Litigation Risk and Environmental Disclosure Decisions

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Abstract

We investigate the role of litigation risk in environmental disclosure decisions. We find that after a peer firm is sued for its environmental disclosures, firms provide more forward-looking (and less historical) environmental disclosures in their conference calls. Our evidence is consistent with managers seeking to minimize the risk of being sued for misrepresenting their environmental disclosures in response to a perceived increase in litigation risk. The main result persists both in a broader sample using the Kim and Skinner (2012) measure to proxy for litigation risk, and using emissions targets and historical emissions disclosures to proxy for environmental disclosure decisions. We do not find any evidence that firms respond to peers' environmental disclosure lawsuits by changing their environmental practices, nor do we observe a disclosure response to peers' other environmental lawsuits (not involving disclosure) or placebo event dates. Collectively, our results are consistent with firms perceiving relatively high litigation risk associated with some disclosures the SEC is considering mandating (e.g., historical emissions), and relatively low litigation risk associated with others (e.g., environmental risks and emissions targets).

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1. Introduction

Investors increasingly demand information about both the environmental risks firms are facing and how firms plan to mitigate their environmental impacts. In light of these demands, the SEC has recently proposed mandating climate disclosures. Firms and legal practitioners have criticized the proposed rules as potentially imposing substantial litigation risk on issuers (Alphabet et al. 2021; Blackman et al. 2021; Milstead 2022). Consistent with these concerns, corporate lawsuits involving environmental disclosures are occurring more regularly (Figure 1), and practitioners suggest they will likely continue to increase in frequency in the coming years (Hall and Huber 2020; Henriques 2021; Quinson 2023). In the context of the evolving legal and regulatory landscape, we investigate whether litigation risk is associated with firms' voluntary environmental disclosure decisions in the current regime.

Shareholders can bring class action lawsuits against publicly traded firms for misrepresenting or omitting information that is material to investors making capital allocation decisions.[1] As a result, prior research documents that managers incorporating litigation risk into their voluntary financial disclosure decisions face conflicting incentives. On one hand, when managers are primarily concerned with being sued for failing to provide information (i.e., "omission risk"), litigation risk motivates managers to provide *more* disclosure (e.g., Naughton et al. 2019; Skinner 1994, 1997). On the other hand, if managers fear being sued for providing disclosure that is revealed to be inaccurate ex post (i.e., "misrepresentation risk"), then litigation risk motivates managers to provide *less* disclosure (Baginski et al. 2002; Johnson et al. 2001; Rogers and Van Buskirk 2009). Prior research examining these forces generally focuses on forward-looking financial disclosure (e.g., management forecasts), and provides evidence that both forces are at play and dominate in different circumstances.

If managers suspect that their sustainability information is material to investing decisions, they may

[1] To establish a successful claim under Section 10(b) of the Securities Exchange Act of 1934 and Rule 10b-5, shareholder plaintiffs must prove (1) a material misrepresentation or omission by the defendant; (2) scienter; (3) a connection between the misrepresentation or omission and the purchase or sale of a security; (4) reliance upon the misrepresentation or omission; (5) economic loss; and (6) loss causation (SEC 1934).

also be concerned that their *environmental* disclosures will invite shareholder litigation.[2] For example, managers may fear being sued for omitting information about material climate risks, or misrepresenting the impact of their operations on the environment.[3] As a result of these conflicting incentives, the predictions for overall environmental disclosure are ambiguous, similar to the predictions for financial disclosure. Moreover, we expect increasing investor demand for environmental disclosure to constrain managers' ability to materially change the amount of disclosure provided. Therefore, we examine whether managers strategically respond to litigation risk by adjusting the *nature* of environmental information disclosed.

In contrast to financial disclosures, both historical and forward-looking environmental disclosures are voluntary in the current regime. Importantly, we expect these disclosures to invite different types of litigation risk: while both historical and forward-looking environmental disclosures are likely associated with omission risk, they diverge in how they invite misrepresentation risk. Historical environmental information is increasingly verifiable (e.g., Gipper et al. 2022), and we expect managers to be concerned about being sued for misrepresenting their historical environmental information as a result. In contrast, forward-looking environmental disclosures are generally associated with very long horizons (e.g., a firm may issue a 2040 or 2050 emissions target in 2023). To the extent forward-looking environmental disclosures are less verifiable ex post, the misrepresentation risk associated with these disclosures should be relatively low. For these reasons, we expect firms perceiving litigation risk associated with their environmental disclosures to minimize misrepresentation risk by including relatively more forward-looking (and less historical) information in their voluntary environmental disclosures.

We draw inspiration from Donelson et al.'s (2022) methodology, and rely on peers' environmental disclosure lawsuits to generate variation in the (perceived) litigation risk most relevant to managers'

[2] We focus on environmental disclosures instead of other types of ESG disclosure for several reasons. First, these disclosures are the most relevant to the SEC's proposed mandatory climate disclosures. In addition, managers continue to exercise full discretion over environmental disclosures, while other ESG disclosures are already required (e.g., human capital disclosures). We discuss this choice in more detail in section 2.

[3] See Ramirez v. Exxon for an example of a lawsuit related to omission, and Smith v. Keurig Green Mountain for an example of a lawsuit related to misrepresentation. In Appendix A, we provide more details around these cases and the other environmental disclosure cases we identify through the collection procedures discussed in section 3.1.

environmental disclosure decisions.[4] We collect lawsuit data from the U.S. Climate Change Litigation database, and identify seven lawsuits related to environmental disclosure with sufficient post-period data for inclusion in our analyses (Figure 1, Appendix A).[5] Because environment-related risks and practices are closely tied to the firm's economics, we expect firms in the same industry as the sued firm to perceive the greatest increase in litigation risk in conjunction with the lawsuit. Specifically, our treatment sample includes firms in the same 4-digit SIC industry as the sued firm. Our control sample includes firms in the same Fama-French 12 industry as the sued firm (but with different SIC codes), to hold constant the variation in ESG-specific circumstances and macroeconomic conditions across industry. We include eight quarters before and eight quarters after the lawsuit for each sample firm, and after excluding the sued firm, have a final sample of 23,054 firm-quarters for use in our primary analyses.

