

Central banks on social media – the reception of ECB communication among experts and non-experts on Twitter



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Monetary policy issues are actively discussed in social media. An analysis of ECB-related tweets shows that more subjective views and tweets expressed in stronger language are more likely to get retweeted, thereby shaping the tone of the virtual discussions. Both experts and non-experts are responsive to ECB communication – in most cases, information is simply relayed on Twitter, but there are also instances of controversial discussions being triggered.

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Central banks are making increasing use of social media to communicate with their target audiences – with experts, who have been the focus of central bank communication for long, but also, and increasingly so, with non-experts. The latter is a particular challenge, up to the point that some commentators have predicted that such central bank efforts are bound to fail (Blinder 2018). Non-experts tend to have little knowledge about central banks and monetary policy in general, and they have only low desire to be informed about central bank issues (van der Crujssen et al. 2015). In line with this, there is ample evidence of limited pass-through of central bank communication to the broader public. This is not only reflected by a limited understanding of more complex issues such as monetary policy strategies (Coibion et al. 2020), but also by a widespread unawareness of central banks' inflation targets (Christelis et al. 2020).

Non-experts rarely get information about central banks directly from the source. Rather, they hear about central banks and monetary policy via media reporting (ter Ellen et al. 2020). This intermediation not only implies that the media can have an important role in shaping economic outcomes, it also might make the central bank communication less powerful: Coibion et al. (2019) show that inflation expectations of consumers react substantially more if they read a central bank statement than if they are exposed to a news article about the same statement.

Communicating via social media might therefore be a promising avenue to engage in a direct communication with both experts and non-experts. In Ehrmann and Wabitsch (2021), we provide an analysis of ECB-related traffic on Twitter to understand how monetary policy issues get discussed on social media and to what extent and in what way Twitter traffic responds to the ECB's communication.

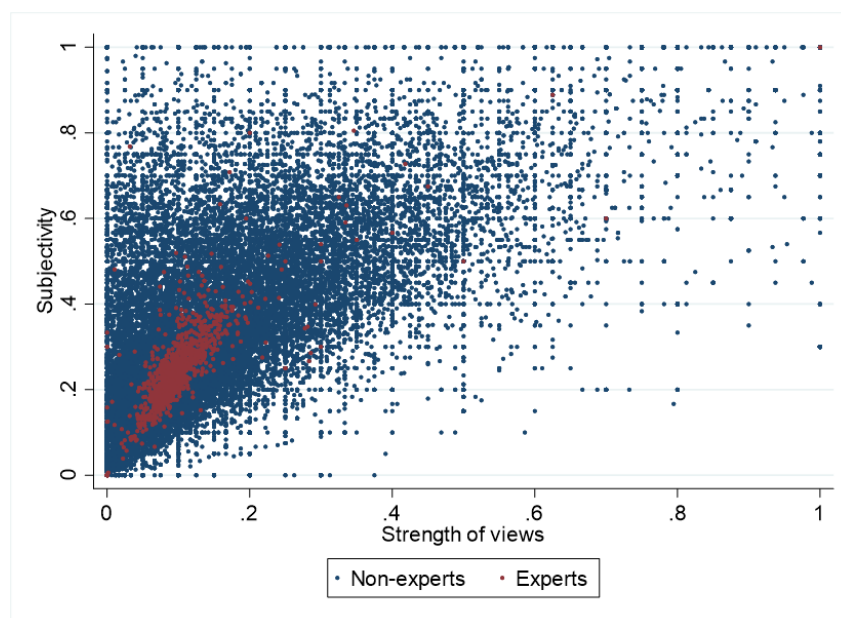
Tweets about the ECB. To conduct this analysis, we assemble a dataset of tweets about the ECB or its president – in English (the main language spoken in financial markets and the economics profession) and in German (the largest language spoken in the euro area). The data are collected over the time period from 2012 (when Twitter usage became more stable) to 2018 (in order not to confound the analysis with the changeover in the ECB presidency from Mario Draghi to Christine Lagarde, who has her own, very active, Twitter account). The tweets must contain one of the keywords “ECB”, “European Central Bank” or “Draghi” (or their translations in German) and are subsequently cleaned extensively to ensure that we only retain tweets that are indeed related to the European Central Bank; for instance, we filter out tweets related to the “England and Wales Cricket Board”, which also abbreviates as ECB. For all remaining tweets, we then compute measures of favourability (i.e. to what extent the views expressed are positive or negative), absolute value of favourability (which indicates the strength of the language that gets used) and subjectivity (measuring to what extent a tweet is mainly factual or rather subjective) using a dictionary approach.

