Central Bank Communication with Public: Bank of England and Twitter (X)*

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Abstract

Central banks increasingly use social media to communicate beyond financial markets, yet evidence on public engagement effectiveness remains limited. Despite 113 central banks joining Twitter between 2008-2018, we lack understanding of what drives audience interaction with their content. To examine engagement determinants, we analysed 3.13 million tweets mentioning the Bank of England (2007-2022), including 9,810 official posts. We investigate posting patterns, measure engagement elasticity, and identify content characteristics predicting higher interaction. The Bank's posting schedule misaligns with peak audience engagement times, with evening hours generating highest interaction despite minimal posting. Cultural content (Alan Turing £50 note) achieved 1,300 times higher engagement than routine policy communications. Engagement elasticity averaged 1.095 with substantial volatility during events like Brexit, contrasting with the Federal Reserve's stability. Media content dramatically increased engagement: videos (1,700%), photos (126%), while monetary policy announcements and readability significantly enhanced all metrics. Content quality and timing matter more than posting frequency for effective central bank communication. These findings suggest central banks should prioritize accessible, media-rich content during high-attention periods rather than increasing volume, with implications for digital communication strategies in fulfilling public transparency mandates.

Keywords: Central Bank Communication, Twitter, X, Public Engagement, Monetary Policy.

JEL Classification: E44, E52, E58, G14, G15, G41

*The views expressed are those of the authors and do not necessarily reflect the views of any institution.

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1. Introduction

Central banks have undergone a profound transformation in their communication strategies over recent decades, transitioning from a culture of opacity to one characterized by transparency and active public engagement (Blinder et al. 2008, Issing 2020). This evolution reflects the growing recognition that communication itself constitutes a vital monetary policy instrument (Coibion, Gorodnichenko, and Weber 2022). Historically, central banking was shrouded in secrecy – epitomised by former Bank of England Governor Montagu Norman's dictum "*never explain, never excuse*" – where policymakers deliberately withheld information from the public (Bernanke 2007). This approach continued through the era of Alan Greenspan, who as Federal Reserve Chairman employed what became known as "Fedspeak" – a "language of purposeful obfuscation" characterized by deliberately ambiguous statements. Greenspan himself acknowledged this strategy, once remarking to Congress, "*If I seem unduly clear to you, you must have misunderstood what I said*" demonstrating how central bankers actively avoided transparency (Geraats 2018).

The paradigm shift toward openness accelerated under Ben Bernanke's Federal Reserve chairmanship, who famously characterised monetary policy as "*98 percent talk and 2 percent action*" (Bernanke 2015). Modern theoretical frameworks, including Barro-Gordon and New Keynesian models, demonstrate that credible, clear communication can bolster central bank legitimacy, reduce uncertainty in financial markets, and strengthen monetary policy transmission (Gorodnichenko, Pham, and Talavera 2021, Lamla and Vinogradov 2019, Coibion, Gorodnichenko, and Weber 2022). By openly communicating policy objectives and decisions, central banks create informative news that complements their actions while reducing noise and uncertainty in public interpretation of policy. This approach enhances policy predictability, helps anchor expectations, and serves a democratic accountability function by legitimising independent central banks through transparent dialogue about policy rationales (Bernanke, Reinhart, and Sack 2004).

The 2008 global financial crisis marked another watershed moment, as unconventional monetary policies like forward guidance and quantitative easing further elevated the importance of communication as a policy tool. Central banks not only increased the frequency and scope of their communications but also expanded their target audience beyond financial experts to include the general public (Assenmacher et al. 2021, Masciandaro et al. 2024). Despite this expanded outreach, empirical evidence suggests limited public engagement with traditional central bank communications. Kumar et al. (2015) found minimal readership of Reserve Bank communications in New Zealand, while Van der Cruijsen, Jansen, and de Haan (2015) documented poor knowledge of the European Central Bank's objectives among Dutch households, along with little interest in becoming

better informed. This apparent disconnect presents a significant challenge as central banks increasingly seek to communicate directly with broader audiences (Haldane 2018, Bholat et al. 2019).

The rise of social media platforms, particularly Twitter (recently rebranded as X), has provided central banks with novel channels to disseminate information widely and interactively. This shift represents a substantial evolution in how central banks conceptualize their communication strategies and target audiences, offering potential solutions to the engagement gap identified in previous research. A growing body of evidence suggests that effective communication through these channels can shape not only market expectations of future policy but also influence household inflation expectations (Binder 2017, Binder, Kuang, and Tang 2023, Coibion, Gorodnichenko, and Weber 2022, Kryvtsov and Petersen 2021). For example, Angelico et al. (2022) demonstrate that real-time social media dialogue can capture shifts in inflation sentiment, while Ehrmann and Wabitsch (2022a) highlight the connection between transparency, accountability, and central banks' approach to non-expert audiences.

Adoption, Content, and Engagement. Central banks worldwide have rapidly adopted social media, especially Twitter, (e.g., Kyriakopoulou and Ortlieb (2019) documented that 113 central banks joined Twitter between 2008 and 2018) to reach broader audiences. Blinder et al. (2024) find that Twitter is the most popular platform for central banks: nearly all of a sample of 75 central banks (including all major ones) now maintain official Twitter accounts[1]. This uptake spans both advanced and emerging economies. In fact, emerging market central banks are among the most active Twitter users - central banks in Latin America (e.g. El Salvador, Mexico, Ecuador, Argentina) rank in the top 10 by tweet frequency, demonstrating a particularly strong social media presence (Blinder et al. 2024). The Bank of England was a pioneer in central bank adoption of social media, launching its Twitter account (@bankofengland) in January 2009, making it the one of the first European central bank to establish a presence on the platform (Masciandaro et al. 2024). Initially, the account was used sparingly, primarily to signpost users to information published on the official website. For example, while the Bank of England joined Twitter in January 2009, it did not tweet until July 2011[2]. Over time, the Bank's approach evolved to include more direct engagement with the public.

However, central banks vary widely in how they use Twitter. In a multi-year survey, Korhonen and Newby (2019) examined the Twitter activity of 40 European central banks and

[1] Notable exceptions are rare; for example, the People's Bank of China doesn't use X/Twitter but engages the public via Weibo, which is China's equivalent of X in China

[2] Here is the first tweet from the Bank of England's Twitter account: https://x.com/bankofengland/status/86720699535851520

financial supervisors, finding large disparities in tweeting frequency and content across institutions. Masciandaro et al. (2024) show that announcements about new banknotes or commemorative coins often generate disproportionate engagement. Yet tweets explicitly on monetary policy can also garner widespread attention if they clarify policy shifts or respond quickly to breaking developments (Kyriakopoulou and Ortlieb 2019). Analyses of content typically reveal a blend of monetary policy statements, financial stability bulletins, educational infographics, and community outreach messages (Haldane and McMahon 2018, Gorodnichenko, Pham, and Talavera 2021). For instance, European central banks (ECB) employ "layered communication," mixing expert-level detail (interest-rate decisions, forward guidance) with plainer language for the public (Ehrmann and Wabitsch 2022b). As underlined by Lamla and Vinogradov (2022) the Bank of England stands out for its efforts to use clear and accessible language on Twitter. Unlike the Fed and ECB, which often tweet links to press releases or speeches, the BoE's Twitter team presents information in a simplified form, using 'simple words and concise infographics'. The BoE was one of the first central banks to actively incorporate such plain-language content in its social media posts. For example, after each Monetary Policy Committee meetings, the BoE tweets key decisions with graphical summaries and minimal jargon, aiming to make policy news digestible for non-experts. Research suggests this strategy can indeed make a difference: Haldane and McMahon (2018) found that providing information in an easy-to-understand format (versus a technical release) led to stronger belief updates by the public, lending support to the BoE's approach.

A key question in recent research is what content central banks share on social media and how the public engages with it. Although few, the literature reveals several patterns in the types of posts and their reception. When central banks do tweet about core monetary policy decisions or new banknotes or coins and currency design, those posts tend to see bumps in engagement. For instance, Gorodnichenko, Pham, and Talavera (2024) found the Fed's tweets about monetary policy and economic conditions drew significantly more user interactions than tweets on peripheral topics. In their sample, tweets referencing *inflation*, *unemployment*, or *financial stability* issues elicited more retweets, indicating higher interest when central banks address topics clearly within their mandate.

In addition the topics, communication style and tone are important for public engagement. How a message is conveyed can determine its reach. Ehrmann and Wabitsch (2022b) highlight that on Twitter tone matters - tweets that used simpler, more neutral language tended to just relay information, whereas tweets containing strong opinions or dramatic wording (often by non-official accounts commenting on the ECB) were much more likely to be shared widely. Another aspect of style is clarity. Korhonen, Newby, and Elonen-Kulmala (2024) focus on the readability of ECB communications (including tweets,

speeches, and press conference statements) and its impact on public engagement. They conclude that greater clarity leads to stronger engagement - when the ECB's language is easy to understand, its social media posts garner more likes, retweets, and replies. This implies that clarity itself, not just the importance of the news, drives people to interact.

Central banks measure success on social media partly by engagement metrics (e.g. retweets, likes, follower growth). For example, Masciandaro et al. (2024) shows that, on average, only 2.5% of G20 central banks' tweets were direct replies to other users. Thus, while central banks are active online, they are generally not using Twitter as a forum for dialogue but rather as a one-way publishing platform. Public engagement is mostly measured in how people react to central bank posts, not two-way communication. Haldane (2018) underline the importance of two-way communication (effective communication), particularly for institutions like central banks, needs to evolve beyond traditional one-way pronouncements ("communication means mouths") towards genuine two-way conversation ("conversation means ears as much as mouths"). This shift necessitates less focus on simply conveying information and more on engagement, which includes actively listening to and understanding the public ("understanding the public") to build trust and legitimacy. Reaching a wider, more diverse audience beyond just experts and markets requires adapting language to be simpler and more relatable, using personalised and localised messaging, and employing new methods to connect with previously unreached segments of society. Ultimately, fostering public understanding and trust involves more listening and conversation, and potentially less unilateral "action". In this regard, we can say that the Bank of England stands out as one of the most active central banks on Twitter, using the platform not only to disseminate information but also to engage directly with individual users [3]

[3] For example, the following exchange, which took place on X (Twitter at that time) on February 3, 2022, captures a dialogue between Brendan Dempsey (@brendempsey) (an ordinary Twitter user) and the Bank of England (@bankofengland) concerning the Bank's decision to raise interest rates to 0.5%.
At 12:54 UTC on February 3, 2022, Brendan Dempsey initiated the conversation by posing a question to the Bank of England: *"Can you explain how increasing interest rates helps do this? I'm assuming there's a fiscal logic, but on the face of it, your response to mounting food, energy, insurance, water, and petrol prices is to also hike mortgage repayments, which will also hit renters."*
The Bank of England responded at 15:17 UTC on the same day, stating: *"We understand that this is a difficult time for people across the country. We also understand that monetary policy has little impact on international energy prices. However, the best contribution we can make to the UK economy is to stabilise inflation in the medium term. To do this, we have determined that a rise in Bank Rate is required. I would encourage you to view the Monetary Policy Report (MPR) and Press Conference for further information: [https://t.co/4Ia7gRGWgR]."*
At 15:29 UTC, Brendan Dempsey replied, expressing appreciation but seeking further clarification: *"Thanks for replying. I understand inflation needs to be curbed, but what I asked—and your MPR doesn't explain—is how a rise in the Bank Rate does that. To combat rising inflation and an increased cost of living, you're further increasing the cost of living. How does that help?"*
The Bank of England then provided a follow-up response, also on February 3, 2022, explaining: *"Inflation in essence shows an imbalance between supply and demand. Monetary policy is a demand-side policy, and as such, a rise in Bank Rate reduces demand."* see full conversation at https://x.com/brendempsey/status/1489220809361133574

Effects on Market Expectations and Public Understanding. One of the ultimate goals of central bank communication is to shape expectations - whether it be financial market expectations for interest rates or the public's expectations for inflation and the economy. A crucial question is how social media communication feeds into this goal. The evidence so far is mixed, indicating some benefits of new channels as well as limitations. Lamla and Vinogradov (2022) provides a nuanced look at this issue. Their study on Bank of England communications found that while policy announcements didn't immediately change average public expectations, individuals who received the news, often via channels like Twitter, showed better-informed economic perceptions. Twitter helped spread information wider, increasing the number of informed people. However, those following the news on Twitter tended to overestimate inflation and interest rates, being overly confident despite their errors. This suggests that although social media expands reach, traditional media might still be better for nuanced understanding, highlighting the challenge of ensuring messages are not just heard, but correctly understood.

