ISF White Paper

Are investors liking corporate Canada’s ESG tweets?

An analysis of Environmental, Social and Governance messaging on social media and cost of capital

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EXECUTIVE SUMMARY

In recent years, ESG considerations have been given greater attention. Concurrently, social media has emerged as a more important platform to share and disseminate news. In this study, we explore whether more ESG-related disclosures on Twitter (renamed "X" in July 2023) are associated with lower costs of capital. We find that firms have increased their ESG-related messages on Twitter and have increasingly adopted it as a platform to share and disseminate news. However, we find no evidence of an impact on firms' cost of equity related to elevated ESG messaging on Twitter.

Subsequent analysis indicates that firms tend to be selective in their ESG disclosures on Twitter, often focusing on positive news. Additionally, analysis of environmental tweets and subsequent reductions in GHG emissions suggests that firms do not consistently follow through on their social media messages. These findings suggest that investors may perceive ESG messaging by firms on social media as mere white noise rather than as useful information.

Our findings offer useful insights for firms in formulating their social media policies. For instance, we observed that an average ESG tweet garners fewer retweets than a non-ESG tweet. This suggests that there may be a lack of understanding, skepticism, or other factors hindering the effectiveness of ESG communication. Our findings are also helpful for regulators in understanding social media's implications on financial markets and developing guidelines to protect investors from potentially misleading ESG messaging.

BACKGROUND

Since the adoption of the Paris Agreement in 2015, investors have increasingly integrated Environmental, Social, and Governance (ESG) considerations into their investment decisions. The recent studies by PWC reveal that stakeholders have begun to expect companies to address ESG issues and penalize firms that appear to be neglecting material ESG considerations.[1],[2] This implies that firms with strong ESG performance may gain access to cheaper credit and provide better stock performance, with several recent studies documenting a positive relationship between ESG and financial performance.[3]

The mounting pressure from stakeholders to address ESG concerns has led firms to prioritize ESG performance, prompting them to publish ESG disclosures in sustainability reports, annual reports, etc. However, without standardized metrics to assess ESG performance, these disclosures often serve as a key indicator of a firm's ESG performance.[4] Our analysis reveals a strong correlation of 0.72 between ESG disclosure and ESG performance scores of the sample firms[5]. Due to a strong correlation between ESG disclosure and ESG performance score and a lack of oversight on ESG communication, there emerges the potential for firms to indulge in greenwashing or window-dressing their ESG performance.

The surge in ESG interest amongst stakeholders coincides with the rise in social media as a communications tool for firms. Several recent studies have found a positive relationship between social media sentiment and stock returns.[6],[7] Social media has become a relevant information channel, particularly among young investors, with 60% of investors between the age of 18 and 34 using it as a source of investment information.[8]

1 PWC 1 (PricewaterhouseCoopers). (2021). The economic realities of ESG.

2 PWC 2 (PricewaterhouseCoopers). (2021). Beyond compliance: Consumers and employees want business to do more on ESG.

3 Atz, U., Clark, C., Holt, T.V., & Whelan, T. (2021). ESG and financial performance. Centre for Sustainable Business, NYU-Stern.

4 Tata, J., & Prasad, S. (2015). CSR Communication: An impression management perspective. Journal of Business Ethics, 132 (4), 765-778.

5 The Pearson correlation was applied to analyze the relationship between ESG disclosure and ESG scores, as obtained from Bloomberg, for the sample firms.

6 Bartov, E., Faurel, L., & Mohanram, P.S. (2018). Can Twitter help predict firm-level earnings and stock returns? The Accounting Review, 93 (3), 25–57.

7 Lachana, I., & Schröder, D. (2023). Investor sentiment, social media and stock returns: wisdom of crowds or power of words?

8 Bumcrot, C., Lin, J.T, Mottola, G., Valdes, O., Walsh, G. (2022). The changing landscape of investors in the United States: A report of the national financial capability study. FINRA Investor Education Foundation.

This leads us to examine how ESG disclosures on social media by firms impact them. Specifically, we examine if ESG messaging on social media affects firms' cost of equity. Our study analyzes tweets between 2015 and 2022 by the Canadian firms that were in the S&P/TSX Composite Index as of June 15, 2022. Among the 239 firms included in the S&P/TSX Composite Index, 185 firms were found to have a Twitter account. We classify a tweet as ESG-related if it contains any of the 121 keywords that we identified as being relevant to ESG considerations. Similarly, we identify an environmental tweet using 73 keywords. Based on this approach, we find 10,816 tweets to be ESG tweets and 4,012 to be environmental tweets in the sample of 290,353 tweets.

