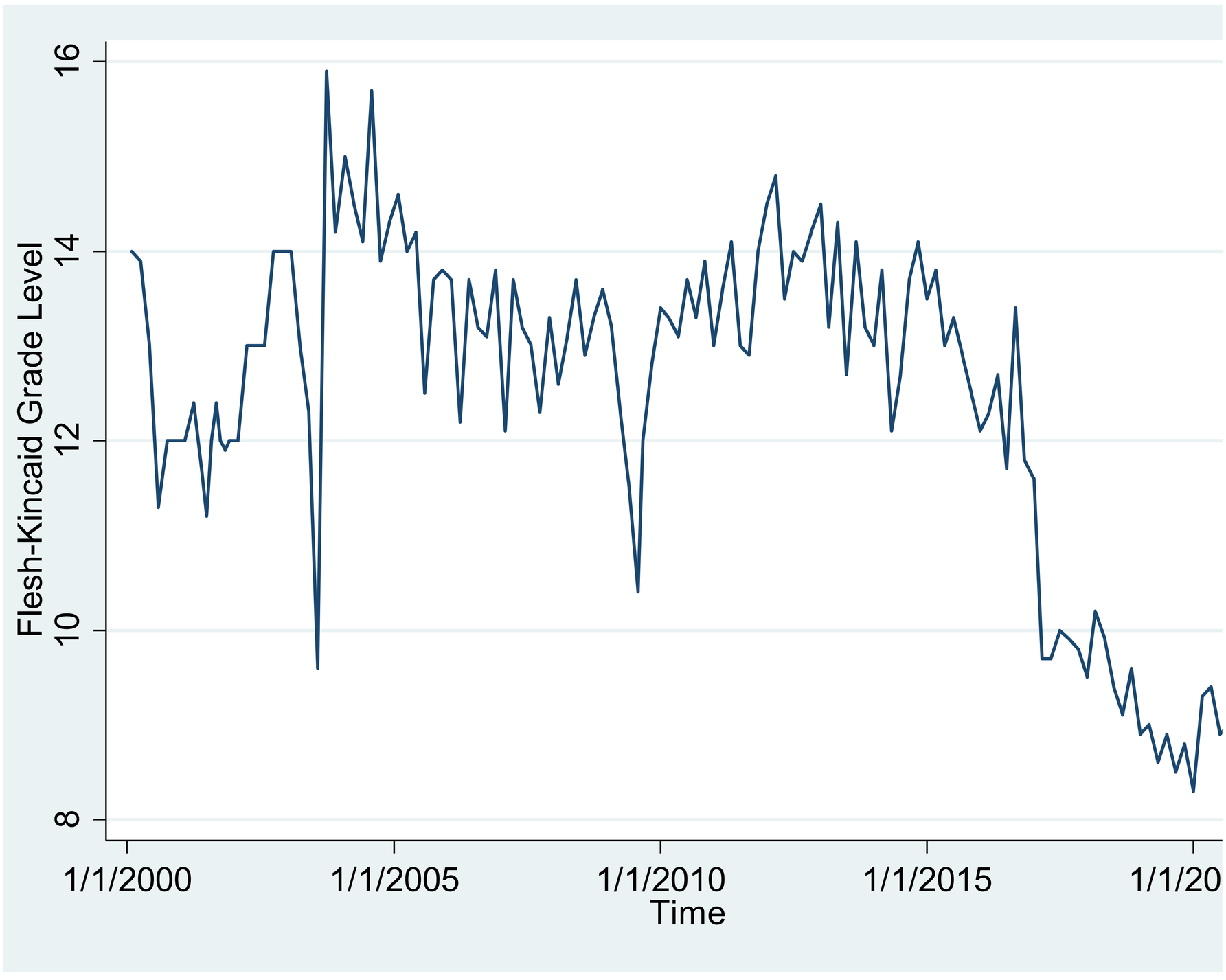

Figure 2: Flesch Reading Ease Score computation.