In addition, we differentiate between Twitter accounts of experts and non-experts, based on a simple classification: first, we assume that Twitter users who post a tweet on the day of at least every second ECB press conference are experts in monetary policy matters. Second, we impose that non-experts not only post tweets on the occasion of the ECB press conference less regularly, but that their ECB-related tweets make up for only a minor part of their Twitter activity.¹ While the expert group is much smaller than the non-expert group, it generates a disproportionately large share of the ECB-related tweets.

¹ For each Twitter account, we calculate the share of ECB-related tweets in the total number of tweets, and require non-experts to be in the bottom 25% of the distribution of this measure.

ECB-related tweets by non-experts are more subjective, use stronger language and their sentiment is more dispersed. Figure 1 compares tweets posted by non-experts (blue) to those posted by experts (red), by plotting the average subjectivity and the average strength of language for each Twitter account. The figure illustrates very clearly that tweets by non-experts are much more diverse than those by experts, that non-experts are on average more subjective and use stronger language, and that there is a positive correlation between the two concepts, suggesting that more subjective views also tend to get expressed in stronger language.

Figure 1: Sentiment expressed in tweets by experts and non-experts



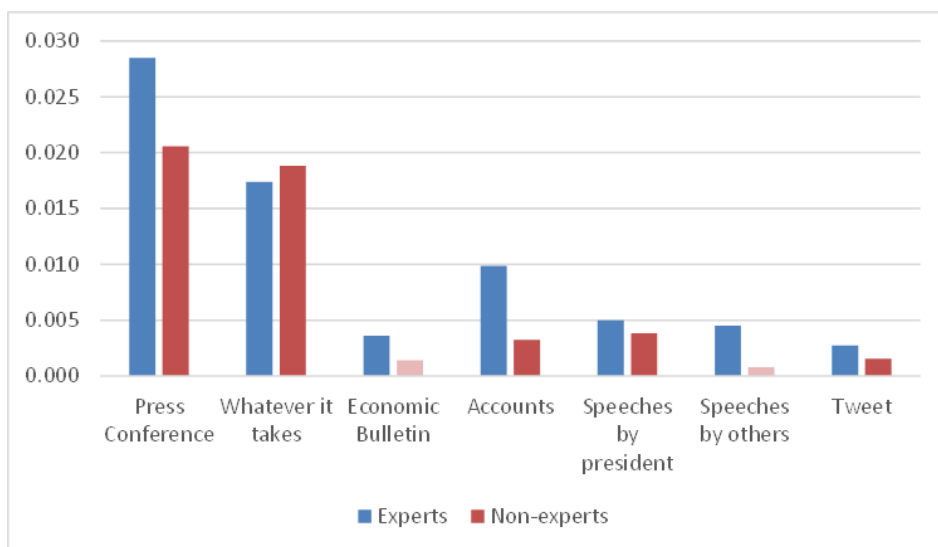
Notes: The figure shows the average strength of views and the average subjectivity (both measured on a scale from 0 to 1) of ECB-related tweets issued by expert accounts (red) and non-expert accounts (blue) tweeting in English.