As noted earlier, most firms recognize the importance of Twitter which has led to an increase in adoption over the period under consideration, as illustrated in Figure 1. For example, this figure shows that in 2008 less than 10% of the firms used Twitter, but this percentage steadily increased to nearly 80% by 2022. Additionally, the interest in ESG has increased significantly since the Paris Agreement came into force. This is evident from Figure 2, which shows that while just under 2% of total tweets were ESG-related in 2016, the numbers exceeded 8% by 2022.

FIGURE 1

Twitter usage over the years

Percent of firms on Twitter

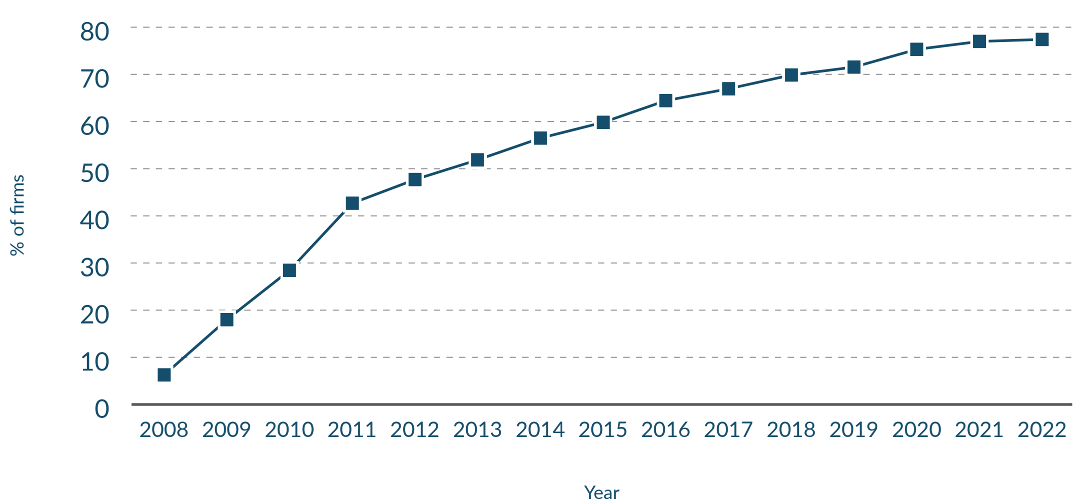
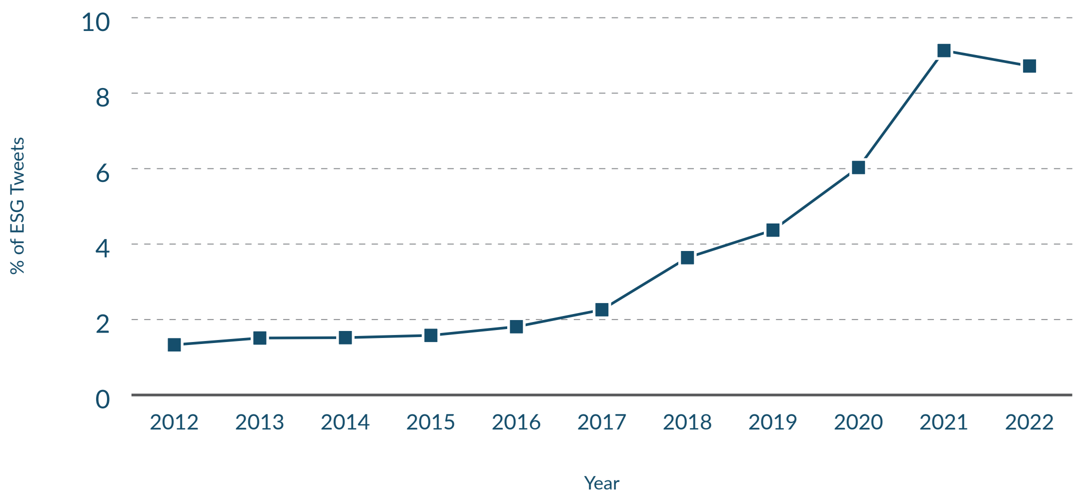


FIGURE 2

Percentage of Tweets that are ESG-Related



Furthermore, the largest proportion of ESG tweets originates from firms in the Energy, Industrials, Materials, and Utilities sectors, as shown in Figure 3. Figure 4 shows that these four sectors also represent the most significant proportion of environmental tweets, while Figure 5 shows that these four sectors account for over 95 percent of all industrial GHG emissions from our sample, which is clearly not a coincidence.