In approaching SARB's MPC statements with a dual pronged method which relies on two formulas, the study illustrates that despite the timeline in question, readability fundamentals such as word count, sentence length and syllables still offer a basis for text readability in line with both the Flesch (1948) and Kincaid et al. (1975) methods.

This is underscored by comparing the Flesch reading ease score computation with the Flesch–Kincaid grade level index in Figure 3 which affirms the inverse nature of the trend but the same results. Ergo, the Flesch Reading Ease score increases when the Flesch–Kincaid Grade Level score drops.

It should be noted, however that although the Flesch reading ease score appears to illustrate a more pronounced fluctuation compared to the Flesch–Kincaid grade level index computation as illustrated in Figure 3, the trend illustrates the same results. This rather pronounced movement in the Flesch reading ease score is attributed to the Flesch-Reading-Ease score which lies between 1 and 100 as opposed to the Flesch–Kincaid grade level which lies between 1 and 18.

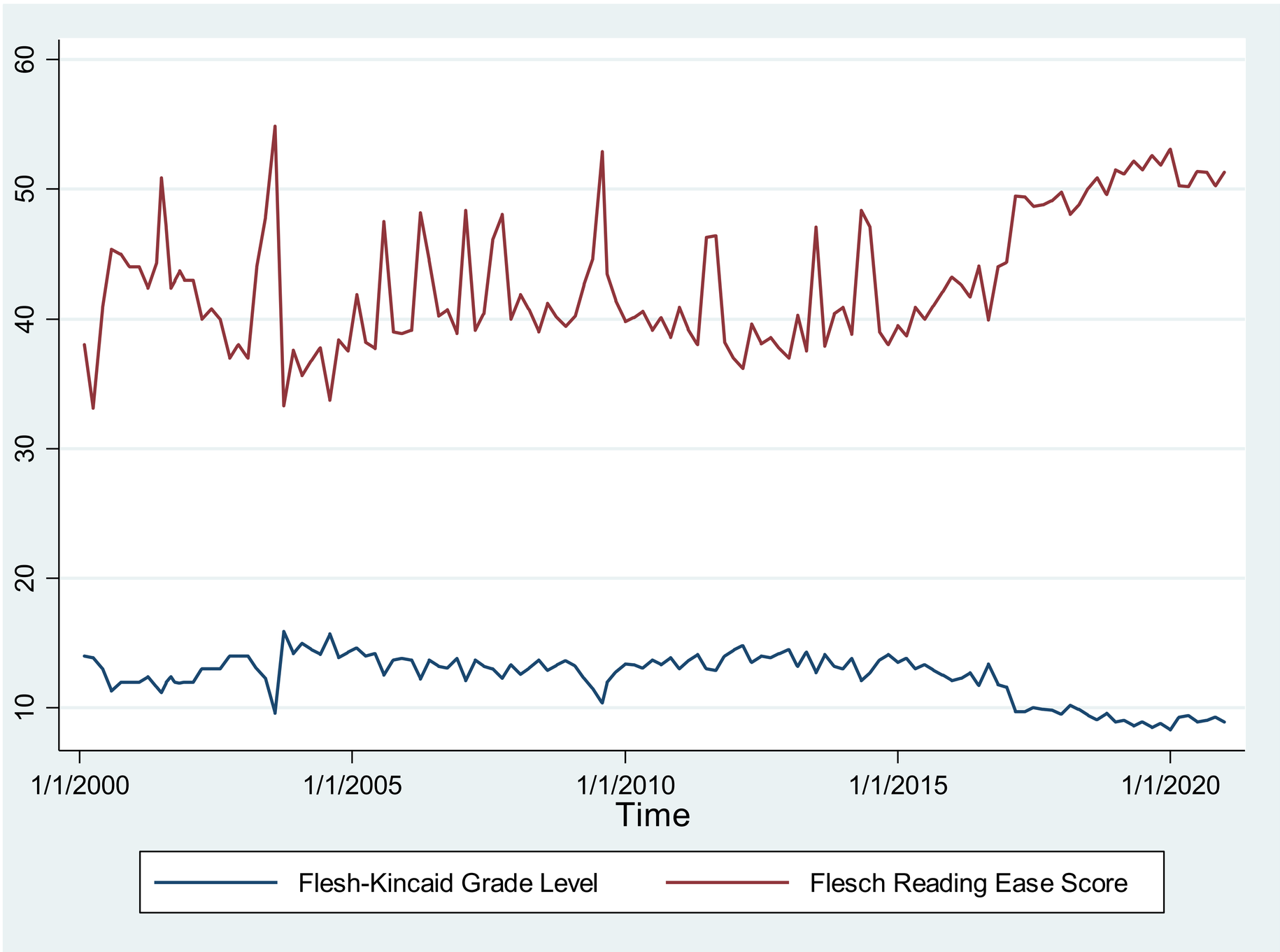

Figure 3: Flesch–Kincaid Grade Level and Flesch Reading Ease Score computations

7. DISCUSSION

Over the twenty-year span, the Flesch–Kincaid grade level index exhibits a significant drop from

the highs of the early 2000s of about 14 to averages of 9 in the late 2010s. This is reaffirmed by the Flesch reading ease score also climbing to over 50 post-2016, signalling an easing in readability. This indeed brings attention to SARB's communication framework and whether this was a deliberate effort to ease readability in a bid to aid comprehension post 2015. However, this raises the question of whether the SARB's easing of its MPC statements' readability has yielded more clarity as qualified by Bulíř et al. (2013).

The findings of this study clearly show that SARB's MPC statements' readability as qualified by Flesch (1948) and Kincaid et al. (1975) were rather irregular until 2016. On both the Flesch reading ease score and the Flesch–Kincaid grade level score, there is a clear emergence of the trend. The Flesch–Kincaid grade level score dropped to below 10 and stayed below 10. Furthermore, the Flesch Reading Ease Score also climbed to above 50 in the same period offering further affirmation of a change in SARB's communication framework.