While we expect firms to adjust disclosures across all channels in response to litigation risk, we focus on conference call disclosures for several reasons. First, conference calls are among the firm's most salient information events and are often cited in corporate lawsuits as a result (Rogers et al. 2011). Second, managers frequently place ESG information in conference calls to meet investor and analyst demands (Hail et al. 2021; Robinson et al. 2023) and plausibly to facilitate its efficient communication (Skinner 2023). Third, unlike other channels (e.g., the 10-K) where some disclosures are mandatory, reviewed by auditors, and duplicated from the prior period (e.g., Brown and Tucker 2011), managers exercise full discretion over conference call content. For these reasons, if managers adjust their environmental disclosures in response to litigation risk, we expect to observe the effect in their conference call transcripts.

We rely on Robinson et al.'s (2023) environmental bigrams to identify sentences from the prepared remarks of firms' conference calls that include environmental language. We then identify forward-looking

[4] Donelson et al. (2022) examines firms' voluntary financial disclosure responses to peer firms' class action lawsuits. We contrast our study's research questions, inferences, and research design choices with those of Donelson et al. (2022) in sections 3 and 4.

[5] We note that there is variation in case outcomes across the seven lawsuits in our final sample (e.g., settled; dismissed; ongoing). Importantly, prior literature suggests that shareholder lawsuits can be costly to firms regardless of the outcome, due to decreases in market value around the lawsuit filing, manager distraction, and reputational damage for managers (e.g., Bourveau et al. 2018; Brochet and Srinivasan 2014; Cao and Narayanamoorthy, 2011). Therefore, we include all seven cases in our primary tests.

environmental disclosures as the subset of these sentences that also contain a forward-looking phrase from Bozanic et al.'s (2018) phrase list, supplemented with additional language specific to forward-looking environmental disclosure (e.g., "by 2050"). We proxy for the firm's decision to provide more forward-looking (and less historical) environmental disclosure in their conference calls with the percentage of total environmental disclosure words from sentences including forward-looking language.

Consistent with our expectations, we find that firms provide relatively more forward-looking environmental disclosure in their conference calls after a peer firm is sued for its environmental disclosures. Our main specifications include year, fiscal quarter, and industry fixed effects, and controls for firm characteristics associated with disclosure and sustainability performance. We also confirm the result is robust to both excluding controls altogether and including firm fixed effects in place of industry fixed effects. We corroborate this result by documenting that the disclosure response increases with ex ante litigation risk, supporting our assertion that litigation risk motivates managers to adjust the mix of their environmental disclosures. We also provide evidence that firms include longer horizon disclosures in their conference calls after a peer is sued, consistent with managers attempting to minimize the misrepresentation component of litigation risk by providing environmental disclosures that are less likely to be revealed to be inaccurate or misleading ex post. Moreover, underlying our predictions is the assertion that managers (e.g., general counsel) are aware of their peer's environmental disclosure lawsuit and understand the nature of the case. To substantiate this argument, we provide some evidence that the disclosure response is stronger when the lawsuit (1) explicitly references the peer firm's conference calls and (2) receives higher media coverage, further supporting our assertion that the peers' environmental disclosure lawsuits motivate firms to adjust their environmental disclosures.[6]

We next confirm our main result is robust to a number of alternative research design choices. For

[6] We observe larger and more statistically significant coefficients of interest for the subsample of firms responding to lawsuits referencing conference calls specifically, in two of three specifications. However, these differences are not statistically significant at conventional levels. We take some comfort in this finding, as we expect firms' disclosure response to litigation risk to be present in firms' conference calls (due to their salience and flexibility), regardless of whether the peer firm was sued for their conference call disclosures.

example, we document that our result is robust to (1) relaxing the criteria for identifying environmental disclosure lawsuits, (2) retaining only the first lawsuit for each sued firm, and (3) excluding lawsuits targeting firms in Fama-French industry 12 (i.e., "Other Industries"). To further rule out the possibility that our results are an artifact of affected industry characteristics or the time-periods surrounding the lawsuits, we confirm our main result persists when we proxy for litigation risk with the Kim and Skinner (2012) measure in a broader firm-year sample. We also document that firms both increase forward-looking and decrease historical environmental disclosures (separately), and that firms are more likely to provide emissions targets and less likely to disclose historical emissions after peer firms are sued for their environmental disclosures. Importantly, data providers collect firms' emissions information from all disclosure channels, mitigating concerns that our results are restricted to conference call disclosures.

Finally, we perform three falsification tests. First, to address the concern that the observed shift in disclosure reflects changes in firms' environmental *practices* following a peer's lawsuit, we examine firms' emissions activities and find no evidence that firms' emissions levels change after a peer is sued. We are also unable to find any evidence that firms change their environmental disclosures in response to peer environmental lawsuits that are not directly related to disclosure, consistent with firms adjusting the mix of forward-looking and historical environmental disclosures only when the lawsuits are disclosure-related. Lastly, it is possible that firms in treated industries are providing relatively more forward-looking (and less historical) disclosure over time, relative to control firms, and that any pre-/post- analysis would generate the same result. To mitigate this concern, we re-perform our primary analyses using pseudo-event windows and do not find evidence of a disclosure response around placebo event dates. The evidence from these three falsification tests helps to rule out alternative explanations and further supports our interpretation of the main result (i.e., firms perceive an increase in litigation risk when peers are sued, and adjust disclosures to minimize misrepresentation risk in response).