Financial markets represent another central bank Twitter audience, though traders typically rely on faster channels for real-time reactions. Hansen and McMahon (2018) showed that specific wording in Bank of England communications measurably affected financial markets, with changes in language around forecasts moving investors' inflation and interest rate expectations. This indicates markets respond to both policy decisions and their communication style. While Twitter isn't traders' primary information source, it reinforces market messages. Relatedly, Gorodnichenko, Pham, and Talavera (2024) found positive sentiment in central bank tweets correlated with higher public inflation expectations during certain periods—suggesting social media tone can influence sentiment marginally, as when optimistic Fed tweets during low-rate environments aligned public expectations with Fed goals.

Beyond markets, research examines the penetration of central bank communication into public awareness. Before social media, studies found widespread ignorance of central bank actions and inflation targets among households. Binder (2017) documented that many U.S. consumers neither knew the Fed's inflation goal nor accurately perceived recent inflation, despite post-2008 communication expansions—a disconnect she termed "Fed speak on Main Street," highlighting that increased communication doesn't automatically improve public understanding. Social media potentially bridges this gap by enabling direct, unfiltered communication with the public. Ehrmann and Wabitsch (2022b) analysis of ECB Twitter traffic offers encouraging evidence: major announcements (like Draghi's "whatever it takes" speech) generated significant Twitter activity that evolved from initial emotional reactions toward more factual discussions centered on official ECB publications, demonstrating how accurate information gradually crowds out misinformation

when central bank messaging reaches sufficient audiences with clarity. Experimental research further confirms that simplified policy statements consistently improve public understanding and expectation accuracy compared to traditional communications, underscoring the critical importance of clarity and targeted engagement strategies when communicating with the general public.

In summary, the literature suggests that communication via Twitter has expanded the audience for central bank messages and can shape expectations at the margin, but its effectiveness hinges on how messages are crafted and received. Simply having a Twitter account is not a panacea for public understanding – content is king, and central banks must still battle confusion and misinterpretation among non-expert audiences.

Transparency, Trust, and Accountability. Using social media for outreach is part of central banking's broader transparency push, valued for both economic benefits and reinforcing institutional legitimacy. Many publications link improved communication with higher public trust. For example, in a 2018 speech, the Bank of Canada Governor Stephen Poloz emphasised that transparency helps build trust with the public and markets, making policy more effective (Poloz 2018).

One challenge in transparency is addressing multiple audiences. "Layered" communication addresses multiple audiences simultaneously. The Bank of England's communications reform tackled this by producing different tiers: in-depth releases for experts and simplified summaries with infographics for the public. Testing around 2018 showed improved public recall and understanding, leading to implementations like "Inflation in 5 minutes" and increased community outreach. Other central banks have adopted similar approaches, recognising that transparency requires not just information disclosure but engaging, comprehensible communication(Hansen and McMahon 2017) .

Social media offers central banks direct, unmediated communication channels to reach the public. During crises, these platforms enable real-time clarifications and counter misinformation. It is clear that in times of crisis, central bank tweets can correct false information online. While Blinder et al. (2024) found modest early results in reaching non-experts, "glimmers of hope" emerge when communication becomes two-way, as with the ECB's public forums and the Fed's town halls. However, risks include message oversimplification due to character limits and potential reputational damage from politicised discussions.

The evolution "from silence to Twitter" is evident as central banks now routinely tweet updates once confined to press releases. Research indicates this evolution can enhance transparency and public understanding when executed with clarity, consistency, and

audience adaptation. Current literature largely agrees that social media engagement, while challenging, is worthwhile for fostering informed, trustful dialogue between central banks and society.

This paper contributes to the literature by examining whether and how the public engages with the Bank of England on Twitter. Specifically, we make three contributions. First, we provide a comprehensive descriptive analysis of the Bank of England's communication strategy through Twitter and documenting the evolution of this approach over time. Second, by utilising the modern natural language processing techniques, we conduct a detailed analysis of public engagement patterns with the Bank of England on Twitter, identifying the types of content that generate the most significant responses. Third, we empirically investigate the determinants of engagement with Bank of England tweets, analysing factors that predict higher levels of public interaction.

Our research is situated within the broader literature on central bank transparency and digital communication strategies in the post-crisis era, extending that literature with new empirical evidence from a real-world setting. Our study leverages an extensive dataset that combines both sides of the communication exchange: all tweets posted by or referencing the Bank of England's official Twitter account. By linking the content of the Bank's communications with the social media reactions they provoke, we investigate which types of messages resonate most with the public.

This research offers several contributions to the existing literature. First, it provides novel evidence on public engagement with central bank content in a natural setting, as opposed to the controlled experiments or survey-based approaches that dominate the existing literature on non-expert audiences (e.g., Coibion et al. (2020); Binder (2017)). Second, our focus on the Bank of England—a pioneer in adopting plain-language communication and social media outreach—allows us to evaluate the real-world efficacy of a leading central bank's digital engagement strategy. Third, by analysing a comprehensive dataset of tweets about the central bank (not just the Bank's own posts), we shed light on the broader public discourse surrounding central bank communications over time.

The findings of this study aim to enrich our understanding of central bank communication in the digital age and to inform ongoing debates on transparency and engagement. In particular, identifying which types of content and messaging strategies garner the most public interaction can provide practical insights for central banks seeking to improve their outreach. Ultimately, by examining the Bank of England's experience with Twitter communication, we contribute new evidence on the opportunities and limitations of social media as a tool for enhancing the public's connection with monetary policy.

The remainder of this paper is organized as follows. Sectio-2 describes our data collec-

tion methodology and presents descriptive analyses of Bank of England communications and public responses. Section-3 outlines our empirical methodology for analysing engagement determinants. Section-4 presents our findings, and Section-5 discusses implications and Section-6 concludes.

2. Data Collection and Description

To analyse the Bank of England's (BoE) Twitter communication strategy and public engagement, we constructed a comprehensive dataset spanning from Twitter's inception in 2006 through July 2022. Data collection employed the SNScrape Python module and Selenium for large-scale Twitter data retrieval. This methodological approach was particularly valuable as it predated Twitter's 2023 rebranding to "X" and subsequent implementation of restrictive data access policies that now require enterprise-level fees monthly for comparable data collection capabilities. Second, over the period of study, patterns of usage of study followed consistent trends. However, once Twitter's ownership changed, actions by both owners and users led to changes in how Twitter was used. This creates challenges in studying the communication of central banks on Twitter over this period. We avoid this challenge by using data prior to this period.

Our data collection process encompassed two distinct components:

a. **Official BoE communications**: All tweets from the Bank of England's verified Twitter account (@bankofengland) from its first tweet in July 2011 through July 2022
b. **Public discourse**: All tweets containing the phrases "Bank of England" or "BoE" (case-insensitive) from 2007 through July 2022

While "BoE" occasionally refers to entities unrelated to the Bank of England (e.g., "Board of Education"), we implemented rigorous cleaning procedures to minimise irrelevant matches. As acknowledged in prior research (Ehrmann and Wabitsch 2022b), a small percentage of misclassified tweets inevitably remains—an inherent limitation of large-scale text scraping. The final dataset comprises approximately 3.13 million Bank of England-related tweets, with 9,810 tweets originating from the official BoE account between July 2011 and July 2022. It is essential to note, as Ehrmann and Wabitsch (2022b) emphasise, that Twitter users do not constitute a representative sample of the general population. This necessitates caution when extrapolating findings to broader public opinion. Nevertheless, the dataset provides valuable insights into how a significant segment of digitally active citizens encounters and engages with central bank communications.

2.1 Descriptive Statistics

The comprehensive dataset includes 3,126,016 tweets from 719,310 unique users spanning January 2007 through July 2022. Of these, 3,096,749 tweets (99.1%) specifically mention the Bank of England. The data reveals substantial public engagement, with total interactions reaching 11,182,248 (averaging 3.58 engagements per tweet). This engagement comprises 939,753 replies, 3,047,777 retweets, 6,877,970 likes, and 316,748 quote tweets. The median engagement of zero, despite the 3.58 average, reflects the highly skewed distribution characteristic of social media interactions.

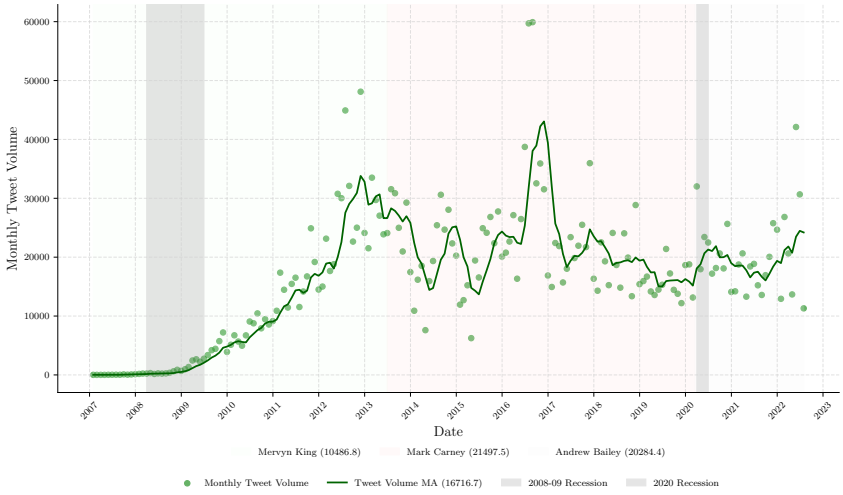


FIGURE 1. Tweets mentioning "Bank of England" or "BoE" from 2007 through 2022

2.1.1 Temporal Evolution of BoE-Related Twitter Activity

The data reveals distinctive patterns in BoE-related Twitter activity over time. Figure 1 illustrates the monthly volume of tweets mentioning "Bank of England" or "BoE" from 2007 through 2022. Three distinct phases emerge:

a. **Growth phase (2007-2013)**: Tweet volume expanded steadily, aligned with Twitter's overall user growth. Monthly references increased from mere dozens to consistently exceeding 10,000 by 2013.
b. **Stabilization phase (2014-2016)**: Volume stabilized around a baseline of approximately 20,000 monthly tweets, with periodic spikes corresponding to significant economic events.
c. **Volatility phase (2017-2022)**: While maintaining the baseline established in the previous phase, this period exhibits pronounced volatility, with dramatic spikes and troughs reflecting response to economic and political developments.