One possible explanation for this is SARB's strategic move that would see the Reserve Bank increase its transparency by offering the rationale behind its policy decisions, which was announced on 21 May 2015. In the relatively longer eleven-page MPC statement, Governor Lesetja Kganyago (South Africa Reserve Bank, 2015:11) revealed:

> From the next meeting in July the Bank will take further steps to increase transparency by publishing the assumptions underlying the Bank's forecast with the MPC statement (South African Reserve Bank, 2015:11).

This immediately is exhibited in the subsequent MPC statement dated 23 July 2015, where Governor Lesetja Kganyago uses the noun assumption and the verb assume 6 times, compared to only once in the May 2015 MPC statement.

The results also offer a cross survey of communication clarity at the time of the global financial crisis. As submitted by Bulíř et al (2013:13):

> The global financial crisis has presented unique challenges for monetary policy, including on the communication front, as policymakers have aimed to simultaneously reassure the public and communicate the potential vulnerabilities.

As illustrated in Figures 1 and 2, the computations exhibits more sharp movements in both the Flesch Reading Ease Score Computation and the Flesch–Kincaid grade level index in the wake of the 2008 financial crisis. Bulíř et al. (2013) determined that central banks sought to reassure the public during the global financial crisis and this is evidently reaffirmed in SARB's MPC communications. As illustrated in Figure 1, the in 2009, Flesch–Kincaid Grade Level drops from 13 to just over 10 as the Flesch Reading Ease Score rises from 40 to 53 (see Figure 2). This clearly shows a sharp increase in SARB's readability (see Table 1 for validation). The

explanation here goes back to Bulíř et al. (2013), who affirm central banks' determination to reassure the public at the height of the global financial crisis and this was evident in the sentence count in addition to the relatively wordier text. What is surprising however is the increase in the SARB's MPC statements' word count while simultaneously increasing readability.