Our findings contribute to the ESG literature by providing evidence that firms' voluntary environmental disclosure decisions are sensitive to litigation risk. Prior research examining the determinants of ESG disclosures generally indicates that the same economic forces that motivate voluntary

financial disclosure also influence firms' voluntary ESG disclosure decisions (Christensen et al. 2021). We diverge from this research by highlighting the unique features of environmental disclosure that lead to unique predictions for firms' environmental disclosure responses to litigation risk. Specifically, because both historical and forward-looking environmental disclosures are voluntary (and forward-looking disclosures are often long horizon in nature), our evidence is consistent with managers strategically shifting their environmental disclosures to minimize the misrepresentation component of litigation risk.

Our findings should also inform the SEC's ongoing efforts to draft climate disclosure mandates, by documenting firms' nuanced disclosure responses to environmental disclosure litigation risk in the current regulatory regime. Our results are consistent with firms perceiving relatively high litigation risk associated with some disclosures the SEC is considering mandating (e.g., historical emissions), and relatively low litigation risk associated with others (e.g., environmental risks and emissions targets). Our evidence is relevant to the SEC as they continue to incorporate practitioners' litigation concerns into their evolving disclosure regulations and consider which disclosures may be less likely to be voluntarily provided in the absence of disclosure mandates.

2. Background and Hypothesis Development

2.1 Prior Literature: ESG Disclosure

The ESG disclosure literature is rapidly evolving, as researchers continue to explore how the unique features of ESG disclosure interact with theory and findings from prior research. For example, because many ESG disclosures are currently unregulated in the U.S. and are relatively new for many firms, ESG disclosures generally lack consistency and comparability. While firms increasingly obtain assurance services for their historical ESG disclosures (Gipper et al. 2022), long horizons associated with forward-looking disclosures render many potentially relevant ESG disclosures unverifiable (Christensen et al. 2021). Consistent with these observations, recent research suggests investors and sustainability analysts struggle to measure sustainability performance using firm disclosures (Burzillo et al. 2022; Christensen et al. 2022; Moss et al. 2022; Serafeim 2020; Serafeim et al., 2019). Recent research also suggests the muted market responses to ESG information may be associated with a lack of consensus on how to integrate ESG news,

the staleness of information in sustainability reports, or issues with materiality (Burzillo et al. 2022; Grewal et al. 2021; Khan et al. 2016; Serafeim and Yoon 2022).

Although the debate surrounding the informativeness of ESG disclosure over short windows remains open, other research indicates that ESG disclosures are informative to capital market participants in other ways. For example, ESG disclosure is negatively associated with firms' information asymmetry and cost of equity capital (Dhaliwal et al. 2011). Moreover, institutional investors and ESG-oriented mutual funds demand ESG disclosures and allocate capital to firms that meet this demand (e.g., Cohen et al. 2022; Pawliczek et al. 2021; Robinson et al. 2023). This recent evidence suggests that managers may plausibly expect (at least certain) investors to rely on their ESG information when making investing decisions.

Prior research suggests the determinants of ESG disclosure are similar to the economic forces that motivate firms to provide voluntary financial disclosure (Christensen et al. 2021). For example, studies find that corporate governance (Dalla Via and Perego 2018), firm size (Li et al. 2021; Wickert et al. 2016), and manager characteristics (Davidson et al. 2019) are associated with voluntary ESG disclosure decisions. A small body of research documents determinants of ESG disclosure that are unique to ESG. For example, firms provide ESG disclosure in response to natural disasters or environmental accidents (e.g., Bonetti et al. 2018; Heflin and Wallace 2017; Patten 1992) and in response to institutional investors' use of public voice (Pawliczek et al. 2021). Our study fills a gap in this literature by examining how the incentives around litigation risk inform the nature of managers' voluntary ESG disclosures.

In this study, we focus on environmental disclosure for several reasons. First, environmental disclosures are currently purely voluntary, while other forms of ESG disclosure are already required (e.g., human capital and proxy statement disclosures). For this reason, we expect managers to have full freedom to adjust their environmental disclosures in response to litigation risk. Second, anecdotal evidence suggests lawsuits related to environmental disclosure in particular, while still relatively rare, are happening more regularly and are expected to continue to increase frequency (e.g., Figure 1; Blackman et al. 2021; Hall and Huber 2020; Henriques 2021). Third, these disclosures are the most relevant to the mandatory disclosures proposed by the SEC. The SEC's proposed climate change disclosures include a mix of forward-looking

and historical information. For example, the SEC is considering requiring firms to disclose how climate-related risks are likely to affect business over the short-, medium-, and long-term, as well as firms' historical direct and indirect GHG emissions (SEC 2022a; 2022b). Practitioners have criticized the proposed rules as being costly for firms to implement and suggest that inherently uncertain estimates and assumptions involved with these disclosures may invite litigation risk (Blackman et al. 2021; Milstead 2022).

2.2 Prior Literature: Litigation Risk and Disclosure

To establish a successful Rule 10b-5 claim against public firms, shareholder plaintiffs must prove (1) a material misrepresentation or omission by the defendant; (2) scienter; (3) a connection between the misrepresentation or omission and the purchase or sale of a security; (4) reliance upon the misrepresentation or omission; (5) economic loss; and (6) loss causation (SEC 1934). Traditionally, Rule 10b-5 lawsuits involving financial disclosures have been the focus of academic research. Prior research suggests that litigation risk has two opposing effects on corporate disclosure, as shareholders can sue firms for either omitting or misrepresenting financial information. For example, litigation risk may encourage managers to provide more disclosure to avoid being sued for withholding information (i.e., "omission risk"). Additional disclosure can also reduce the likelihood of a large price decline, and can result in lower settlement amounts if lawsuits cannot be avoided (Skinner, 1994, 1997; Field et al. 2005). Along these lines, some research has documented a positive association between litigation risk and the frequency of management forecasts (e.g., Brown et al. 2005; Cao and Narayanamoorthy 2011).