The most remarkable spike occurred in August 2016, when Brexit-related news drove the monthly count to nearly 60,000 tweets (specifically 59,915), making 2016 the year with the highest volume at 388,584 tweets. Additional significant surges occurred during 2012-2013 (coinciding with unconventional monetary policy implementations), 2017 (Brexit negotiations), and most recently in May 2022, when mentions increased to over 42,000 amid heightened public concerns regarding inflation and cost-of-living debates.

2.1.2 BoE's Official Twitter Activity and Language Distribution Patterns

Examining weekly distribution patterns (Figure 2) reveals a pronounced concentration of BoE-related discourse during weekdays, particularly on Thursdays (26.0% of all tweets, 811,376) and Wednesdays (19.8%, 619,578). Weekend activity is substantially lower, with Saturday and Sunday accounting for just 6.5% (204,128) and 6.6% (205,077) of tweets respectively. This pattern aligns with the BoE's operational schedule and the timing of key policy announcements, which typically occur on weekdays—particularly Thursdays when the Monetary Policy Committee often announces decisions.

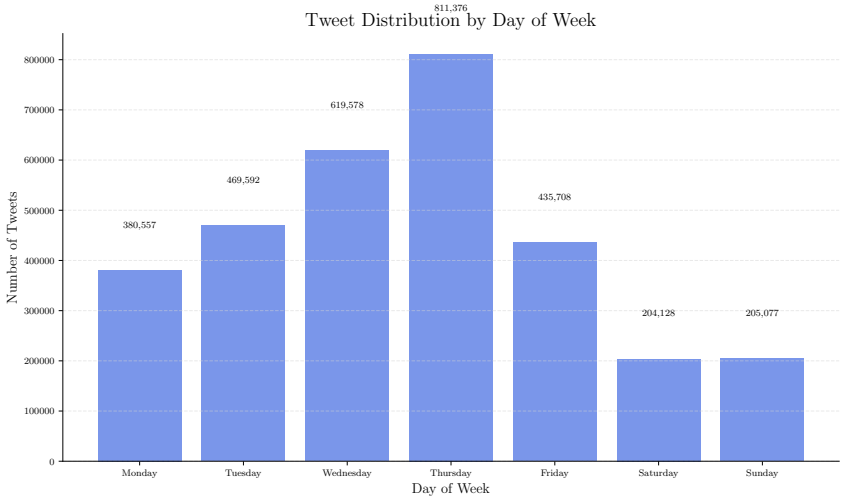


FIGURE 2. Tweet Distributions by Days

The vast majority of tweets in the dataset (97.5%, 3,046,865) are in English, with small proportions in German (0.4%, 11,962), Indonesian (0.3%, 10,336), Dutch (0.3%, 9,469), and Italian (0.2%, 6,765). This linguistic concentration reflects both the BoE's primary operational jurisdiction and the international significance of its policy decisions for global financial markets. Figure-3 focuses exclusively on the Bank's own tweet volume and illustrates how its usage patterns evolved over the 11-year period. The data reveals distinct phases of activity with several notable peaks, including a maximum of 275 tweets in Octo-

ber 2013. Overall, the BoE posted an average of 73.8 tweets per month, with substantial variation in posting frequency across the period.

A crucial observation from Figure-3 is the shifting composition of the BoE's Twitter activity. The visualization distinguishes between original tweets (green color) and replies (peach color), revealing an increasing proportion of replies over time. While original tweets dominated until approximately 2015-2016, the reply component has grown significantly since then, representing a shift toward more interactive communication. Though replies still constitute a relatively small fraction of the Bank's total activity (2,021 reply tweets compared to 7,789 original tweets over the entire period), this interactive element reflects a significant transformation in central banking communication philosophy.

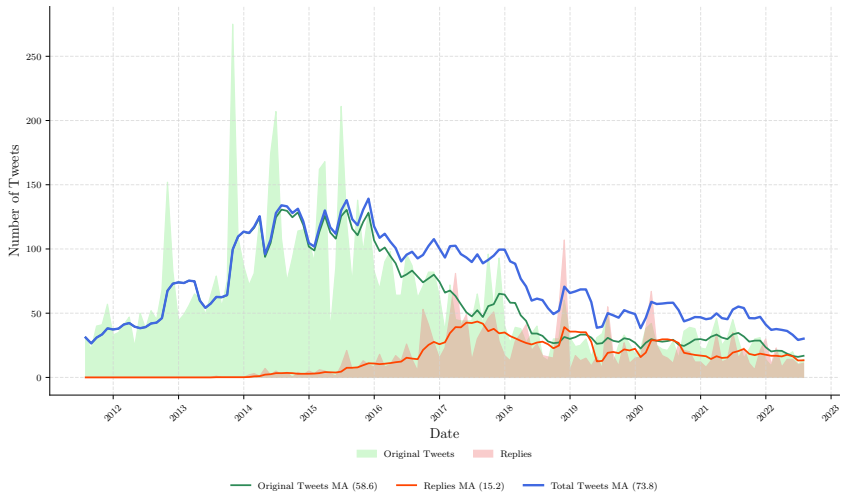


FIGURE 3. The BoE's official Twitter activity from 2011 through 2022

This evolution from unidirectional pronouncements to increasingly conversational engagement directly demonstrates what Haldane (2017) describes as the shift from "communication means mouths" to "conversation means ears as much as mouths." Historically, senior central bank officials were reluctant to engage in public dialogue—for instance, Deputy Governor Harvey (1934) expressed "nervous[ness] at the thought of publication" and considered it "dangerous" to explain policy (Issing 2019). The modern BoE Twitter presence represents a stark departure from that conservative stance, embodying the broader trend toward transparency in central banking.

2.1.3 Hourly Engagement Patterns in Bank of England Twitter Activity

Our analysis of Bank of England Twitter engagement reveals significant patterns in both the temporal distribution of engagement and the exceptional performance of certain

tweets. The Bank's hourly engagement pattern shows distinct peaks and valleys, with the highest average engagement occurring at 22:00 UTC/GMT (128.0) and 06:00 UTC/GMT (106.0), despite these hours having relatively few tweets. This contrasts sharply with the most active posting time at 09:00, which accounts for 1,453 tweets (about 15% of all tweets) but yields only moderate engagement (21.6 on average).

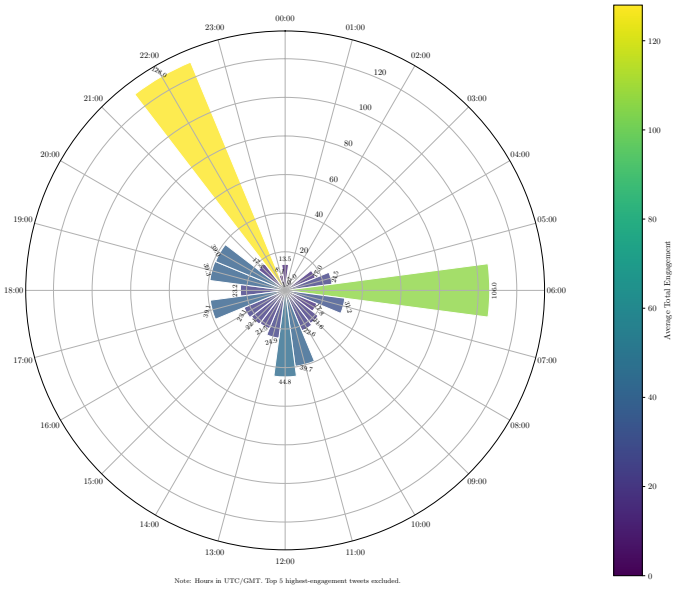


FIGURE 4. 24-hour distribution of Bank of England tweet engagement

The significant disparity between peak posting hours and peak engagement hours suggests potential opportunities for the Bank to realign its Twitter communication strategy with periods of higher audience receptivity. Morning (6:00-11:59) and afternoon (12:00-17:59) periods account for 96.2% of all tweets, with relatively comparable engagement metrics (means of 26.0 and 28.0 respectively), while evening tweets (18:00-23:59), though infrequent at just 3.6% of total volume, show slightly higher average engagement (28.8).

The five most engaging tweets[4] in the Bank of England's dataset dramatically outperform average metrics, with engagement levels ranging from 161.6 to 1,304.2 times the average. Notably, four of these five tweets (80%) focus on a single topic: the introduction and release of the new £50 note featuring Alan Turing. The top tweet ("*Introducing the face of the new £50 note – the father of computer science, Alan Turing*"), garnered extraordinary engagement with 35,189 total interactions, including 22,775 likes and 8,875 retweets (as of July 2022). This tweet alone achieved engagement 1,304.2 times higher than the average Bank tweet, demonstrating the exceptional public interest in currency design and commemorative

[4]To see the full list of tweets and their engagement metrics, please refer to the appendix

aspects of central banking. The consistent theme across these high-performing tweets suggests that banknote announcements, particularly those celebrating notable historical figures like Turing, resonate strongly with public audiences which reflecting the continued cultural importance of cash, even in an increasingly cashless society.

The polar clock visualization (Figure 4) effectively depicts the 24-hour distribution of Bank of England tweet engagement after excluding the five Turing £50 note outliers. Three distinct engagement peaks emerge: the most pronounced at 22:00 (128.0 average, bright yellow spoke), followed by 06:00 (106.0 average, green spoke), and a moderate midday band (11:00-12:00, blue spokes, averaging 39.7-44.8). In stark contrast, overnight hours (23:00-05:00) form an engagement desert with minimal activity (averages between 1.0-17.0), represented by short, dark purple spokes. This visualisation reveals a critical misalignment in the Bank's Twitter strategy—while tweet volume concentrates during business hours (peaking at 9:00 with 1,453 tweets), engagement peaks during early morning and late evening when posting is minimal. The substantial variation in hourly engagement metrics (coefficients ranging from 0.606 to 4.816) suggests significant opportunities for the Bank to optimise its posting schedule to better align with periods of audience receptivity.