Overall, the study concurs with Luangaram and Wongwachara (2017) whose study revealed that despite central bank communications becoming more readable in terms of syntactic structure, the amassed reliance on academic language over time had in turn seen the overall level of complexity surge.

As a policy recommendation, this study suggests an approach where SARB prioritises clarity and only focuses on information as a secondary facet to its monetary communications. This policy recommendation augments Bholat et al. (2019) whose study on Bank of England's communications revealed that simple communicative techniques increased public comprehension and trust in monetary and macroeconomic policy messages. In addition, a fundamental conclusion was that simplification of language increases public comprehension more than the inclusion of visuals. To this end, SARB would hasten monetary transmission to the 'inattentive public' (see Reid 2011) if there is clarity which is a conduit to transparency as concluded by Bholat et al. (2019).

8. CONCLUSION

This paper employed Flesch–Kincaid Grade Level and Flesch Reading Ease Score textual analysis to SARB MPC statements from January 2000 to January 2021 to measure to readability of the statements in questions and also evaluate if there has been a movement in SARB's MPC clarity. The study was able to illustrate using computation analysis the movement in SARB's MPC communications readability bearing in mind the complex nature of appraising central bank communication.

In so doing, the study was able to add to the only emerging literature on African central bank communication literature while offering a wide time frame given the twenty one year span of MPC statements examined. This study paper contributed to the only emerging African central bank communication literature by firstly deploying the Flesch Reading Ease Score and the Flesch–Kincaid grade level index to 133 SARB MPC statements to gauge readability and hence SARB's clarity. Secondly, the using computation analysis, the study was able to quantitatively digest the data relying methodologically sound methods in central bank communication to create a foundation for future studies on the evolution of SARB's MPC communications and clarity.

Overall, the study finds clarity has varied over the past twenty years however, relying on the Flesch–Kincaid Grade Level, there has been an improvement in clarity from 2016 as the

communications are more readable.

Nonetheless, there are limitations to this study. Both the Flesch Reading Ease Score and the Flesch–Kincaid grade level index judge readability on metric such as word complexity and length of sentence while most of the central bank MPC communications are targeted to a specific group also called the “attentive public” (see Reid 2011). This can be a limitation as the same “attentive public” is quite savvy with macroeconomic language.

Even so, this study contributes to the literature in novel ways and creates a foundation for future comparative inquisitions into SARB’s clarity.

REFERENCES

Amato, J., Morris, S., & Shin, H. (2002). Communication and monetary policy. *Oxford Review of Economic Policy,* 18(4): 495-503. Available from: http://www.jstor.org/stable/23606741

Anand, A., Basu, S., Pathak, J., & Thampy, A. (2021). The impact of sentiment on emerging stock markets. *International Review of Economics & Finance*, 75: 161-177. Available from: https://doi.org/10.1016/j.iref.2021.04.005

Anderes, M., Rathke, A., Streicher, S. & Sturm, J.-E. (2021). The role of ECB communication in guiding markets public *Choice*, 186(3-4): 351-383. Available from: https://doi.org/10.1007/s11127-019-00733-0

Arseneau, D.M. (2020). *Central bank communication with a financial stability objective*. Finance and Economics Discussion Series 2020-087. Washington: Board of Governors of the Federal Reserve System. Available from: https://doi.org/10.17016/FEDS.2020.087

Bholat, D., Broughton, N., Ter Meer, J., & Walczak, E. (2019). Enhancing central bank communications using simple and relatable information, *Journal of Monetary Economics*,. 108: 1-15. Available from: https://doi.org/10.1016/j.jmoneco.2019.08.007

Blinder, A. (1999). *Central banking in theory and practice*, vol. 1, Boston: The MIT Press. Available from: https://EconPapers.repec.org/RePEc:mtp:titles:0262522608

Blinder, A., Ehrmann, M., Fratzscher, M., de Haan, J. & Jansen, D.-J. (2008). Central bank communication and monetary policy: A survey of theory and evidence. *Journal of Economic Literature*, 46(4): 910-945. Available from: https://www.jstor.org/stable/27647085

Blinder, A., Goodhart, C., Hildebrand, P., Lipton, D. & Wyplosz, C. (2001). *How do central banks talk?*. Geneva: Geneva Reports on the World Economy.