On the other hand, managers may reduce disclosure when facing heightened litigation risk, because the disclosure may ultimately be materially inaccurate and trigger lawsuits ex post (i.e., "misrepresentation risk," see Baginski et al. 2002). Several prior studies find a negative relation between litigation risk and the frequency of management forecasts, supporting this argument (Baginski et al., 2002; Johnson, et al. 2001; Rogers and Van Buskirk 2009). Collectively, the evidence from prior research suggests that the relation between litigation risk and voluntary disclosure is mixed, consistent with the incentives managers face related to omission and misrepresentation risk dominating in different settings.

2.3 Hypothesis Development

To the extent managers expect their ESG information to be material to at least a subset of investors making capital allocation decisions (e.g., Pawliczek et al. 2021; Robinson et al. 2023), they may also be concerned that these disclosures will invite litigation. For example, practitioners note that courts may plausibly consider ESG information as material to a reasonable investor (Quinson 2023). Relatedly, a recent survey documents that 82% of investors surveyed incorporate ESG data into their investment decision-making and predominately rely on this information for financial (as opposed to ethical) purposes (Amel-Zadeh and Serafeim 2018). The survey evidence suggests that investors may plausibly rely on ESG information and could suffer an economic loss from any misrepresentation or omission. Anecdotal evidence supports these observations, and suggests firms are increasingly concerned about litigation related to their environmental disclosures specifically (Alphabet et al. 2021; Blackman et al. 2021).

Our review of environmental disclosure lawsuits indicates that managers face both omission risk and misrepresentation risk associated with their environmental disclosures. For example, in 2016, Exxon Mobil Corporation was sued for failing to disclose the risk that climate change could alter their ability to profitably extract oil and natural gas from their reserves (i.e., omission). Conversely in 2018, Edison International was sued for providing misleading disclosures about the soundness of its wildfire mitigation practices (i.e., misrepresentation). As a result of these conflicting incentives, the predictions for the relation between litigation risk and total environmental disclosure are ambiguous, similar to those for financial disclosure. Moreover, as investors increasingly demand environmental disclosure (Cohen et al. 2022; Pawliczek et al. 2021), we expect managers to be constrained in their ability to materially change the quantity of total disclosure provided, even in the presence of litigation risk. However, because different environmental disclosures invite different types of litigation risk, we expect managers to strategically respond to litigation risk by adjusting the nature of the environmental information disseminated publicly.

Importantly, both forward-looking and historical environmental disclosures are voluntary in the current disclosure regime. However, we expect these disclosures to give rise to different types of litigation risk. We expect historical environmental disclosure to be associated with both omission and misrepresentation risk. For example, if a firm experiences an adverse environment-related event and this

information is not disclosed, managers may fear being sued for omission. At the same time, historical environmental information is increasingly verifiable (e.g., Gipper et al. 2022). If historical environmental information (such as direct and indirect GHG emissions) can be demonstrably misrepresented, we expect firms to perceive misrepresentation risk associated with these disclosures as well.

We also expect forward-looking environmental disclosure to be associated with omission risk, especially in terms of climate risk disclosures (e.g. Cazier et al. 2021). However, forward-looking environmental disclosures are often associated with long horizons, especially as compared to forward-looking financial disclosures. For example, many firms issue emissions targets with 20 to 30 year horizons. Relatedly, many of the climate risks firms disclose are not expected to manifest in the near term. As a result, forward-looking environmental disclosures, unlike forward-looking financial disclosures examined in most prior research, are not easily verifiable ex post. In fact, some courts have already deemed "aspirational" ESG statements as non-actionable puffery (Skadden 2022). For these reasons, we expect managers' risk of being sued for disclosing materially inaccurate forward-looking environmental information (e.g., "misrepresentation risk") to be relatively low.

In light of these differences, we expect managers to strategically respond to litigation risk by shifting the mix of their historical and forward-looking environmental disclosures. Because both historical and forward-looking environmental disclosures are subject to omission risk, we do not expect the omission risk component of litigation risk to affect the balance between these two types of disclosure. However, to the extent managers can satisfy the demand for environmental disclosures by providing forward-looking information, and the misrepresentation risk associated these disclosures is relatively low, we predict that firms facing litigation risk will seek to minimize the risk of being sued for misrepresenting their environmental disclosures by shifting away from historical environmental disclosure and toward providing forward-looking disclosure.[7] Our hypothesis follows directly:

[7] We summarize how voluntary financial and environmental disclosures interact with the two components of litigation risk discussed in section 2.2 (omission and misrepresentation risk) and the implications of these relationships for managers' voluntary disclosure decisions in Appendix B. Importantly, our arguments require that even long-horizon forward-looking information is useful to investors. Conversely, while boilerplate or "fluff" historical environmental

H1: Firms provide relatively more forward-looking (and less historical) environmental disclosure in response to litigation risk.

There are several reasons why we may not find the predicted environmental disclosure responses to increased litigation risk. For example, shareholder lawsuits involving environmental disclosure, unlike those on the grounds of financial information, may not satisfy some of the important criteria under Rule 10b-5. Discussions among legal practitioners often center on: (1) whether a reasonable investor would rely on environmental information, (2) whether this information should be considered material, and (3) whether reliance on environmental information could result in loss causation (Saad and Strauss 2020). Moreover, due to the unique nature of sustainability information, defendants may be able to take advantage of the puffery defense for *all* environmental disclosures, which indicates a statement is so general that no reasonable investor would rely on it and is not actionable because it cannot mislead (e.g., Skadden 2022). If so, managers may not perceive any litigation risk associated with their voluntary disclosures.