2.2 Engagement Metrics and Evolution

Figure 5 presents the monthly engagement metrics—replies, retweets, likes, and quote tweets—for the Bank of England's official Twitter account from July 2011 to July 2022. Each panel shows both raw engagement rates (colored line) and a three-month moving average (dotted black line), revealing distinct temporal patterns across the different engagement types.

For reply rates, we observe minimal activity (below 1 per tweet) until 2017 although the Bank started tweeting in 2011, followed by a gradual increase with a pronounced spike in November 2020 (28.06 replies per tweet) coinciding with a Transgender Awareness Week post that generated significant debate. Since 2020, reply rates have stabilised between 5-15 replies per tweet, indicating increased audience interaction in recent years. Retweet rates exhibit greater volatility, with the most substantial spike in July 2019 (106.39 retweets per tweet) during the Alan Turing £50 note announcement. The overall trajectory shows gradual growth from approximately 0.6 retweets per tweet in 2011 to a baseline of 15-20 by 2022.

Like rates demonstrate the most pronounced growth pattern, evolving from near-zero in 2011 to consistently exceeding 20 likes per tweet post-2019. The highest value (280.60 likes per tweet) occurred in July 2019 with the Turing announcement. Quote tweet rates

remained at zero until Twitter introduced this feature in 2015, subsequently stabilizing at 2-5 quotes per tweet with a notable peak (34.19 quotes per tweet) during the July 2019 Turing announcement.

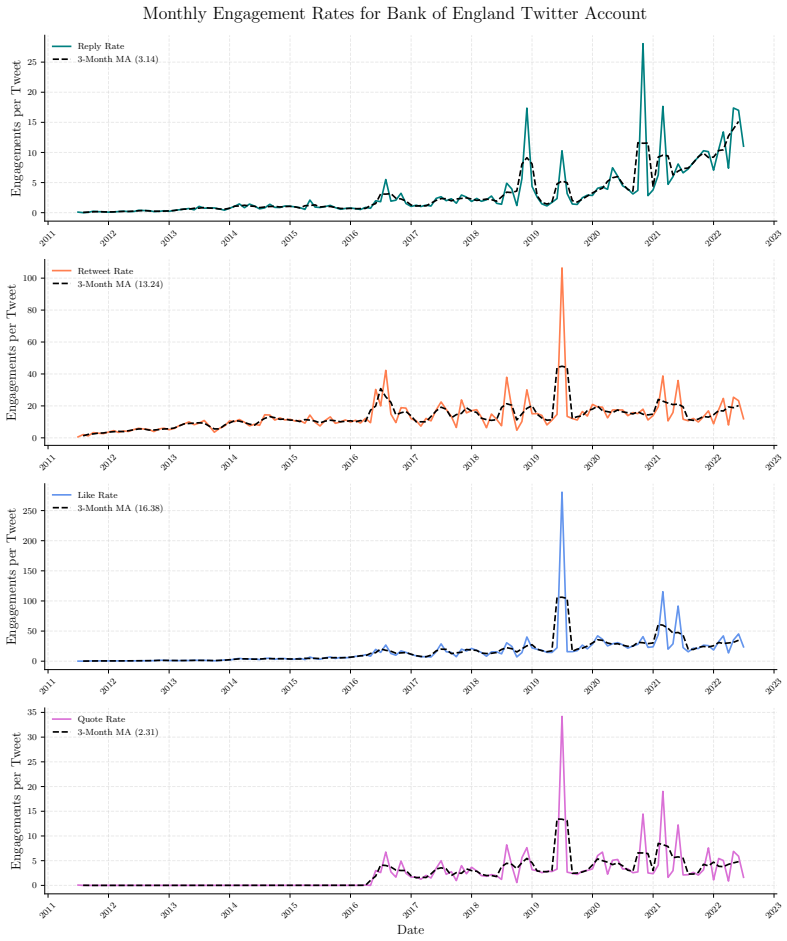


FIGURE 5. Monthly Engagement Rates of Individual Metrics

Figure 6 aggregates these metrics into a total engagement rate, illustrating a fundamental shift from minimal engagement (under 5 interactions per tweet) before 2014 to substantially higher and more volatile engagement from 2016 onward. The three-month moving average indicates an exceptional spike in mid-2019 (exceeding 400 total engagements per tweet) followed by sustained higher engagement levels typically ranging from 40-100 engagements per tweet during 2020-2022.

Our longitudinal analysis spanning 133 months reveals considerable variation in engagement metrics. Average monthly engagement rates were 3.14 replies, 13.24 retweets, 16.38 likes, and 2.31 quotes per tweet, resulting in a total average engagement of 35.07 per tweet. These averages mask substantial temporal variation, with minimum values near

zero in the early period (2011-2012) and maxima occurring predominantly in July 2019 (106.39 retweets, 280.60 likes, 34.19 quotes, and 431.46 total engagement), coinciding with the Turing £50 note announcement. Reply rates peaked later, reaching 28.06 in November 2020.

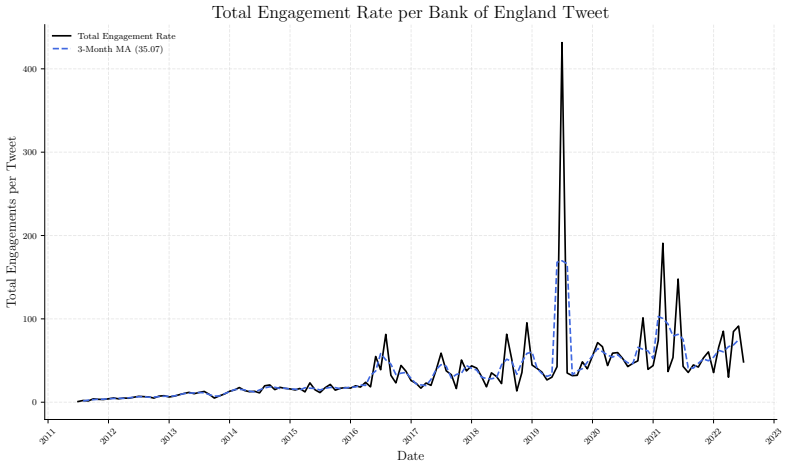


FIGURE 6. Total Engagement Rate

Annual summary statistics further confirm this evolution in engagement patterns. In 2011, the average tweet received just 0.57 total engagements (dominated by 0.13 retweets, with minimal likes at 0.01 per tweet). By 2022, this had increased to 14.21 engagements per tweet—representing a 25-fold increase. This growth accelerated notably during three periods: 2016 (1.90 engagements per tweet, coinciding with Brexit developments), 2018 (5.31 engagements per tweet), and 2019 (7.88 engagements per tweet, driven by the Turing announcement).

The composition of engagement has shifted significantly over time. In the early period (2011-2015), retweets constituted the primary form of engagement. By 2016, likes began approaching parity with retweets (0.87 vs. 0.79 per tweet). From 2017 onward, likes became increasingly dominant, reaching 10.20 per tweet in 2022 compared to 2.69 retweets, 1.00 replies, and 0.32 quotes per tweet. This compositional shift reflects both platform-specific changes in user behavior and evolving public interaction with central bank content.

The growth trajectory and engagement composition changes align with three distinct phases in the Bank's Twitter presence: an initial low-engagement period (2011-2013), a growth phase coinciding with increased Twitter adoption and heightened interest in monetary policy following Brexit (2014-2017), and a maturity phase (2018-2022) characterized by higher baseline engagement and occasional pronounced spikes during significant announcements. This evolution reflects both the Bank's developing social media strategy

and changing user behavior on the platform.

2.2.1 Content Analysis and High-Impact Tweets

Analysis of the most engaged tweets reveals distinct patterns in public discourse surrounding the Bank of England. Table 1 presents the top ten tweets about the Bank of England in our dataset, revealing two dominant themes: the Alan Turing £50 note announcement and Brexit's economic impact. The highest engagement (91,321 total interactions) was generated by the BBC Breaking News account announcing Turing as the face of the new banknote, significantly outperforming the official BoE announcement of the same news (35,222 engagements). This disparity illustrates how news intermediaries often generate greater public response than primary institutional sources.

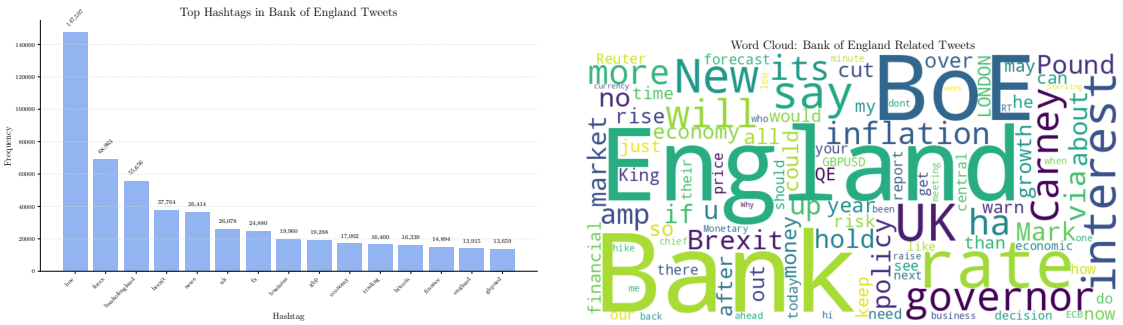
TABLE 1. Top 10 Most Engaged Tweets About the Bank of England

Rank	Username	Date	Replies	Retweets	Likes	Total
1	BBCBreaking	2019-07-15	1,559	16,547	68,905	91,321
2	Tim_Burgess	2022-05-16	983	13,220	47,516	62,593
3	nayibbukele	2021-11-27	1,921	5,849	34,802	43,381
4	campbellclaret	2022-05-15	1,189	5,051	31,105	37,569
5	DummiesEconomy	2021-04-03	200	4,894	30,937	36,450
6	bankofengland	2019-07-15	623	8,887	22,795	35,222
7	MartinSLewis	2022-07-05	1,759	4,422	28,190	34,857
8	EdConwaySky	2022-02-03	1,287	8,193	14,724	29,345
9	jonsnowC4	2017-06-20	766	13,723	12,786	28,654
10	EmmaKennedy	2022-05-17	375	4,450	21,175	26,159

Notably, four of the ten highest-engagement tweets focus on Brexit's economic impact, including posts from `@Tim_Burgess` highlighting "*Brexit is costing the UK £444 million a week*" (62,593 interactions) and `@EmmaKennedy` noting similar costs. This pattern demonstrates how the BoE's economic assessments become focal points in broader political debates, often generating significantly more engagement when amplified through non-institutional voices.

The hashtag analysis presented in Figure 7A provides insight into the thematic focus of BoE-related discourse. The most frequently used hashtags include `#boe` (147,507 occurrences), `#forex` (68,963), `#bankofengland` (55,656), `#brexit` (37,764), and `#news` (36,414). The prominence of financial market terms (`#forex`, `#fx`, `#trading`, `#gbp`, `#gbpusd`) alongside policy-related terms (`#inflation`, `#interestrates`) reflects how the BoE's communications are situated at the intersection of financial markets, economic

policy, and broader public discourse. The significant presence of `#brexit` as the fourth most common hashtag underscores how major political events reshape central bank communications.



