The impact of social media on information flow? Trump's Twitter tariff tirade

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Technological advances have brought us a number of social media sites. As these social media platforms have matured, their role as information providers and their effect on disseminating information grows, but their effects vis-à-vis traditional information sources are uncertain. Our research contributes to the understanding of this new information environment by investigating how this broader dissemination of information influences stock prices. We cull our sample of 35 US-China trade war and tariff related tweets from 26,157 tweets by former U.S. President Donald Trump via the Twitter platform during his time in office.

An important question is whether or not these tweets affect stock prices. During the time Trump was in office, there were approximately seventy 1- to 3-day periods when a new development in the U.S.-China trade war occurred. We examine the stock market reaction to U.S.-China trade and tariff announcements by distinguishing between those where Trump also communicates related information to his Twitter followers and news announcements that are not associated with a tweet. We further distinguish between positive and negative trade war announcements, i.e., announcements that should have positive and negative price effects, respectively, upon the affected securities.

We examine the market reaction to these tweets by focusing on 132 firns in twelve specific industries that are the most likely to be affected by these developments. These are (1) autos, motorcycles, RVs, construction machinery and heavy trucks, (2) auto parts and appliances, (3) industrial tools and machinery, (4) semiconductors, (5) chemicals, (6) manufacturing of apparel and toys, (7) aerospace and defense, (8) packaged foods, meats, & beverages, (9) retail apparel, (10) retail department and discount stores, (11) other retail, and (12) oil and gas. Many of the industries we examine are exposed to the trade war via supply chain issues, while others are particularly susceptible to a particular product that is being subjected to higher tariffs (e.g., users of steel and aluminum, which were some of the first items to be subject to U.S. tariffs).

The study of the effect of new information on stock prices has a long history in financial research. Studies during the last twenty years have examined the information content of stock message boards (e.g., Tumarkin and Whitelaw, 2001; Antweiler and Frank, 2004; Das, *et al.*, 2005) while more recent studies investigate the information content of social media posts (e.g., Azar and Lo, 2016; Ajjoub, *et al.*, 2020). Our study is unique in that it takes a specific substantive event, the U.S.-China trade war and examines whether Trump's tweets affect stock returns even in the absence of substantive information content.

Other studies of the effect of Trump's tweets on financial markets are just starting to emerge. Ajjoub, et al. (2020) examine the effect of 513 tweets from mid-2016 to late August 2018 that mention a specific publicly traded company on the stock price of that company. After disaggregating the companies into media and non-media companies, they find that only positive tweets have a significant (positive) effect on the stock prices of media companies, while only negative tweets have a significant (negative) effect on the stock prices of non-media companies. However, these effects are temporary in that they are reversed on the following day. Rakowski, et al. (2021) examine 21 million company-specific tweets over five years by comparing stock trading when Twitter is "up" to trading when it has an official outage. They find that Twitter influences stock trading, especially when it comes to smaller securities with a heavy presence of retail investor trading and that, although tweets are associated with positive abnormal

returns, they tend to reverse unless they occur in conjunction with traditional news events. In contrast to our study, they focus on popular tweets while we focus on tweets by an important personage and they study companies that are specifically mentioned in tweets whereas we look at a sample of companies in industries that we believe should be affected by news about U.S.-China trade war events.

Another branch of emerging literature focuses, as we do, on the Trump trade war. Amiti, et al. (2019) show that the Trump tariffs resulted in increases in prices of imported goods that were passed on to consumers and firms, reductions in the quantity of imports, and large deadweight losses. Huang, et al. (2020) investigate the effects of the U.S.-China trade war on firms connected through global supply chains with a particular emphasis on March 22, 2018 when the Trump administration issued a presidential memorandum proposing a 25% tariff on over $50 billion in Chinese imports and find that U.S. firms with higher exposure to China exhibit significantly lower stock returns compared to firms with less exposure. Burggraf et al. (2019) examine 77 tweets by Donald Trump about the U.S.-China trade war between September 2018 and May 2019 and find that they negatively influence S&P 500 index returns and positively affect the VIX volatility index, but that both effects tend to reverse in subsequent periods.

Our sample of 35 events contains 21 tweet events vs. 14 no tweet events and 13 positive events vs. 22 negative events. We find that the stock prices of firms that were likely to be affected by the trade war experienced significant losses in value driven by negative developments in the trade war. Positive developments were not only less frequent in occurrence but also had only weak effects on stock prices. We also find that stock price reactions to positive events were only significantly positive when accompanied by a tweet by President Trump. Interestingly, other ostensibly positive developments exhibited significant negative returns that were similar in magnitude to the returns around negative developments. Moreover, we find that the effect of trade related events was pervasive across most of the twelve industry groups we examine.

Our ex-ante expectation is that trade war related announcements that improve U.S.-China trade relations will have a positive effect on the stock price of firms that do business with China, whether that means sourcing products or making sales to the Chinese market, while those that suggest deteriorations in the trade relationship will have a negative stock price effect.

We find that the effect of simultaneous information dissemination by the U.S. President via Twitter had a positive effect when the trade war announcements were good news but had, if anything, a negative effect that led to lower returns when these announcements pertained to negative developments. This finding is consistent with differing effects of tweets on positive and negative announcements in specific industries as identified by Ajjoub, *et al.* (2020).

Overall, we find that the trade war in fact had a deleterious effect on the wealth of investors in those companies most affected by these events. This is because the negative developments in the trade war were wealth reducing while the positive developments, were fewer in number and also had a wealth reducing effect in most cases.

Our findings that tweets can amplify the immediate market reaction to news supports the notion that social media announcements have relevancy for retail investors as a whole and in particular those retail investors following specific industries and can thereby affect the financial markets. Whether this is good or bad for markets is debatable since the increased participation may come at the cost of higher volatility.