Moreover, because forward-looking environmental disclosures are largely unverifiable, managers are unlikely to incur other costs from providing irrelevant or inaccurate information. Therefore, all managers may provide forward-looking environmental disclosures, regardless of litigation risk (Farrell 1995; Crawford and Sobel 1982). Alternatively, firms may respond to peer lawsuits by increasing voluntary disclosure in general (i.e., both forward-looking and historical) to improve relations with investors (Donelson et al. 2022). Finally, we expect that firms' first order response to disclosure-specific litigation risk will be altering disclosures, because (1) this is the most relevant action to the lawsuit and (2) they can implement the change at relatively low cost. However, if managers instead respond by changing their environmental practices, we may not observe any disclosure response. For these reasons, whether firms adjust the mix of their environmental disclosure in response to litigation risk is an open empirical question.

3. Measurement

3.1 Environmental Disclosure Specific Litigation Risk

disclosure may also be unlikely to invite misrepresentation risk, we do not expect managers to expect benefits to these types of disclosure in the form of mitigating omission risk or meeting investors' demands.

While prior research examining litigation risk and disclosure often relies on Kim and Skinner (2012) measures and related proxies to capture litigation risk, our study necessitates an environmental-disclosure-specific litigation risk measure. Specifically, we rely on peer firms' environmental disclosure lawsuits to identify variation in the relevant litigation risk. Because environmental disclosure litigation is new and still relatively infrequent (e.g., Figure 1), we argue that peers' lawsuits will inform managers about their own firms' litigation risk, and that managers will perceive an increase in litigation risk associated with their environmental disclosures when a peer firm is sued for related disclosures.

We rely on the U.S. Climate Change Litigation Database to identify lawsuits involving environmental disclosures.[8] Lawsuits are included in the database if they meet two criteria. First, cases must be brought before judicial bodies, which excludes instances of non-compliance with regulatory agencies for which a formal lawsuit is not ultimately filed. Second, cases must have climate science or climate change law or policy as a material issue. Because the database incorporates lawsuits involving a wide variety of issues and entities, we first read the case summaries and identify 97 instances where a company is listed as the defendant.

We next identify instances where firms' environmental disclosures are central to the litigation. Specifically, we review the descriptions for the 97 corporate cases to determine if firms' environmental disclosure (or lack thereof) is a material issue in the lawsuit. We identify 25 lawsuits in which all co-authors independently noted that environmental disclosure was a material issue in the case. Following Donelson et al. (2022), we retain the first case filed for each industry-year and exclude cases filed after 2019 to ensure we have sufficient data in the post-period to observe a change in disclosure practices. This process yields seven unique cases related to corporate environmental disclosure. We present the distribution of these environmental lawsuits over time in Figure 1, and provide additional details regarding the lawsuits in Table 1 and Appendix A.

[8] The U.S. Climate Change Litigation Database is a joint project of the Sabin Center for Climate Change Law at Columbia Law School and the law firm Arnold & Porter. The database can be accessed at the following link (http://climatecasechart.com/us-climate-change-litigation/).

Because firms' environmental risks and practices are closely linked to their operations, we expect firms with economics most similar to the sued firm to perceive the strongest increase in litigation risk when a peer firm is sued for its environmental disclosures. Specifically, we classify firms in the same 4-digit SIC industry as the sued firm as treated firms (and set *Affected Industry* equal to one). To account for variation in environment-specific circumstances and macroeconomic conditions across industry, we classify firms in the same Fama-French 12 industry (but with different SIC codes) as comparison firms (coding *Affected Industry* equal to zero). We also create an indicator variable equal to one if the firm-quarter is among the eight quarters following the lawsuit, and zero if the firm-quarter is in the eight preceding quarters (*Post Lawsuit*). Firm-quarters in which managers plausibly perceive an increase in litigation risk in conjunction with their peer's lawsuit are identified by *Affected Industry * Post Lawsuit*.

Related to our study, Donelson et al. (2022) also examine firms' voluntary disclosure responses to peer lawsuits, but focus on voluntary financial disclosures. Their study incorporates an alternative channel, beyond omission and misrepresentation risk, through which peer litigation may be associated with voluntary disclosure. Specifically, Donelson et al. (2022) document a negative market response around peer firm lawsuits, and provide evidence consistent with firms increasing voluntary financial disclosure to improve relations with investors in response. In our setting, because we expect peers' environmental disclosure lawsuits to inform managers about their own firm's litigation risk, we interpret changes in disclosure as a response to a perceived increase in litigation risk related to their environmental disclosures. However, it is possible the shareholder channel exists in our setting as well. If the investor relations channel dominates the managerial learning channel for environmental disclosures, firms may address shareholder concerns by providing more voluntary environmental disclosures (i.e., both historical and forward-looking).