FIGURE 3

ESG Tweets by Industry Sectors

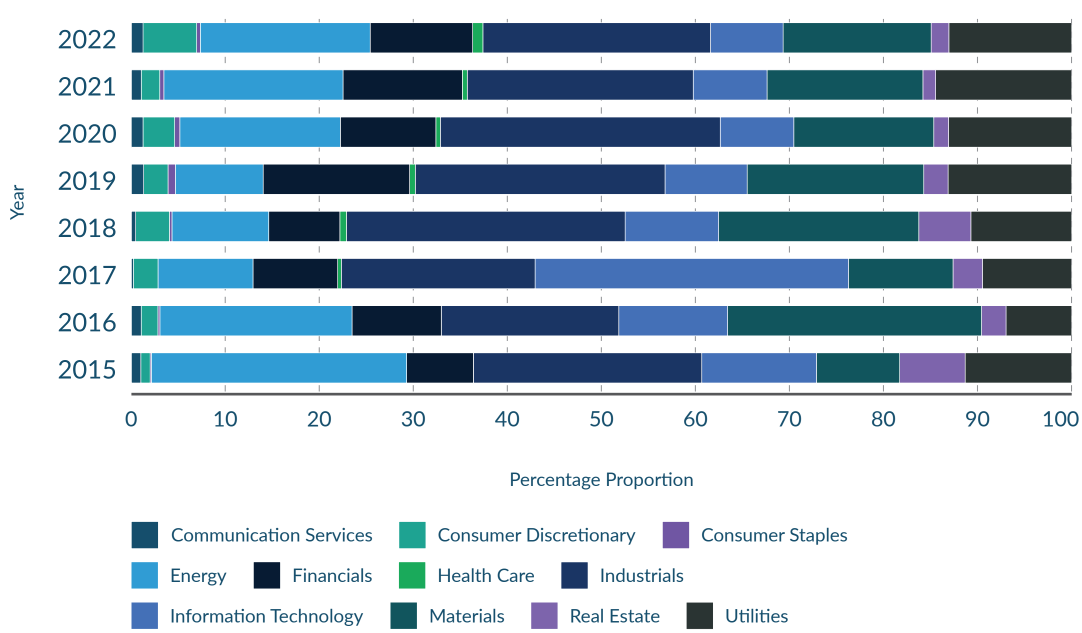


FIGURE 4

Environmental Tweets by Industry Sector

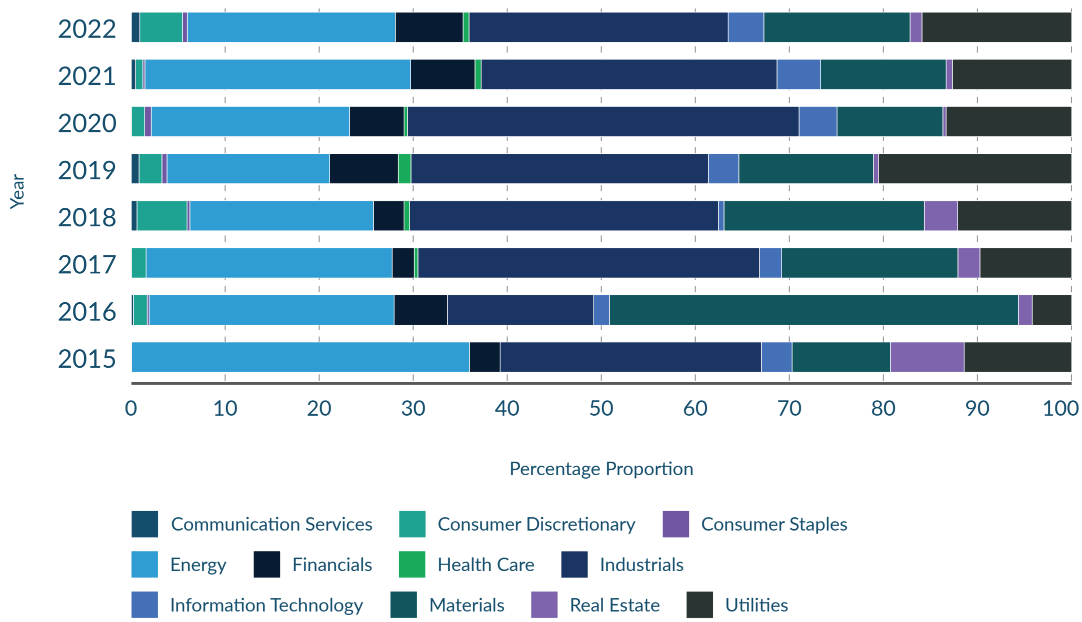
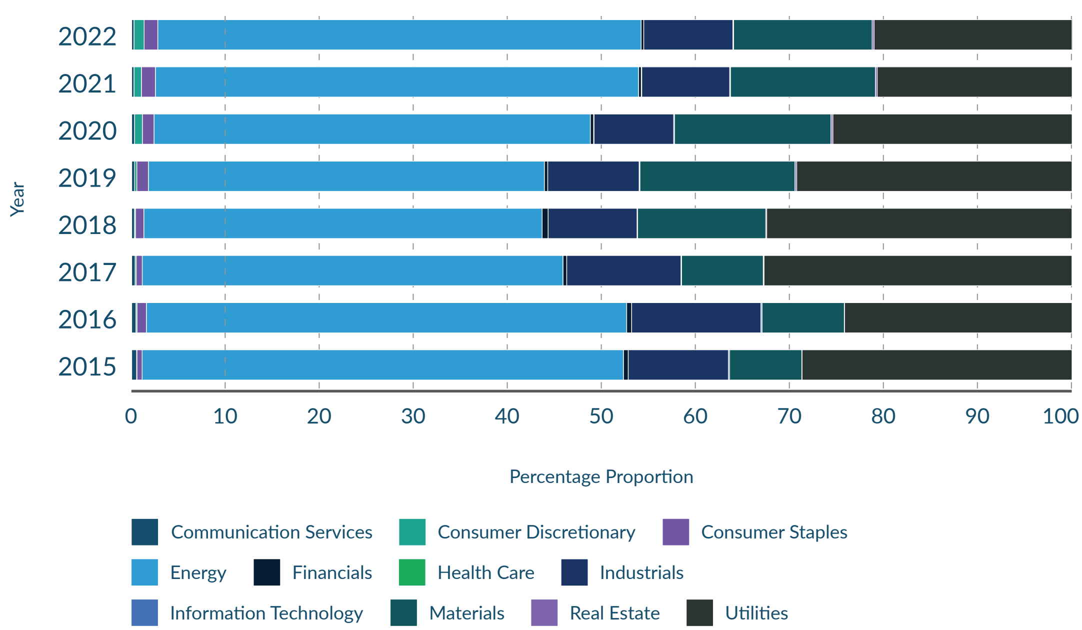


FIGURE 5

GHG Emissions by Industry Sector



COST OF EQUITY AND ESG DISCLOSURES ON TWITTER

Despite increased ESG messaging on Twitter, our analysis suggests that it doesn't influence a firm's cost of equity (CoE). In particular, we find no significant relationship between the frequency of ESG tweets (expressed as the ESG tweet percentage) and the COE (provided by Bloomberg). Our results are based on the inclusion of controls