A. Top Hashtags B. Tweet Word Cloud

FIGURE 7. Tops Hashtag and Word Cloud

The word cloud visualization in Figure 7B further illustrates the dominant themes in discourse surrounding the Bank of England. Terms like "interest," "rate," "Brexit," "inflation," and "governor" feature prominently, reflecting the primary policy concerns and institutional leadership that drive public discussion. The prominence of "Carney" indicates the personification of central banking leadership in public discourse, while economic terms like "pound," "sterling," and "QE" highlight the focus on monetary policy instruments.

2.2.2 Influential Accounts and Network Dynamics

Our analysis reveals a significant disparity between posting frequency and engagement impact among accounts discussing the Bank of England. Table 2 presents the most influential accounts in the dataset, measured by total engagement generated.

This data reveals several intriguing patterns. First, while the official `@bankofengland` account has been highly active (9,952 tweets) and ranks second in total engagement (321,164), its average engagement per tweet (32.3) is dramatically lower than many non-official commentators. For instance, `@RichardJMurphy` achieved greater total impact (374,964 engagement across 755 tweets) with less than 8% of the BoE's posting volume, resulting in an average engagement per tweet (496.6) more than 15 times higher than the official account.

The highest average engagement belongs to `@nayibbukele` with an extraordinary 34,410.5 engagements per tweet, though this is based on only two tweets in the dataset.

TABLE 2. Most Influential Accounts in Bank of England Twitter Discourse

Rank	Username	Total Tweets	Total Engagement	Avg. Engagement
1	RichardJMurphy	755	374,964	496.6
2	bankofengland	9,952	321,164	32.3
3	BBCBreaking	140	147,275	1,052.0
4	business	2,253	109,901	48.8
5	johnredwood	88	84,180	956.6
6	BTC_Archive	22	79,366	3,607.5
7	EdConwaySky	1,345	71,531	53.2
8	Peston	249	71,381	286.7
9	SkyNews	950	70,436	74.1
10	nayibbukele	2	68,821	34,410.5

Other accounts like `@BBCBreaking` (1,052.0 average engagement) and `@johnredwood` (956.6 average engagement) consistently achieve high engagement levels while maintaining selective posting practices about BoE-related topics. In contrast, the most prolific posters beyond the BoE itself include market-focused accounts like `BlackCentaurFX` (9,346 tweets), `notayesmansecon` (8,224 tweets), and `FXStreetNews` (6,605 tweets) – yet none of these appear among the top 10 for influence, suggesting quantity does not necessarily translate to impact.

This discrepancy underscores an important distinction in digital central bank communication: official central bank accounts typically maintain a consistent, high-volume communication strategy focused on transparency and information dissemination, while non-official commentators can generate dramatically higher engagement rates by selectively amplifying and contextualizing central bank communications – particularly when these intersect with politically contentious issues like Brexit or when they frame technical financial information for broader audiences. The BoE's communications are thus filtered, amplified, and recontextualized within broader public discourse, often reaching their widest audience through intermediaries rather than directly.

The data further suggests that while central banks can generate exceptionally high engagement with cultural or human interest content (such as the Turing banknote announcement), their core monetary policy and financial stability communications typically achieve more modest engagement levels, highlighting the challenge of making technical economic content accessible and engaging to broader public audiences.

2.2.3 Summary and Implications

Over the entire study period, the BoE's official posts receive, on average, about 2.45 replies, 13.12 retweets, 14.92 likes, and 2.06 quotes, for a total of 32.55 engagements per tweet (Table 3). Individual monthly extremes can reach much higher levels, as seen with the Turing £50 note reveal in mid-2019, which produced engagement levels more than 1,000 times the daily average of the earliest years in the sample.

TABLE 3. Official BoE Twitter Engagement Statistics (July 2011–July 2022)

Metric	Mean	Min	Max
Tweets (count)	9,810	–	–
Replies per tweet	2.45	0.00	28.06
Retweets per tweet	13.12	0.58	106.39
Likes per tweet	14.92	0.05	280.60
Quotes per tweet	2.06	0.00	34.19
Total engagement	32.55	0.81	431.46

Note: This table presents the distribution of engagement metrics for official BoE tweets over the study period, showing the mean, minimum, and maximum values for each engagement type.

Our analysis demonstrates several key findings about the Bank of England's Twitter engagement. First, there exists a significant misalignment between posting patterns and engagement opportunities, with the Bank concentrating most posts during business hours while audience engagement peaks in early morning and evening hours. Second, content related to currency design and wider socioeconomic issues like Brexit generates substantially higher engagement than core monetary policy announcements. Third, engagement has evolved dramatically over time, with a 1,000-fold increase in average engagement rates and a shift from retweet-dominated to like-dominated interaction patterns. Finally, the Bank's communications are frequently amplified and recontextualized by non-official accounts, which often generate higher per-tweet engagement than the Bank's official account.

These findings provide the foundation for our subsequent investigation of the determinants of public engagement with central bank communications, offering potential strategic insights for optimising the timing, content, and approach of central bank social media communications.

3. Methodology

To investigate engagement with the Bank of England (BoE) on Twitter, we employ two complementary empirical approaches. The first examines whether the volume of BoE tweets drives public engagement, while the second explores specific tweet characteristics that influence engagement levels.

3.1 Model 1: Elasticity of Response to Tweet Volume

Following Gorodnichenko, Pham, and Talavera (2024), we first estimate the elasticity of public response to the number of official BoE tweets. The model specification takes the form:

$$\ln(\text{Reaction})_{j,w} = \alpha + \beta \ln(\text{Number of Tweets})_{j,w} + \epsilon_{j,w} \tag{1}$$

In this specification, $\ln(\text{Reaction})_{j,w}$ represents the natural logarithm of one plus the size of reaction j in week w, where we consider four distinct reaction dimensions: likes, replies, retweets, and quote tweets. The independent variable, $\ln(\text{Number of Tweets})_{j,w}$, captures the natural logarithm of one plus the number of official BoE tweets in week w, while $\epsilon_{j,w}$ denotes the error term.

This specification in Model 1 estimates the percentage change in public engagement associated with a percentage change in BoE tweet frequency, providing a direct measure of the responsiveness of public interaction to variations in the Bank's social media activity. We estimate this equation separately for each month using Ordinary Least Squares with heteroskedasticity-robust standard errors, thereby generating a monthly time series of elasticities for each engagement dimension. Our approach extends that of Gorodnichenko, Pham, and Talavera (2024) by incorporating quote tweets as an additional reaction dimension, which provides a more comprehensive assessment of engagement patterns given the evolving nature of Twitter's functionality. The resulting elasticity series reveals how the relationship between tweet volume and public response evolves over time and across different engagement types, offering insights into the dynamic nature of central bank communication effectiveness on social media platforms.

3.2 Model 2: Determinants of Tweet-Level Engagement

The second model explores the specific characteristics of tweets that drive engagement. We adapt Model 2 from Gorodnichenko, Pham, and Talavera (2024) to better suit the BoE context:

$$\text{Reaction}_{i,d} = \alpha + \beta_1 \text{MPC}_d + \beta_2 \text{Characteristics}_i + \epsilon_{i,d} \tag{2}$$

In this specification, $\text{Reaction}_{i,d}$ represents the count of a specific engagement type (likes, replies, retweets, or quote tweets) for tweet i on date d. The variable MPC_d is a dummy variable equal to one if the Monetary Policy Committee makes an announcement on date d, and zero otherwise, capturing the heightened public attention during key policy moments. The vector Characteristics_i encompasses a comprehensive set of tweet characteristics including content features such as the presence of links, hashtags, and media types, as well as linguistic attributes measured through complexity scores. The term $\epsilon_{i,d}$ represents the error term.

Our specification diverges from Gorodnichenko, Pham, and Talavera (2024) in several important ways. First, we employ separate dummy variables for different tweet types rather than a categorical variable, allowing for more nuanced effect size estimation and clearer interpretation of how each characteristic independently influences engagement. Second, we include a broader range of content characteristics, particularly distinguishing between different media types—photos, videos, and GIFs—rather than treating all media as homogeneous, recognizing that different visual formats may elicit varying levels of public response. Third, we incorporate a measure of linguistic complexity through the Flesch Reading Ease score to assess how readability affects engagement, directly testing whether the Bank's efforts to simplify its communications translate into measurable increases in public interaction.

Given that the dependent variables are count data, we employ Poisson regression rather than OLS, which is more appropriate for non-negative integer outcomes with right-skewed distributions characteristic of social media engagement metrics. This methodological choice provides more accurate estimation of effects when modeling count data and better accounts for the overdispersion typically observed in social media engagement patterns.

The dataset comprises all tweets from the official Bank of England Twitter account (@bankofengland) from its first tweet in July 2011 through July 2022. This encompasses 9,810 tweets in total, providing a comprehensive view of the BoE's social media communication strategy over more than a decade.

TABLE 4. Variable Definitions

Variable	Type	Description
Panel A: Dependent Variables		
Likes	Count	Number of likes received by each tweet
Replies	Count	Number of direct replies to each tweet
Retweets	Count	Number of retweets (shares without additional comment)
Quote Tweets	Count	Number of retweets with additional commentary
Panel B: Independent Variables		
MPC Announcement	Binary	Equals 1 if tweet posted on Monetary Policy Committee announcement day, 0 otherwise
Reply Status	Binary	Equals 1 if tweet is a reply to another user, 0 otherwise
Link Inclusion	Binary	Equals 1 if tweet contains hyperlinks, 0 otherwise
Hashtag Inclusion	Binary	Equals 1 if tweet contains hashtags, 0 otherwise
Media Content Variables		
GIF	Binary	Equals 1 if tweet contains animated GIF images, 0 otherwise
Photo	Binary	Equals 1 if tweet contains static images, 0 otherwise
Video	Binary	Equals 1 if tweet contains video content, 0 otherwise
Linguistic Measure		
Complexity	Continuous	Flesch Reading Ease score (higher values indicate greater readability)

This table presents definitions for all variables used in the regression analysis. Additional control variables included in the full model but not shown in the main results encompass temporal patterns: day of week indicators, hour of day indicators, and tweet sequence within a day (day_num and day_num_sq) to account for within-day posting patterns.

For Model-1, we aggregate the data into weekly observations to capture short-term fluctuations in tweet volume and engagement, then estimate monthly elasticities to ob-

serve evolving patterns. For Model-2, we conduct analysis at the individual tweet level to identify specific features that drive engagement. Table-4 presents the variables employed in our empirical analysis. The dependent variables capture four distinct dimensions of Twitter engagement, while the independent variables encompass tweet characteristics, content features, and timing indicators.

This comprehensive set of variables allows for detailed examination of the factors that influence public engagement with central bank communications on social media, capturing both the content characteristics and temporal patterns that may affect audience response.