3.2 Environmental Disclosure

We construct our primary disclosure measures using narrative environmental disclosures in firms' quarterly earnings conference calls. We rely on conference calls for several reasons. First, prior research suggests that conference calls are among the most salient corporate disclosure channels and contain value-relevant information incremental to disclosures through other disclosure outlets (e.g., Bowen et al. 2002;

Hollander et al. 2010; Matsumoto et al. 2011). As a result, these disclosures are often cited in corporate lawsuits (e.g., Rogers et al. 2011) and are likely carefully reviewed by general counsel prior to being disseminated. Second, conference calls can facilitate efficient communication of relatively complex disclosures, including environmental and forward-looking information (Huang et al. 2018; Sautner et al. 2023; Skinner 2023). In addition, analysts increasingly ask questions related to ESG topics in conference calls (Hail et al. 2021) and ESG ownership is associated with firms' conference call environmental disclosures (Robinson et al. 2023). Collectively, these findings suggest managers are likely to place environmental disclosures in conference calls. Third, components of disclosure through other channels (including 10-Qs, 10-Ks and other SEC filings) are mandatory, reviewed by auditors, and/or duplicated from the prior period (Brown and Tucker 2011). Unlike disclosures made through these other channels, managers exercise full discretion over the content of their conference calls. For these reasons, if managers adjust their environmental disclosures in response to litigation risk, we expect to observe these changes in firms' conference calls.

We obtain quarterly conference call transcripts from Standard & Poor's conference call transcript database. We parse the prepared conference call remarks into sentences, remove stop and single letter words and stem the remaining words within each sentence. We identify environmental sentences using the environmental bigrams from Robinson et al. (2023).[9] Robinson et al. (2023) identifies environmental disclosure bigrams (ordered two-word pairs) using the text from the Global Reporting Initiatives' (GRI) Environmental disclosure standards. Specifically, they rely on sections 301 to 308, from the May 2020 Consolidated GRI Standards to generate an initial list of environmental bigrams. Next, they stem the bigrams, and compare the stemmed environmental bigrams generated from the GRI standards to stemmed bigrams generated from financial disclosure standards, securities laws, and accounting and finance textbooks. After removing environmental bigrams that also appear in one of the training texts, they argue the remaining bigrams plausibly identify environmental disclosures. We then compare their environmental

[9] We appreciate the Robinson et al. (2023) coauthor team agreeing to share the full list of environmental bigrams.

bigrams to the bigrams in each conference call sentence for the firm-quarters in our sample. We consider any conference call sentence that contains at least one environmental bigram to be an environmental sentence. We find 1.7 percent of conference call sentences include environmental disclosures (untabulated).

We next separate environmental sentences into forward-looking and historical sentences. Specifically, we classify sentences that include a phrase from Bozanic et al.'s (2018) forward-looking phrase list, supplemented with additional forward-looking language specific to environmental disclosure (e.g., "by 2050"), and adjusted for grammatical errors (following Blankenspoor et al. 2022) as forward-looking.[10] We consider the remaining sentences (i.e., those that do not include forward-looking language) to be historical sentences. We measure the shift toward providing relatively more forward-looking disclosure (and less historical disclosure) with the total number of words in forward-looking environmental sentences scaled by the total number of words in all environmental sentences (*Pct Environmental FLS*).[11] We provide an excerpt from Shell's Q3 2020 conference call as an example of high *Pct Environmental FLS* in Appendix C, Panel B.

We note that both historical and forward-looking environmental disclosure can incorporate risks (i.e., the environment's impact on the firm) and the implications of the firm's operations for the environment (i.e., the firm's impact on the environment). The lawsuits in Appendix A involve both types of disclosure, and our predictions are relevant to both types of disclosure as well. Table 2 Panel A suggests that on average, 25.5 percent of our sample firms' environmental conference call disclosures are forward-looking

[10] Each author read 25 conference call transcripts, and identified the following words or phrases as identifying forward-looking language in the context of sustainability disclosures: ambition, ambitious, objectives, are looking to, are repositioning, at the latest, can accelerate, carbon future, carbon objectives, carbon target, Celsius future, climate objectives, coming years, commitment, decarbonization plan, degree future, emission target, emissions target, goal, goals, going forward, is looking to, is repositioning, leading up to, long-term, look forward, look to, look ahead, looking forward, move forward, moving forward, next year, outlook, plan to accelerate, plan to comply, plan to recover, plan to spend, remain committed, upcoming decade, upcoming year, will accelerate, will recover. We also consider "by" followed by a year following the conference call's current fiscal year to be a forward-looking disclosure (e.g., "by 2050"). We find that the result in Table 3 is robust to replacing *Pct Environmental FLS* with an alternative variable, calculated using the Bozanic et al. (2018) phrase list but without the additional environment-specific phrases ($p<0.01$ across all specifications, untabulated).

[11] We provide all variable definitions in Appendix C, Panel A. We set *Pct Environmental FLS* equal to zero if the firm does not include any of the environmental bigrams in their conference calls (22.8% of firm-quarters, untabulated). However, we confirm the result is robust to excluding firm-quarters without environmental sentences altogether (also untabulated).

in nature. While *Pct Environmental FLS* offers a comprehensive, flexible, and intuitive approach to measuring the relative distribution of forward-looking environmental and historical environmental disclosure, it only incorporates disclosures made through conference calls. Moreover, the text-based measure is susceptible to noise: while we expect our measure to identify environmental disclosure on average, the bigrams likely identify at least some false negatives (e.g., highly firm-specific environmental disclosures that do not include GRI bigrams) and false positives (e.g., financial disclosures incorrectly classified as environmental disclosures).[12] Moreover, the percentage measure also varies with total disclosure, as total disclosure is included in its denominator. We perform additional analyses examining forward-looking and historical environmental disclosures separately, and replacing our narrative disclosure measures with quantitative emission disclosures to mitigate these concerns (see section 5 for further detail).

