A RESEARCH PROPOSAL ON "NEGATIVE PEER DISCLOSURE AND PRODUCT MARKET RIVALRY"

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1. Background

Corporate disclosure has always been a central topic of discussion among academics, practitioners, and regulators because it is deemed critical for the functioning of an efficient capital market (Healy and Palepu (2001)). Much of the existing literature is dedicated to studying corporate managers' incentives and choices in disclosing their *own* firms' financial conditions through either mandatory regulatory filings or voluntary communication (i.e., "self-disclosure"). Firms, however, do not operate in a vacuum. With rapid advances in technological innovations, deregulations, and globalization, no modern firms can escape product market rivalry. We uncover an emerging corporate strategy to publicize adverse news about competitors' products. This strategy, which we refer to as "negative peer disclosure," differs from self-disclosure in that it is not explicitly about one's own firm and is completely unregulated. The proposal below discusses theories that may provide rationality for peer disclosure, describes data collection, presents preliminary evidence, and lays out a plan for future analyses.

2. Theoretical Intuition

Economic theory furthers two spillovers of firms' technological innovations on one another's growth: a positive effect from common knowledge and a negative effect from product market rivalry (e.g., Bloom, Schankerman, and Reenen (2013)). This intuition can easily extend to disclosure: while news about one firm's product could have a positive externality on its competitors because of the revelation of a common technology breakthrough or failure, it may also carry a negative externality due to product market rivalry.

Upon receiving adverse news about a competitor's product(s), a firm may wish to signal to the market that the same technological issue does not exist in its own product(s) by publicizing the news (i.e., signaling in the form of negative peer disclosure). Such signaling potentially benefits the firm because it mitigates the effect from the positive externality while strengthening the effect from the negative externality. Intuitively, the firm's propensity to signal and value of signaling should increase with the intensity of product market rivalry faced by the firm and the uncertainty about the technologies used in both firms' products.

3. Measuring Negative Peer Disclosure

While firms may post news about their competitors via various social media platforms, we focus on gathering negative peer disclosures through corporate Twitter accounts. Our initial sample consists of the intersection of firms in the universe of Compustat and CRSP databases between 2009 and 2017 that can be classified into an industry group using the TNC 300 industry standards

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developed by Hoberg and Phillips (2010). We begin our study in 2009 because corporate presence on Twitter was sporadic before then.

We use a combination of automated and manual searching to locate corporate Twitter accounts. To do so, we first identify firms with Twitter presence in our initial sample. Within this subsample, we then visit each firm's corporate website and search for a direct link to its Twitter site. The existence of such a link ensures that the Twitter site that we locate is indeed maintained by the firm itself. If such a link cannot be found, we manually search for the firm's Twitter site and assess its authenticity. These data steps yield 2,008 public firms with Twitter corporate accounts.

We then form pairs of industry peers *i-j* for each sample year, with firm *i* being one of the 2,008 firms identified above and firm *j* being another public firm in the same TNIC 300 industry group as firm *i* of the same year from our initial sample. In searching for negative disclosure by firm *i* about firm *j*, we submit queries to Twitter's search interface to collect tweets posted by firm *i* throughout our sample period. We define a tweet as negative peer disclosure if it is negative news tweet (i.e., tweet with negative tones) about firm *j* and does not mention firm *i*. We further require the tweet to contain a hyperlink, which allows us to trace the source of the news. A sample tweet of negative peer disclosure is enclosed in the appendix at the end of this proposal.

Several data steps outlined above warrant further discussion. First, if a firm is associated with multiple TNIC 300 industry groups in a year, we form industry peer pairs for the firm within each of its industry groups. Second, we comply with Twitter's user agreement, which allows search interface crawling but not scraping. Third, the total number of queries that we plan to submit is substantial, which depends on the number of industry groups in our sample as well as the number of firms in an industry group. For efficient computing, we will parallelize our queries using *Orion* Cluster at the Georgia State University. Fourth, we measure the tone of news tweets using a "bag-of-words" approach based on the frequency of positive and negative words. Henry and Leone (2016) suggest that word-frequency measures of tone are suitable for most capital market research when predefined dictionaries of positive and negative words exist for sentiment analysis. We plan to employ four dictionaries including the Harvard-IV dictionary, QDAP dictionary (Hu and Liu (2004)), Henry's Financial dictionary (Henry (2008)), and Loughran-McDonald Financial dictionary (Loughran and McDonald (2011)). We deem the tone of a news tweet negative if the number of negative words contained in a tweet exceeds the number of positive words using at least two out of the four dictionaries.[†]

4. Preliminary Evidence and Future Analyses

So far, we have tried the data procedures described above for ten randomly selected industry groups. Based on this sample, we see three promising results. First, the practice of negative peer disclosure through corporate Twitter accounts significantly rises in the past decade for all ten industries that we sampled. Second, the propensity to issue negative peer disclosure increases with the intensity of industry and pairwise product rivalry. Third, tweeting firms on average enjoy a positive market reaction of 3%, suggesting the existence of information externalities. We plan to further explore these three results after finishing data collection for all industries in the near future. Upon completion, this study sheds light on a new form of disclosure and has the potential to broaden the scope of disclosure literature beyond self-disclosure.

[†] The choice of using two dictionaries for our tone measure seems reasonable based on manual verification of a random sample of 100 tweets.

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Appendix: A sample tweet of negative peer disclosure

Tweeting firm: Globalscape, a software developer with approximately 80% of its revenues derived from enterprise software products that include managed file transfer and information security.

Tweeted firms: Dropbox and Box, file hosting service companies

Tweeting time: 9:02:55 a.m., May 19, 2014

News source: TechRepublic

Source time: 11:30 p.m., May 8, 2014

Source link: https://www.techrepublic.com/article/dropbox-and-box-leak-files-in-security-through-obscurity-nightmare/