4. Results

4.1 Model 1: Elasticity of Response to Tweet Volume

Figures 8 and 9 present the estimated elasticities of public engagement with respect to the Bank of England's tweet volume over the 2011-2022 period. These elasticity measures capture the percentage change in engagement associated with a one percent change in the Bank's monthly tweet frequency, providing crucial insights into the efficiency and effectiveness of its digital communication strategy. Our elasticity estimates reveal distinct patterns across the four engagement dimensions. Reply elasticity averages 0.984 with considerable volatility ranging from -4.000 to 5.763, indicating that while replies typically scale almost proportionally with tweet volume, the substantial variation suggests that audience willingness to engage in conversations with the Bank depends more critically on content relevance than posting frequency. Retweet elasticity exhibits a slightly higher mean of 1.088 with similar volatility (minimum: -4.000, maximum: 5.151), demonstrating marginally increasing returns to scale. The elasticity peaks for retweets notably coincide with significant policy announcements, suggesting that the amplification effect of retweets becomes particularly pronounced during periods of heightened economic importance.

Like elasticity displays the highest average responsiveness among all engagement metrics at 1.164, with extremes ranging from -4.000 to 5.738. This pattern aligns with the documented shift in Twitter user behavior over our study period, where likes have progressively become the dominant form of engagement. Quote elasticity presents a distinctive temporal pattern with a mean of 0.837 and the widest range among all metrics (minimum: -4.000, maximum: 6.000). The quote elasticity series begins at zero, reflecting the absence of this feature before Twitter introduced it in 2015, subsequently displaying increasingly volatile behavior that suggests evolving user engagement patterns with this

relatively newer form of interaction.

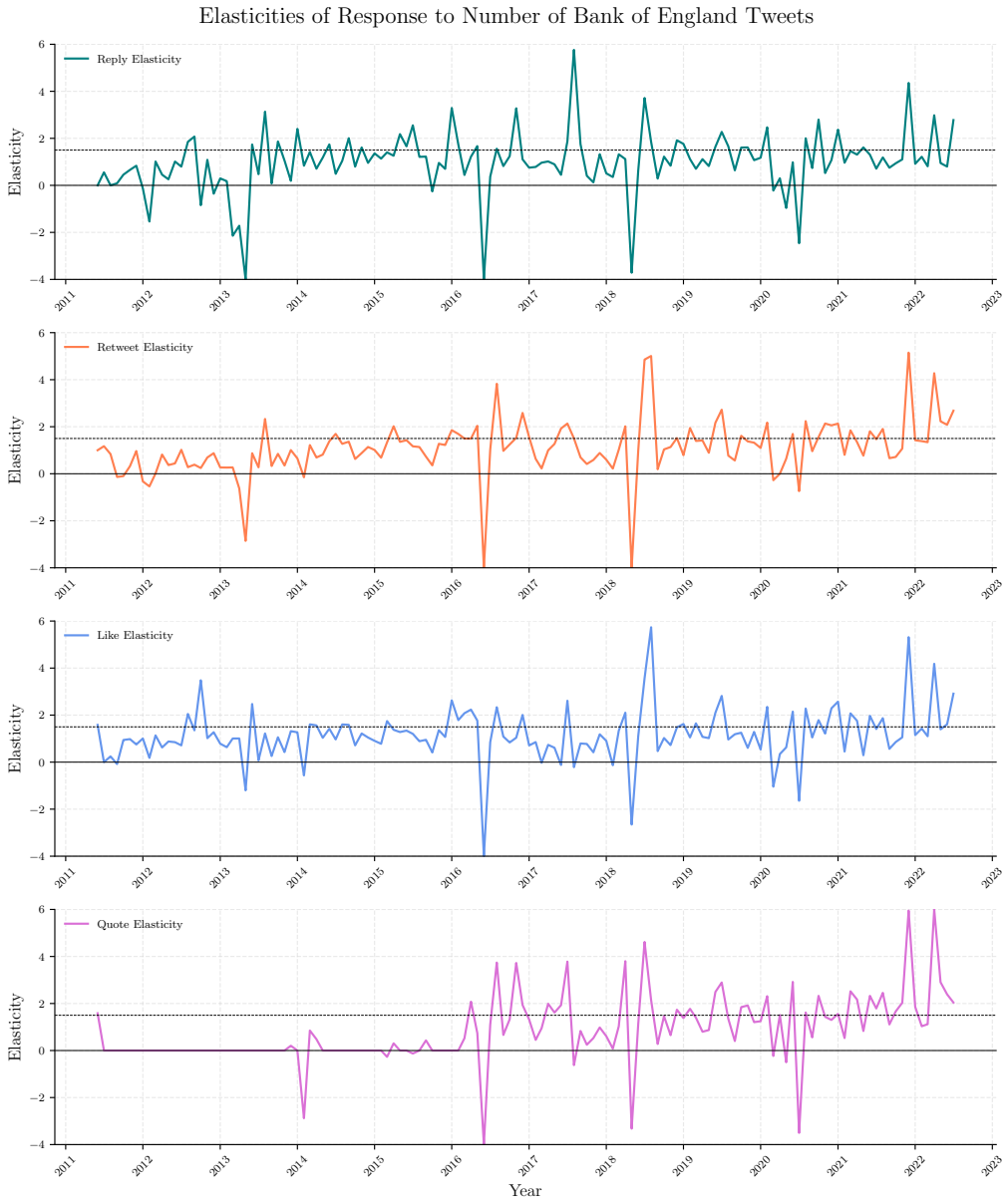


FIGURE 8. Elasticity of Individual Metrics

The consolidated total engagement elasticity averages 1.095 across the entire period, indicating slightly increasing returns to scale in overall public engagement with Bank of England tweets. However, this aggregate measure conceals significant temporal variation that reveals three critical patterns in the evolution of central bank digital communication effectiveness.

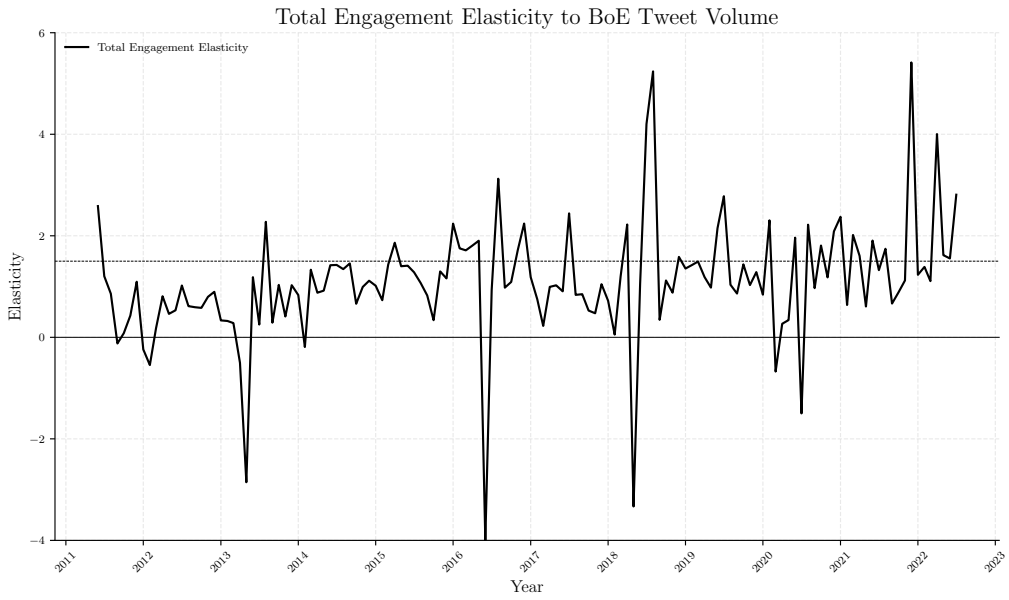


FIGURE 9. Elasticity of Total Engagement Over Time

The first pattern manifests as periodic negative elasticity values, particularly pronounced during 2013, 2016, and early 2018. These negative values represent intervals when increased tweet frequency paradoxically coincided with reduced engagement per tweet, suggesting either diminishing returns to communication volume or potential audience fatigue during periods of intensive Bank communications. The second pattern emerges as pronounced positive spikes exceeding 5.0, which typically correspond to months characterized by relatively low tweet volumes but exceptionally high-impact content. The most dramatic illustration occurred in July 2019 with the Turing £50 note announcement, when the Bank achieved extraordinary engagement levels despite posting substantially fewer tweets than its monthly average. The third pattern reveals intensifying elasticity volatility since 2017, with increasingly frequent and pronounced oscillations between positive and negative values. This growing unpredictability suggests that as the social media landscape matures and audiences become more sophisticated, their response to central bank communications becomes increasingly complex and content-dependent rather than volume-driven.

An important contrast emerges when comparing our findings to those of Gorodnichenko, Pham, and Talavera (2024) for the Federal Reserve. While the Federal Reserve demonstrated relatively stable elasticities mostly confined between 0 and 1.5, the Bank of England exhibits substantially greater volatility in its engagement elasticities. The most extreme manifestation of this volatility occurred in June 2016, coinciding with the Brexit referendum, when elasticities for quote tweets and replies plummeted to -60 and -20 respec-

tively. This dramatic negative elasticity indicates that despite the Bank's reduced posting frequency during this period, each individual tweet generated exponentially higher engagement, reflecting the public's heightened attention to central bank communications during periods of exceptional economic uncertainty.

The pronounced co-movement across different engagement dimensions points to common underlying factors driving overall engagement that extend beyond mere posting frequency. This observation aligns with the findings of Ehrmann and Wabitsch (2022b), who emphasized that content characteristics exert significant influence on public response to central bank communications. The observed elasticity patterns provide compelling evidence that for the Bank of England, content quality, strategic timing, and relevance to current economic conditions substantially outweigh posting volume in determining public engagement levels.

These findings carry important implications for central bank communication strategies in the digital age. While our results indicate that modestly increasing tweet frequency generates slightly more than proportional increases in engagement on average, the substantial temporal variation in elasticities reveals a more nuanced reality. The evidence strongly suggests that a refined approach prioritizing strategic timing and high-impact content would likely yield substantially greater public engagement than strategies focused primarily on increasing posting volume. This insight becomes particularly relevant as central banks globally seek to optimize their digital communication strategies to enhance public understanding and engagement with monetary policy.

4.2 Model 2: The Importance of Content Characteristics: Determinants of Tweet-Level Engagement

Table 5 presents the results from our Poisson regression model examining the factors that influence engagement with Bank of England tweets. The coefficients represent the log change in expected engagement counts, which we transform by exponentiating and subtracting one to obtain percentage changes for interpretation.

4.2.1 Monetary Policy Committee Announcements

Our analysis reveals that tweets posted on Monetary Policy Committee announcement days generate substantially higher engagement across all metrics compared to tweets on non-announcement days. The magnitude of these effects is economically significant: MPC announcement tweets receive 122% more likes ($e^{0.797} - 1 = 1.22$), 270% more retweets

($e^{1.307} - 1 = 2.70$), 123% more replies ($e^{0.801} - 1 = 1.23$), and 376% more quote tweets ($e^{1.562} - 1 = 3.76$). The particularly pronounced effect on retweets and quote tweets indicates that monetary policy announcements prompt users not only to engage with the content but also to amplify and contextualize it for their own networks, thereby extending the reach of these communications well beyond the Bank's direct followers. This finding underscores the central role that formal policy announcements play in the Bank's social media engagement strategy.

