Misinformation and Social Distancing: Evidence from 762 Million Tweets

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Abstract

Does the quality of information affect risk-taking behaviour? I investigate this question in the context of COVID-19 by exploiting a very large panel of tweets. Using inferred and explicit geolocation data, I study the extent to which greater misinformation spread influences compliance with NPIs via the SafeGraph metric of social distancing. In this 2000-word excerpt, I motivate the research design, conduct a literature review, and present descriptive statistics on a portion of the dataset.

1 Introduction

The early stages of the COVID-19 pandemic saw an unprecedented shift in behaviour for most citizens of the United States. In a short period of time, a large number changed their habits of working, socialising, and travelling. They did so both as a result of government restrictions in the form of non-pharmaceutical interventions (NPIs) and as a private response to the spread of the pandemic. Economists have taken interest in how citizens formed these behaviour changes; it has been shown that people largely pre-empted government restrictions and acted as a result of their own assessment of the unfolding pandemic. A key factor in how citizens changed (or failed to change) their behaviour, then, is the source and quality of the information they received. It is plausible that those who consumed more accurate information[1] acted earlier, and were more likely to comply with the government restrictions as they came into place. A key vector for this information is, increasingly, social media, with Twitter (alongside Facebook and YouTube) a major form of news information: a survey by the Pew Research Foundation indicates that in 2019, 18% of US adults identified social media as their primary source of political news (Mitchell et al., 2020). While a minority to Facebook and YouTube, Twitter is a significant platform: another Pew survey indicated that 22% of US adults use the platform, with 42% of these using it on a daily basis (Perrin & Anderson, 2019).

On Twitter, users can share their own text, with the option to link to a website; alternatively, they can 'retweet' another user's text or link. In this way, misinformation originating from a small (and largely identifiable) number of sites spreads throughout the network, reaching users passively through retweets. Users can also use 'hashtags' in their tweet, which connects their tweet to a particular topic. If the user has allowed it, Twitter also records the location of the tweet; and it is also possible for the user to set their location on their profile. In this way, it is possible to create a panel of geographically-located tweets.

I exploit a dataset of over 100 million tweets collected between February and December 2020 (Banda et al., 2021) to measure the geographical exposure to misinformation in the US. 2 million of these tweets have the exact geographical location embedded in the tweet, with location inferred for a further 20 million. The tweets were collected using the Twitter API, querying for a random sample of 1% of the tweets containing any of a list of COVID-related keywords.

[1] And also more cautious information; in this case the two are largely correlated, which is investigated in the full paper.

2 Methods

3 Results

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487 words in main body, excluding headers and bibliography.
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References

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