Blot, C., & Hubert, P. (2018). *Central bank communication during normal and crisis time.* Sciences Po publications. Available from: https://ideas.repec.org/p/spo/wpmain/infohdl2441-52p48pif5099i9i8uilpqhgnt4.html

Botha, B., de Jager, S., Ruch, F. & Steinbach, R. (2017). *The quarterly projection model of the SARB*. Working Paper WP1701 Working Papers 8000. Pretoria: South African Reserve Bank.

Bulíř, A., Čihák, M. & Jansen, D.-J. (2013). What drives clarity of central bank communication about inflation? *Open Economies Review*, 24: 125-145. Available from: https://doi.org/10.1007/s11079-012-9259-z

Buliř, A., Šmídková, K., Kotlán, V. & Navrátil, D. (2008). Inflation targeting and communication: It pays off to read inflation reports. IMF Working Papers 2008, 234, A001, available from: https://doi.org/10.5089/9781451870923.001.A001

Candian, G. (2021). Central bank transparency, exchange rates, and demand imbalances. *Journal of Monetary Economics*, 119: 90-107. Available from: https://doi.org/10.1016/j.jmoneco.2021.03.001

Coco, A., & Viegi, N. (2019). The monetary policy of the South African Reserve Bank: Stance, communication and credibility. Working Papers 788, Economic Research Southern Africa. Available from: https://econpapers.repec.org/paper/rzawpaper/788.htm

Eusepi, S., & Preston, B. (2010). Central bank communication and expectations stabilization. *American Economic Journal: Macroeconomics*, 2(3): 235-271. Available from http://www.jstor.org/stable/25760315

Flesch, R. (1948). A new readability yardstick. *Journal of Applied Psychology*, 32(3): 221–233. https://doi.org/10.1037/h0057532

Fracasso, A., Genberg, H., & Wyplosz, C. (2003). How do central banks write? An evaluation of inflation reports by inflation targeting central banks. Geneva: Geneva Reports on the World Economy Special Report 2.

Geraats, P.M. (2002). Central bank transparency. *The Economic Journal*, 112(483): F532–F565. 112. Available from: https://doi.org/10.1111/1468-0297.00082

Graesser, A.C., McNamara, D.S., Louwerse, M.M., & Cai, Z. (2004). Coh-metrix: analysis of text on cohesion and language. Behavior research methods, instruments, & computers : *A Journal of the Psychonomic Society*, 36(2): 193–202. Available from: https://doi.org/10.3758/bf03195564

Hensel, H. (2014). Validation of the Flesch-Kincaid Grade Level within the Dutch educational system. Available from: https://essay.utwente.nl/64884/1/Hensel,%20T.N.C.A.%20-%20s0170860%20(verslag).pdf

Jansen, D.J. (2011a). Does the clarity of central bank communication affect volatility in financial markets? Evidence from Humphrey-Hawkins testimonies. *Contemporary Economic Policy*, 29: 494-509. Available from: https://doi.org/10.1111/j.1465-7287.2010.00238

Jansen, D.J. (2011b). Mumbling with great incoherence: Was it really so difficult to understand Alan Greenspan? *Economics Letters*, 113(1): 70-72. Available from: https://doi.org/10.1016/j.econlet.2011.05.034

Kincaid, J.P., Fishburne, R.P., Rogers, R.L., & Chissom, B.S. (1975). Derivation of new readability formulas (Automated Readability Index, Fog Count and Flesch Reading Ease Formula) for Navy enlisted personnel. *Research Branch Report*, 8-75, Millington, TN: Naval Technical Training, U.S. Naval Air Station, Memphis, TN.