TABLE 5. Determinants of Tweet-Level Engagement

	Engagement Metrics			
	Likes	Retweets	Replies	Quote Tweets
Constant	-0.084***	1.782***	-0.723***	-3.344***
	(0.027)	(0.025)	(0.069)	(0.102)
MPC Announcement	0.797***	1.307***	0.801***	1.562***
	(0.012)	(0.011)	(0.027)	(0.028)
Reply Status	-1.130***	-1.930***	-0.585***	-1.074***
	(0.013)	(0.017)	(0.023)	(0.034)
Link Inclusion	0.696***	0.345***	0.012	0.647***
	(0.007)	(0.007)	(0.016)	(0.019)
Hashtag Inclusion	0.419***	0.264***	0.089***	0.437***
	(0.006)	(0.006)	(0.015)	(0.017)
GIF	1.365***	1.034***	1.454***	2.302***
	(0.018)	(0.016)	(0.040)	(0.042)
Photo	2.268***	1.159***	1.778***	2.740***
	(0.007)	(0.006)	(0.016)	(0.022)
Video	2.923***	1.838***	2.204***	3.575***
	(0.011)	(0.012)	(0.029)	(0.029)
Complexity	0.016***	0.006***	0.013***	0.018***
	(0.000)	(0.000)	(0.000)	(0.000)

Standard errors in parentheses. * p<0.1, ** p<0.05, *** p<0.01.

4.2.2 Tweet Type and Content Characteristics

The analysis of tweet characteristics reveals important patterns in how different content features affect engagement. Reply tweets, which constitute responses to other users, experience significantly reduced engagement compared to original posts. These tweets receive 68% fewer likes ($e^{-1.13} - 1 = -0.68$), 85% fewer retweets ($e^{-1.93} - 1 = -0.85$), 44%

fewer replies ($e^{-0.585} - 1 = -0.44$), and 66% fewer quote tweets ($e^{-1.074} - 1 = -0.66$). This substantial reduction in engagement metrics aligns with Twitter's algorithmic design, which typically assigns lower visibility to reply tweets in users' timelines, presenting a structural challenge for central banks seeking to engage in direct dialogue with individual users.

The inclusion of links and hashtags demonstrates positive effects on engagement, though with notable variations across metrics. Tweets containing hyperlinks generate 101% more likes and 41% more retweets compared to those without links, while showing no statistically significant effect on replies (p=0.434). This pattern suggests that links facilitate content sharing but may not necessarily stimulate conversational engagement. Similarly, tweets with hashtags receive 52% more likes and 30% more retweets, indicating that these organizational markers help users discover and engage with relevant content.

4.2.3 Media Content

The incorporation of media content emerges as a particularly influential factor in driving engagement. Our results demonstrate that different media types generate varying levels of response, with all showing positive effects across engagement metrics. Photos increase likes by 126%, retweets by 219%, replies by 120%, and quote tweets by 380%. Animated GIFs produce comparable effects, generating 190% more likes, 81% more retweets, 220% more replies, and 800% more quote tweets.

These findings suggest that visual communication tools, including infographics, represent a particularly effective mechanism for central bank communication. Well-designed infographics that translate complex economic concepts into accessible visual narratives can bridge the comprehension gap between technical policy content and public understanding. The combination of visual appeal and simplified messaging inherent in infographics creates an entry point for non-expert audiences, potentially achieving engagement levels comparable to other media formats while serving the dual purpose of education and engagement.

Video content demonstrates the most pronounced effects among all media types, increasing likes by 1,700%, retweets by 500%, replies by 700%, and quote tweets by 3,300%. While these coefficients are substantial, their interpretation requires careful consideration. As noted in our methodology, videos are typically reserved for the Bank's most significant announcements, such as new banknote designs, which may inherently generate higher engagement regardless of format. Nevertheless, the magnitude of these effects suggests that video remains an exceptionally powerful medium for central bank communications.

4.2.4 Linguistic Complexity

The complexity variable, measured through Flesch Reading Ease scores, shows positive coefficients across all engagement metrics. A one-point increase in readability corresponds to 1.6% more likes, 0.6% more retweets, 1.3% more replies, and 1.8% more quote tweets. While these marginal effects may appear modest, they become economically meaningful when considering the typical variation in readability scores across central bank communications. For instance, improving readability from a score of 30 (very difficult) to 60 (standard) would be associated with approximately 48% more likes and 54% more quote tweets.

This finding provides empirical validation for the Bank of England's efforts to enhance the accessibility of its communications. The positive relationship between readability and engagement suggests that simplifying language does not compromise the effectiveness of central bank messaging but rather enhances its reach and impact. This result aligns with theoretical predictions about information transmission and provides quantitative support for ongoing initiatives to make central bank communications more accessible to broader audiences.

5. Discussion

Our empirical analysis of Bank of England Twitter engagement yields important insights for both theoretical understanding and practical implementation of central bank communication strategies in the digital age. The findings contribute to evolving theories of central bank transparency while offering concrete guidance for enhancing public engagement with monetary policy.

Theoretical Implications. The results provide robust empirical support for the paradigm shift in central bank communication advocated by Haldane (2018), who argued for evolution from traditional unidirectional communication ("communication means mouths") to more conversational, accessible engagement ("conversation means ears as much as mouths"). Our finding that readability improvements directly translate into increased engagement substantiates this theoretical framework, demonstrating that simplified language not only enhances comprehension but also amplifies public interaction with central bank messages. This relationship holds across all engagement metrics, suggesting that accessibility serves as a fundamental prerequisite for meaningful public discourse about monetary policy.

This accessibility imperative connects directly to the broader theoretical evolution from opacity to transparency that Blinder et al. (2008) identify as transformative for central banking. Where Montagu Norman's "never explain, never excuse" once defined institutional culture, our empirical evidence shows that explanation—when delivered accessibly—generates measurable public engagement. The quantitative relationship we establish between readability scores and engagement metrics provides the first large-scale empirical validation of what Bholat et al. (2019) demonstrated experimentally: that simplification enhances not just comprehension but also public willingness to engage with central bank content.

Our analysis extends the theoretical framework developed by Blinder et al. (2024) regarding central bank communication with general audiences by providing quantitative evidence of how specific message characteristics influence engagement patterns. The hierarchical effects observed across different media types—with videos generating exponentially higher engagement than text-only content—align with theoretical predictions from Bholat et al. (2019) about the role of visual elements in enhancing comprehension and retention of complex economic information. These findings suggest that multimedia communication represents not merely an enhancement but potentially a necessary evolution in how central banks fulfill their transparency mandates in an increasingly visual digital landscape.

Perhaps most intriguingly, the pronounced volatility in engagement elasticities for the Bank of England compared to the relatively stable patterns observed for the Federal Reserve by Gorodnichenko, Pham, and Talavera (2024) reveals important theoretical considerations about institutional heterogeneity in central bank communication effectiveness. This divergence challenges assumptions of universal best practices and suggests that optimal communication strategies may be fundamentally shaped by institution-specific factors including historical communication cultures, audience composition, and national economic contexts. The extreme elasticity values observed during the Brexit referendum period particularly underscore how political and economic uncertainty can fundamentally alter the dynamics of public engagement with central bank communications.

This volatility finding contributes to emerging theoretical understanding of how central bank communications function as "information shocks" during periods of uncertainty. Our results align with Burr (2025), who demonstrates that households, firms, and financial markets interpret Bank of England signals heterogeneously, with households sometimes increasing inflation expectations following contractionary announcements. The extreme negative elasticities we observe during Brexit suggest that in periods of heightened uncertainty, each individual Bank tweet carries disproportionate signaling value, potentially explaining why reduced posting frequency coincided with explosive engagement levels.

Strategic Implications for Central Bank Communication. The empirical evidence generates several actionable insights for enhancing the Bank of England's digital communication strategy. The substantial engagement multipliers associated with Monetary Policy Committee announcement days—ranging from 122% for likes to 376% for quote tweets—identify these moments as critical opportunities for maximizing communication impact. Rather than distributing content uniformly across time, the Bank could strategically concentrate its most accessible and visually compelling content during these periods of heightened public attention, potentially achieving greater overall impact with the same resource allocation.

This finding resonates with Link et al. (2023), who show that UK firms respond within hours to inflation data releases, with responsiveness amplified by media coverage. Our results suggest a parallel phenomenon in social media: public attention to central bank communications concentrates around key policy moments, creating windows of opportunity for enhanced message transmission. The implication extends beyond mere timing—it suggests that the Bank's "layered communication" strategy advocated by Blinder et al. (2024) should incorporate temporal layering, with different content depths matched to varying attention levels throughout the policy cycle.

The analysis of media content effectiveness reveals a clear hierarchy of engagement potential that can inform resource allocation decisions. While videos demonstrate the most dramatic effects on engagement, their resource-intensive production may not always represent optimal efficiency. Photos and animated GIFs, which generate substantial engagement increases at lower production costs, may offer superior return on investment for routine communications. This suggests a tiered approach where video content is reserved for major announcements while other visual formats support regular engagement.

The structural limitations revealed by the poor performance of reply tweets present both a challenge and an opportunity for reimagining two-way communication strategies. The 68% reduction in likes and 85% reduction in retweets for replies reflects algorithmic constraints that cannot be overcome through content optimization alone. This finding provides empirical context for Masciandaro et al. (2024)'s observation that only 2.5% of G20 central banks' tweets are direct replies, suggesting that the platform's architecture fundamentally constrains the two-way dialogue that Haldane (2018) envisions. Alternative approaches to fostering dialogue—such as structured Q&A sessions, threaded conversations that maintain original tweet visibility, or dedicated engagement campaigns—may prove more effective than attempting direct replies within the platform's current architecture.

The quantitative validation of readability's impact on engagement provides compelling

justification for continued investment in plain language initiatives. The finding that each point improvement in Flesch Reading Ease scores translates into measurable engagement gains across all metrics demonstrates that simplification efforts yield tangible returns beyond pedagogical benefits. This evidence should encourage the Bank to maintain and potentially expand its commitment to accessible communication, viewing linguistic clarity not as a compromise but as a strategic advantage in reaching broader audiences. This finding gains additional significance when considered alongside Nghiem, Dräger, and Dalloul (2024), who demonstrate that communication effectiveness depends critically on financial literacy—suggesting that accessibility serves as a bridge to less financially sophisticated audiences.

Implications for Trust and Democratic Accountability. Our findings carry important implications for understanding how social media engagement relates to the broader goals of central bank legitimacy and public trust. While our analysis focuses on engagement metrics rather than direct trust measurement, the patterns we observe suggest important connections to the trust-building mechanisms identified in recent literature. Aikman, Monti, and Zhang (2024) demonstrate that Twitter sentiment can serve as a real-time proxy for public trust in central banks, with their Fed trust index revealing how ethical scandals and policy decisions shape public perceptions. Although we do not directly measure trust, our finding that the Bank of England achieves its highest engagement with culturally resonant content (the Turing banknote) suggests that building audience relationships through accessible, relatable content may create foundations for trust that extend to more technical policy communications.