4. Research Design and Main Results

4.1 Primary Sample Construction

Table 1 describes the sample selection criteria for our primary tests. We begin with the 173,933 firm-quarters with conference call transcripts available from the S&P database when we initiated the study. We restrict our sample to firms that share the same Fama-French 12 industry with a firm that experiences an environmental disclosure lawsuit, and further restrict our disclosure analysis to the eight quarters immediately preceding and the eight quarters following the lawsuit filing date. This step reduces the sample to 29,014 firm-quarters. We require each firm quarter to have sufficient data to calculate control variables. These restrictions further reduce the sample for the primary analysis to 23,054 firm-quarters.[13] We present the sample distribution by lawsuit, including SIC codes and Fama-French 12 industries for firms included in each subsample in Table 1 Panel B. We note that each lawsuit offers a meaningful contribution to the

[12] We validate our measure by examining the correlation between the amount of total environmental disclosure and the ESG score from Refinitiv, as rating agencies are known to incorporate ESG disclosure into their ratings. The correlation between total environmental sentence words and the ESG score is 0.16 and significant at $p<0.01$ (untabulated).

[13] We rely on firm quarters in our main analyses, as earnings conference calls are a quarterly event for most firms. In untabulated analysis, we confirm the results presented in Table 3 are robust to using a firm-year sample and aggregating the quarterly conference call word counts to the firm-year level.

sample: the smallest Fama-French 12 industry lawsuit sample is Barnes v. Edison International (Fama-French Industry 8, 1,276 firm-quarters) and the largest lawsuit samples are People of State of New York v. PwC (6,482 firm-quarters) and California Fueling LLC v. Best Energy Solutions & Technology Corp. (6,406 firm-quarters), both from Fama-French Industry 12.[14]

4.2 Environmental Litigation Risk and Forward-Looking Environmental Disclosure

In section 3.1, we argue that peer lawsuits involving environmental disclosures will increase the perceived litigation risk associated with environmental disclosures for firms with similar economic activities (and similar environmental risks and impacts). We empirically examine the association between the perceived increase in litigation risk and the mix of forward-looking and historical environmental disclosure by estimating the following regression:

$$\begin{aligned} Pct\ Environmental\ FLS_{it} \\ &= \beta_0 + \beta_1 Affected\ Industry_{it} + \beta_2 Post\ Lawsuit_t \\ &+ \beta_3 Affected\ Industry_{it} * Post\ Lawsuit_t + Controls_{it} \\ &+ \varepsilon_{it} \end{aligned} \quad (1)$$

H1 predicts a positive coefficient on β_3. *Affected Industry*, *Post Lawsuit*, and *Pct Environmental FLS* are calculated as described in section 3. Because our treatment effect varies across industry, we cluster standard errors at the industry level.[15] In specifications with controls, we include proxies for various firm characteristics associated with voluntary disclosure in other settings. For example, we control for firm size (*Size*), the leverage ratio (*Leverage*), the market-to-book ratio (*MTB*), return-on-assets to proxy for firm performance (*ROA*), sales growth (*Sales Growth*), firm age (*Age*), 12-month return volatility (*Return Volatility*), share turnover (*Turnover*), number of employees (*Employees*), analyst coverage (*Analyst Follow*), institutional ownership (*IO*). We also control for characteristics associated with ESG performance,

[14] Fama-French industry 12 is "Other Industries," and includes mines, construction, building materials, business services, etc. In later tests, we document that the main result is robust to excluding the two industry 12 cases. In untabulated analysis, we also confirm the result is robust to using firms from the same Fama-French 48 industry, one-digit SIC industry or two-digit SIC industry in place of Fama-French 12 industry as the control group.

[15] In untabulated analysis, we confirm the results presented in Table 3 are robust to clustering at the firm-level instead of the industry-level ($p<0.05$ across all specifications).

including the existence of international operations (*International Operations*), and Herfindahl–Hirschman index (*HHI*). Each specification includes the combination of year and either industry or firm fixed effects, as well as fiscal quarter fixed effects to control for seasonality effects present in quarterly observations.

Table 3 reports the results from estimating equation (1). We include fiscal quarter, year, and industry fixed effects but no control variables in column 1, to ensure the coefficient on the variable of interest is not biased by including controls (Whited et al. 2022). We incorporate controls in column 2 and replace industry fixed effects with firm fixed effects in column 3 to control for time-invariant firm characteristics. In all three columns, the coefficient on the interaction of *Affected Industry* and *Post Lawsuit* is positive and significant as predicted ($p<0.01$). The coefficient on *Affected Industry*Post Lawsuit* in column 1 suggests that when a peer firm is sued for its environmental disclosures, the average firm in the same SIC industry as the sued firm increases the percentage of forward-looking environmental disclosure by 13.3%, compared to firms in the same Fama-French 12 industry, but in a different SIC industry.[16] The results in Table 3 provide empirical support for *H1* and are consistent with firms providing relatively more forward-looking (and less historical) information in their conference call environmental disclosures in response to a perceived increase in litigation risk.

We corroborate this finding with two additional tests. Following Donelson et al. (2022), if firms adjust their disclosures in response to litigation risk, we expect to observe a more pronounced disclosure response for firms with higher litigation risk ex ante. To test this prediction, we measure firms' ex ante litigation risk with the annual predicted values from Kim and Skinner's (2012) Model 3 averaged over the pre-period (*Pre KS Lit Risk).*[17] We then regress *Pct Environmental FLS* on the interaction of *Affected Industry*, *Post Lawsuit,* and *Pre KS Lit Risk* as well as the various main effects and double interaction terms. If firms with higher ex ante litigation risk are more sensitive to peers' lawsuits, we expect to observe a

[16] The coefficient from column 1, 0.034, divided by the mean of *Pct Environmental FLS* from Table 2 Panel A, 0.255 is equal to 0.133.