More subjective tweets and tweets with stronger language get retweeted more often. For each of the tweets in our dataset, we know how often they get retweeted. Studying the determinants of retweets helps understanding which opinions shape the debate on Twitter. While only around every 7th tweet gets retweeted, some of these can be highly influential. On average, conditional on being retweeted, a tweet is retweeted around 4.5 times, but the 99th percentile stands at 43, and the maximum is 4,868. More subjective tweets and tweets that use stronger language have a considerably higher likelihood of being retweeted. This suggests that the discussion about the ECB on Twitter is disproportionately influenced by views that are expressed in strong language and are relatively subjective.

Non-experts are responsive to ECB communication, but less so than experts. Figure 2 shows how the (log) number of tweets in English responds to ECB communication on the same day.² The figure shows that the press conference and the “Whatever it takes” statement by then-ECB president Draghi in 2012 constitute the most important events in our sample, with much higher responsiveness already on the same day. More specialised communication events have less traction on Twitter. Non-experts are found to respond less strongly than experts, with the notable exception of “Whatever it takes”.

² The same-day response is sufficient to capture the additional traffic, with the exception of the ECB’s press conference and “Whatever it takes”. For the press conference, Twitter traffic is elevated already 5 days before and still 4 days afterwards, for “Whatever it takes” the effect is estimated significantly for 15 subsequent days.

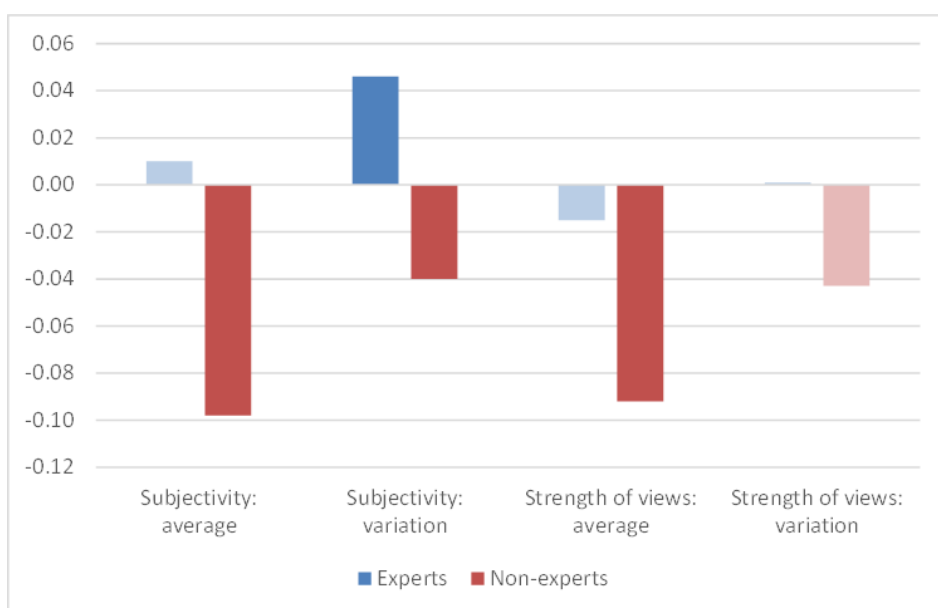
Figure 2: The responsiveness of Twitter traffic in English to ECB communication events



Notes: Coefficient estimates for the effect of ECB communication events on the log number of tweets in English on the same day. Response coefficients that are statistically significant at least at the 10% level are plotted in dark shaded colours. “Whatever it takes” denotes the corresponding remark by Mario Draghi on 26 July 2012. “Speeches by others” are speeches by ECB Executive Board members other than the ECB president. “Tweet” denotes tweets originating from the ECB’s institutional Twitter account on days without other ECB communication events already captured in the analysis.

In response to most communication events, tweets become more factual and express more moderate views, in a more uniform manner. Figure 3 provides a typical example of how sentiment expressed on Twitter responds to the ECB’s communication. Around the ECB press conference, tweets posted in English by non-experts are less subjective and express their views in a more moderate language on average. In addition, there is less variation across the different Twitter accounts, suggesting that the views expressed are less dispersed than otherwise. These patterns are in line with Twitter being a medium to transmit information from the ECB to non-experts.