for industry and year, as well as other traditional controls such as ESG score, firm size, asset tangibility, capital expenditures (Capex), and income margin, which are known to influence the CoE. We re-examined these results considering an alternate measure of the CoE and also when we classify firms into high and low ESG tweet volume categories. Our results were virtually unchanged and provided the same conclusion.

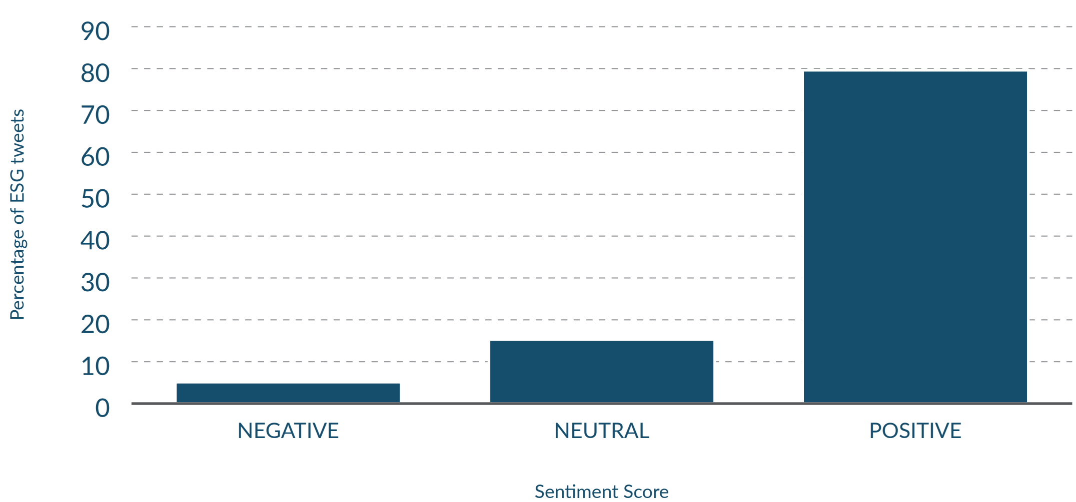
This leads us to examine why investors do not appear to be influenced by ESG-related tweets and disregard them as white noise. We consider two potential explanations for this behavior.