Lee, J., Ryu, D., & Kutan, A.M. (2016). Monetary policy announcements, Communication, and stock market liquidity. *Australian Economic Papers*, 55: 227-250. Available from: https://doi.org/10.1111/1467-8454.12069

Luangaram, P., & Wongwachara, W. (2017). *More than words: A textual analysis of monetary policy communication*. PIER Discussion Papers 54, Puey Ungphakorn Institute for Economic Research.

Möller, R., & Reichmann, D. (2021). ECB language and stock returns – A textual analysis of ECB press conferences. *Quarterly Review* of Economics and Finance, 80: 590-604. Available from: https://doi.org/10.1016/j.qref.2021.04.003

Montes, G., & Nicolay, R. (2017). Does clarity of central bank communication affect credibility? Evidences considering governor-specific effects. *Applied Economics*, 49: 3163-3180. Available from: https://doi.org/10.1080/00036846.2016.1254346

Montes, G., Oliveira, L.V., Curi, A., & Nicolay, R. (2016). Effects of transparency, monetary policy signalling and clarity of central bank communication on disagreement about inflation expectations. *Applied Economics*, 48: 590-607. Available from: https://doi.org/10.1080/00036846.2015.1083091

Reid, M. (2011). Communication as a strategic monetary policy tool: An evaluation of the effectiveness of the South African Reserve Bank's communication. Dissertation, Stellenbosch University, Department of Economics.

Reid, M., Siklos, P., Guetterman, T. & Du Plessis, S. (2020). *The role of financial journalists in the expectations channel of the monetary transmission mechanism*. CAMA Working Paper No. 37/2020, Available from: http://dx.doi.org/10.2139/ssrn.3583279

Resche, C. (2004). Investigating "Greenspanese": From hedging to "fuzzy transparency". *Discourse & Society*, 15(6): 723-744. Available from: http://www.jstor.org/stable/42888649

Rholes, R., & Petersen, L. (2021). Should central banks communicate uncertainty in their projections? *Journal of Economic Behavior and Organization*, 183: 320-341. Available from: https://doi.org/10.1016/j.jebo.2020.11.013

Rosa, C., & Verga, G. (2007). On the consistency and effectiveness of central bank communication: Evidence from the ECB, *European Journal of Political Economy*, 23(1): 146-175. Available from: https://EconPapers.repec.org/RePEc:eee:poleco:v:23:y:2007:i:1:p:146-175

Solnik, B. (1983). The relation between stock prices and inflationary expectations: The international evidence*. The Journal of Finance*, 38(1): 35-48. Available from: https://doi.org/10.2307/2327636

Su, S., Ahmad, A.H. & Wood, J. (2020). How effective is central bank communication in emerging economies? An empirical analysis of the Chinese money markets responses to the people's bank of China's policy communications. *Review of Quantitative Finanance and Accounting*, 54, 1195–1219. Available from: https://doi.org/10.1007/s11156-019-00822-7

Walsh, C. (2003). Accountability, transparency, and inflation targeting. *Journal of Money*, Credit and Banking, 35(5): 829-849. Available from: http://www.jstor.org/stable/3649830

Woodford, M. (2001). Monetary policy in the information economy. Proceedings - Economic Policy Symposium - Jackson Hole, Federal Reserve Bank of Kansas City, 297-370. Available from: https://econpapers.repec.org/article/fipfedkpr/y_3a2001_3ap_3a297-370.htm

Woodford, M. (2005). *Central-bank communication and policy effectiveness*. Discussion Paper No. 0506-07, Department of Economics Columbia University, Columbia University, Department of Economics Discussion Paper Series, New York, NY, September and National Bureau of Economic Research (NBER) Working Paper No. 11898, Issued in December, available from: www.nber.org/papers/w11898