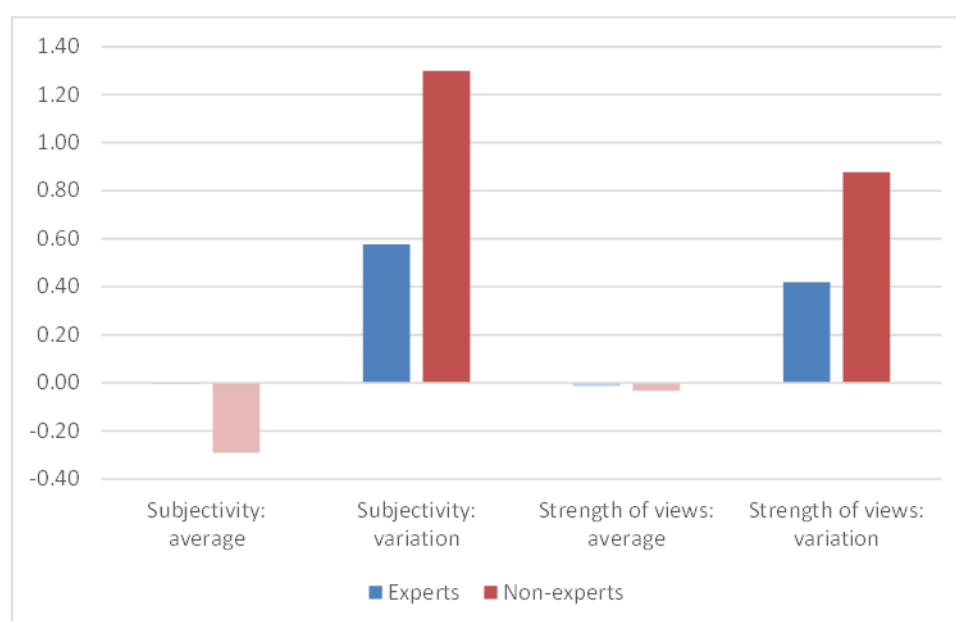
Figure 3: Change in sentiment in tweets in English around the ECB press conference



Notes: Coefficient estimates for the effect of ECB communication events on tweet sentiment around the ECB press conference (including 4 days prior and 5 days after). Response coefficients that are statistically significant at least at the 10% level are plotted in dark shaded colours.

In some instances, ECB communication triggers a controversial discussion on Twitter. The most prominent example is “Whatever it takes”, which not only led to a strong and persistent increase in the overall traffic, but furthermore also had a large impact on the sentiment expressed on Twitter. This was most prominently the case for tweets in German, and among non-experts. As can be seen in Figure 4, the variation in subjectivity and language strength increased substantially, for experts as well as non-experts, but to a much larger extent for the non-expert group. Likely, in such instances, the information transmission is dominated by a highly disperse and controversial discussion on Twitter. Interestingly, Twitter users differentiate between the ECB president as a person on the one hand and the institution or its policies on the other hand. In the discussion around “Whatever it takes”, tweets that commented on Mario Draghi became much more subjective on average and much more diverse, whereas the subjectivity of tweets about the ECB did not change in a significant manner.

Figure 4: Change in sentiment in tweets in German after “Whatever it takes”



Notes: Coefficient estimates for the effect of ECB communication events on tweet sentiment in tweets in German following “Whatever it takes” (same-day plus 15 subsequent days). Response coefficients that are statistically significant at least at the 10% level are plotted in dark shaded colours.

Implications for central bank communication. The results described in this article have direct implications for central bank communication. Non-experts can be reached by central banks – as we show, they are responsive to ECB communication. While they tend to have more subjective views than experts, and express them in stronger language, there are several instances where ECB communication triggers a moderation of views and more factual discussions. This is important because, typically, more subjective tweets expressed in stronger language are more likely to get retweeted and thereby tend to be more influential. ■

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