The democratization of central bank communication through social media also serves crucial accountability functions. Ehrmann, Georgarakos, and Kenny (2023) show experimentally that communicating inflation targets with simple explanations generates persistent credibility gains, particularly among less financially literate audiences. Our readability findings provide real-world validation of this experimental evidence—the positive relationship between linguistic simplicity and engagement suggests that accessible communication not only reaches wider audiences but may also enhance the perceived legitimacy of central bank actions. This aligns with theoretical arguments that transparency serves democratic accountability by enabling public scrutiny of independent institutions.

However, our analysis also reveals tensions in achieving genuine democratic dialogue. Despite the Bank of England's pioneering efforts in plain-language communication and its increasing use of reply functions, the algorithmic constraints that reduce reply visibility by 68-85% highlight structural barriers to the conversational ideal. This finding provides quantitative evidence for what critics of social media engagement have suspected: that

platforms designed for broadcasting may fundamentally limit institutions' ability to engage in meaningful two-way communication with citizens.

Relationship to Existing Literature. Our findings both reinforce and extend key insights from previous research on central bank digital communication. The exceptional engagement generated by visual content, particularly the Turing banknote announcement, provides quantitative support for Masciandaro, Romelli, and Rubera (2023) observation that currency-related announcements achieve disproportionate public interest. However, our granular analysis reveals that this effect extends beyond specific content topics to the medium itself, with visual presentation serving as an independent driver of engagement regardless of subject matter.

The contrasting elasticity patterns between the Bank of England and Federal Reserve documented here and by Gorodnichenko, Pham, and Talavera (2024) contribute to a growing recognition of institutional heterogeneity in central bank communication effectiveness. While the Federal Reserve maintains relatively stable engagement elasticities around unity, the Bank of England exhibits dramatic volatility with values ranging from -60 to +6, suggesting fundamentally different audience dynamics and response patterns. This divergence underscores the importance of institution-specific research and cautions against assuming that successful strategies at one central bank will translate directly to another.

Our volatility findings gain additional context from recent studies on political influences on central bank communications. Bianchi et al. (2023) show that President Trump's tweets criticizing the Federal Reserve generated significant market reactions and potentially influenced policy decisions. While our study period predates most high-profile political attacks on the Bank of England via social media, the Brexit-period volatility we document suggests that politically charged environments fundamentally alter how audiences receive and amplify central bank messages. This reinforces the need for communication strategies that can adapt to varying political contexts while maintaining institutional credibility.

The positive relationship between readability and engagement corroborates findings by Korhonen, Newby, and Elonen-Kulmala (2024) regarding ECB communications while providing more granular evidence of the specific magnitude of these effects. Our results also empirically validate Lamla and Vinogradov (2022) qualitative observation that the Bank of England's commitment to clear language distinguishes it among major central banks, demonstrating that this linguistic accessibility translates into measurable engagement advantages. Importantly, our findings suggest that the Bank's plain-language

advantage operates through engagement metrics—simplified content not only aids comprehension but actively encourages audience interaction and content sharing.

The pronounced effects of MPC announcements on engagement metrics complement Hansen and McMahon (2017)) findings regarding market responses to Bank communications, collectively demonstrating that both the timing and content of central bank messages significantly influence their reception across different audience segments. This convergence of evidence from financial market and social media contexts reinforces the multidimensional nature of central bank communication effectiveness. Our results extend this understanding by quantifying how policy announcement timing creates multiplicative effects on public engagement, suggesting that central banks face critical strategic choices about when to release different types of content.

Real-Time Feedback and Policy Calibration. Our analysis reveals how Twitter engagement patterns could serve as real-time indicators of public reception to policy communications, complementing traditional measures of communication effectiveness. Adams et al. (2023) demonstrate that Twitter sentiment on FOMC meeting days predicts the magnitude of market surprises from Fed announcements, suggesting that social media provides valuable signals about expectation formation. While our study focuses on engagement volume rather than sentiment analysis, the dramatic spikes in engagement around significant policy events indicate that Twitter activity could serve as an early warning system for communication effectiveness or public concern.

The temporal patterns in our data—particularly the misalignment between the Bank's posting schedule and peak engagement hours—suggest opportunities for more responsive communication strategies. The finding that evening posts generate 128% higher average engagement despite minimal Bank activity during these hours indicates that audience attention patterns on social media differ fundamentally from traditional business-hours communication models. This temporal dimension adds nuance to the "listening" component of Haldane's vision—effective two-way communication requires not just willingness to engage but also presence when audiences are most receptive.

Limitations and Future Research Directions. Several methodological considerations warrant acknowledgment. While our models identify robust associations between tweet characteristics and engagement metrics, the observational nature of the data precludes definitive causal interpretation. The exceptional performance of video content, for instance, may partially reflect selection effects whereby videos are reserved for inherently newsworthy announcements. Future research employing experimental or quasi-experimental designs

could more precisely isolate the causal effects of specific communication features. The recent literature provides models for such approaches (Conti-Brown and Feinstein 2020) use plausibly exogenous variation in presidential tweets about the Fed, while experimental studies like Ehrmann, Georgarakos, and Kenny (2023) demonstrate how randomized information treatments can identify causal effects of communication strategies.

The demographic composition of Twitter users differs systematically from the general population, potentially limiting the generalisability of our findings. Twitter users tend to be younger, more educated, and more politically engaged than average citizens, suggesting that the engagement patterns observed here may not fully represent broader public reception of central bank communications. This limitation becomes particularly salient when considering heterogeneous audience effects documented by Burr (2025) and differential responses across demographic groups shown by Nghiem, Dräger, and Dalloul (2024). Future research combining social media analytics with representative survey data could provide a more comprehensive understanding of communication effectiveness across diverse audience segments.

The rapid evolution of social media platforms themselves presents both challenges and opportunities for future research. The transformation of Twitter to X and subsequent changes in algorithmic content distribution may alter the fundamental dynamics of engagement, necessitating continued monitoring and adaptation of communication strategies. Cross-platform analyses comparing engagement patterns across Twitter, LinkedIn, YouTube, and emerging platforms could provide valuable insights into optimal channel selection for different communication objectives. Additionally, the rise of generative AI and automated content creation may fundamentally change how central banks produce and distribute communications, requiring new frameworks for understanding human-AI interaction in policy communication contexts.

Future research should also explore the connection between engagement metrics and ultimate policy objectives. While our analysis demonstrates what drives public interaction with Bank content, the relationship between engagement and outcomes like inflation expectation anchoring or policy credibility remains unclear. Studies linking social media engagement patterns to survey-based measures of public understanding or trust could help establish whether the engagement patterns we document translate into meaningful improvements in central bank effectiveness. The emerging literature on social media-based trust indices, exemplified by Burr (2025), suggests promising directions for such integration.

6. Conclusion

This analysis of Bank of England Twitter engagement from 2011 to 2022 provides novel empirical evidence on the dynamics of central bank communication in the digital age. By examining over 3.1 million tweets mentioning the Bank of England and analysing the engagement patterns of nearly 10,000 official Bank tweets, we uncover critical insights that advance both theoretical understanding and practical implementation of monetary policy communication strategies.

Our findings reveal fundamental differences in how audiences engage with the Bank of England compared to other major central banks. Unlike the Federal Reserve, where engagement responds relatively predictably to posting frequency, the Bank of England experiences highly volatile engagement elasticities that range from -60 to +6, with an average of 1.095. This volatility intensified notably after 2017 and reached extreme levels during periods of economic uncertainty such as the Brexit referendum. These patterns suggest that for the Bank of England, content quality, timing, and relevance to current economic conditions matter substantially more than posting volume for generating public engagement.

The determinants of tweet-level engagement reveal a clear hierarchy of factors that influence public interaction with Bank communications. Monetary Policy Committee announcement days emerge as pivotal moments, generating engagement increases ranging from 122% for likes to 376% for quote tweets. Visual content demonstrates even more dramatic effects, with photos increasing engagement by 126-380% across different metrics, while videos achieve remarkable increases of up to 3,300% for quote tweets. These findings provide quantitative validation for the increasing emphasis on multimedia content in central bank communications, suggesting that visual elements serve not merely as enhancements but as fundamental tools for bridging the comprehension gap between technical policy content and public understanding.

Particularly significant is our finding that linguistic simplicity directly enhances engagement. Each one-point improvement in Flesch Reading Ease scores corresponds to engagement increases of 0.6-1.8% across different metrics, with cumulative effects becoming substantial across the typical range of readability variation. This evidence provides empirical support for the Bank of England's pioneering efforts in plain language communication, demonstrating that accessibility and engagement are complementary rather than competing objectives in central bank communication.

The research also identifies important constraints within current social media architectures. Reply tweets, despite representing the Bank's efforts at direct dialogue with

users, receive 68-85% less engagement than original posts due to algorithmic visibility limitations. This finding highlights the tension between the democratic ideals of two-way communication and the practical realities of platform design, suggesting that central banks must innovate beyond traditional reply mechanisms to foster meaningful public dialogue.

These findings contribute to the broader literature on central bank transparency and democratic accountability in several ways. First, they provide empirical evidence that the evolution from opacity to transparency in central banking must extend beyond mere information disclosure to encompass considerations of accessibility, timing, and presentation. Second, they demonstrate that effective digital communication requires institution-specific strategies rather than universal approaches, as evidenced by the dramatic differences between Bank of England and Federal Reserve engagement patterns. Third, they validate ongoing efforts to simplify central bank communications while providing quantitative benchmarks for measuring communication effectiveness.

For practitioners, our analysis offers concrete guidance for optimizing digital communication strategies. Central banks should prioritize high-quality, visually engaging content strategically timed to coincide with periods of heightened public attention. Investment in multimedia capabilities, particularly video production, appears justified by the exceptional engagement returns. Continued emphasis on linguistic accessibility will not only serve democratic ideals but also maximize the reach and impact of policy communications.

As central banks worldwide grapple with maintaining legitimacy and effectiveness in an era of unprecedented monetary policy interventions, the ability to communicate effectively with diverse public audiences becomes increasingly critical. This research demonstrates that social media platforms, despite their limitations, offer valuable channels for extending the reach of central bank communications beyond traditional expert audiences. The key to success lies not in maximizing posting frequency but in crafting accessible, visually compelling content that resonates with public interests and concerns.

Future research should extend this analysis to examine cross-platform dynamics, investigate the relationship between social media engagement and actual public understanding of monetary policy, and explore how emerging technologies might further transform central bank communication strategies. As the digital landscape continues to evolve, central banks must remain adaptive, empirically grounded, and committed to genuine dialogue with the publics they serve. The evidence presented here suggests that such efforts, when properly executed, can significantly enhance the democratic accountability and effectiveness of monetary policy in the twenty-first century.

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