1. Firms selectively disclose ESG-related positive news/messages on Twitter
2. Twitter rhetoric may not translate into tangible actions

We employed VADER (Valence Aware Dictionary and Sentiment Reasoner)[9] sentiment analysis to categorize tweets into positive, neutral, and negative sentiments. These results are presented in Figure 6. We then compared the frequency of positive and negative ESG-related tweets with ESG news articles from RavenPack, which are reported in Figure 7.[10] Taken together, Figures 6 and 7 show that while ESG messages on Twitter from the sample firms were predominantly positive (around 80 percent), ESG news articles of these same firms exhibited a more balanced sentiment, with roughly 60% positive and 40% negative.

FIGURE 6

Sentiment Analysis of ESG Tweets by firms

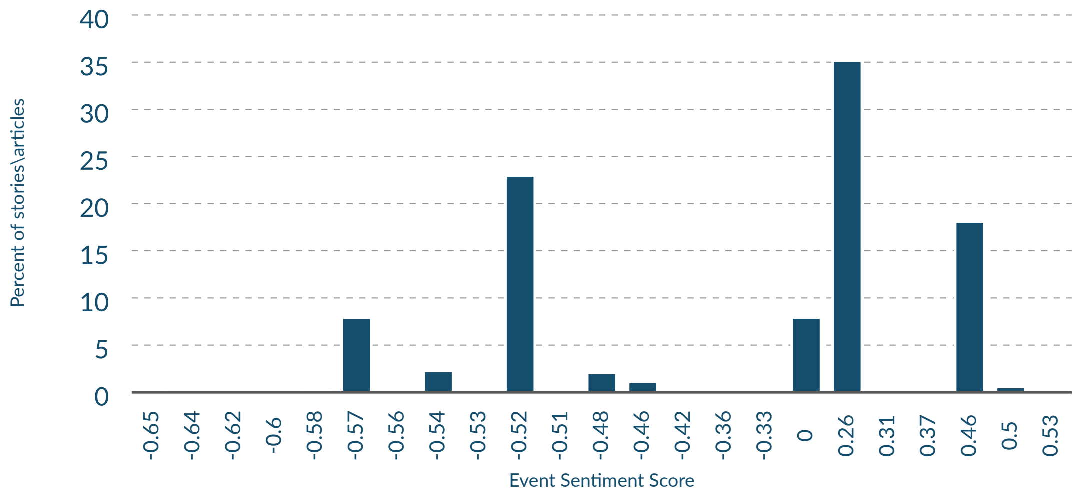


9 VADER is a sentiment analysis tool based on lexicon and rules, tailored to capturing sentiments expressed in social media. The VADER package is open sourced and is licensed under MIT.

10 RavenPack is a provider of news datasets.

FIGURE 7

RavenPack Event Sentiment Scores for articles/stories on environmental and social topics



To evaluate whether firms align their messaging on Twitter with tangible actions, we examine the relationship between their environmental-related tweets (calculated as the ratio of environmental-related tweets to total tweets) and subsequent year's greenhouse gas (GHG) emissions over the 2015-2022 period. We aggregate Scope 1 (direct) and Scope 2 (energy-related) GHG emissions as our measure of a firm's GHG emissions for a given year. We find no significant association between firms' environmental messaging on Twitter and their subsequent change in future GHG emissions. So, despite the observed uptick in environmental messaging on Twitter, this increase hasn't resulted in a significant decline in GHG emissions.

CONCLUSION

We examine whether ESG communications on social media decrease firms' cost of equity. Our results show that ESG messaging on social media does not appear to influence investors, which leads us to examine why. Using sentiment analysis, we find that firms' ESG communications are largely positive on social media, suggesting that firms are selective in their disclosures. Furthermore, we find that firms don't consistently follow through on the ESG commitments they make on social media. Our analysis suggests that firms' comments on social media resemble window dressing more so than genuine ESG commitments, which can lead investors to disregard these messages as simply white noise.

Our findings provide valuable insights for firms when developing their social media strategies. These insights are also useful for regulators, helping them understand the influence of social media on financial markets.