[17] We acknowledge that unlike *Affected Firm * Post Lawsuit* which is intended to capture environmental-disclosure specific litigation risk, *Pre KS Lit Risk* likely captures a firm's general disclosure-related litigation risk. We discuss the Kim and Skinner (2012) litigation risk measure in more detail in section 5, in conjunction with our robustness test.

positive coefficient on *Affected Industry * Post Lawsuit * Pre KS Lit Risk*. We report the results from this estimation in Table 4 Panel A. Consistent with our expectations, we observe a positive and significant coefficient on the triple interaction term ($p<0.10$ across all specifications). This result further supports our argument that a perceived increase in litigation risk motivates firms' environmental disclosure changes documented in Table 3.

We next examine whether litigation risk is associated with the horizon of firms' environmental disclosures. If managers provide more forward-looking disclosure in response to litigation risk because forward-looking environmental disclosures are associated with long horizons (and are thus less verifiable ex post), we also expect firms to increase the horizon of their disclosures in response to litigation risk. We measure disclosure horizon as the natural log of one plus difference between the latest year identified in the firm's forward-looking environmental conference call sentences and the fiscal year associated with the conference call (*Horizon*).[18] We re-estimate equation (1) replacing *Pct Environmental FLS* with *Horizon*, and present the results in Table 4 Panel B. The positive and significant coefficient on *Affected Firm * Post Lawsuit* ($p<0.01$ across all columns) is consistent with managers providing longer horizon disclosures to mitigate the risk of being sued for misrepresentation.

4.3 Variation in Lawsuit Characteristics

If managers adjust disclosure in response to peers' lawsuits, managers (including general counsel) must be aware of peers' environmental disclosure lawsuits and understand the nature of these cases. To support this assertion, we next explore the variation in lawsuit attributes. First, we examine whether firms respond differently when conference calls are explicitly cited in their peer's lawsuit. In section 3, we argue that we should find the strongest evidence of firms' disclosure response to litigation risk in their conference calls, due to their salience and flexibility. Importantly, we expect firms to adjust the contents of their conference calls even if the original lawsuit does not specifically mention conference calls. However, to

[18] We set *Horizon* equal to zero for firm-quarters that do not mention a future year in their forward-looking environmental disclosures. On average, the maximum year referenced in forward-looking environmental conference call disclosures is 3.58 years into the future for firm-quarters with at least one future year mention.

the extent managers are aware of the peer lawsuit's details, managers may adjust conference call disclosures *even more* when the sued firm's conference calls are explicitly mentioned. We split our sample into lawsuits that cite conference calls (In re Exxon Mobil Corp. Derivative Litigation and Ramirez v. Exxon Mobil Corp.) and those that do not, and re-estimate equation (1) separately for each subsample. We report the results from this estimation in Table 5 Panel A. Consistent with our expectations, while firms adjust their disclosures in response to lawsuits in both samples, the response appears somewhat stronger (in terms of magnitude and statistical significance) across two of the three columns. However, the coefficients are not statistically different across subsamples. We take some comfort in this result, as it supports our assertion that firms will adjust conference call disclosures in response to litigation risk, even if not cited explicitly in the peer firm's lawsuit.

Next, we examine whether variation in media coverage across the seven environmental disclosure lawsuits is associated with firms' disclosure responses. Prior research indicates that firms follow the news of industry peers (Beatty et al. 2013). If media coverage increases firms' awareness of their peer's lawsuit and their understanding of the nature of the case, we expect media coverage will be associated with a stronger disclosure response. To test this prediction, we collect news articles related to each of the seven lawsuits in our sample from Factiva. We split our sample into lawsuits that have more than ten articles in Factiva (Smith v. Keurig Green Mountain, Inc., People of the State of New York v. Exxon Mobil Corporation, Ramirez v. Exxon Mobil Corp., and In re Exxon Mobil Corp. Derivative Litigation), and those that have fewer, and re-estimate equation (1) separately for each subsample. We report the results from this estimation in Table 5 Panel B. Consistent with our expectations, firms are more likely to adjust their disclosures when the lawsuits are more salient. The difference is statistically significant at $p<0.01$, $p<0.05$ and $p<0.01$ when we compare columns 1 and 4, 2 and 5, and 3 and 6, respectively. Collectively, the results in Table 5 further support the inferences from our main analysis.[19]

[19] Another possibility is to explore the variation in case outcomes among these seven cases, as the expected increase in litigation risk should be greater when the outcome is more costly to the defendant (e.g. Donelson et al. 2022). However, many of the more recent lawsuits in our sample are still ongoing, therefore, we are unable to observe or predict the outcomes of those cases.

5. Robustness Tests

5.1 Alternative Litigation Risk Measures

5.1.1 Lawsuit Sample Construction

We next provide evidence that our result is robust to alternative lawsuit samples. For example, our process for identifying lawsuits for inclusion in the main analysis is relatively conservative, requiring unanimous co-author agreement that the lawsuit is related to environmental disclosure. To ensure our results are not sensitive to this choice, we examine lawsuits where at least one of the co-authors deemed a lawsuit is related to environmental disclosure (33 lawsuits). After including only one lawsuit per Fama-French 12 industry year and requiring sufficient data for the two-year post-period, this increases sample from seven to nine environmental disclosure lawsuits. Using these nine lawsuits and corresponding treatment and comparison firms, we re-estimate equation (1) and report the results in columns 1 through 3 of Table 6 Panel A. Consistent with our expectations, the coefficient on the *Affected Lawsuit * Post Lawsuit* remains positive and significant providing additional support for *H1*.

Second, in our primary analyses, we construct our control sample using firms in the same Fama-French 12 industry (but not in the same 4-digit SIC industry) as the firm facing environmental disclosure litigation. However, two of our lawsuits are from Fama-French industry 12 ("Other Industries"), raising the question of whether the treated firms are being compared to the appropriate control group. To verify our results are not driven solely by the Fama-French industry 12 cases, we re-estimate equation (1) after dropping these two cases, and report the results in columns 4 through 6 of Table 6 Panel A. As expected, the coefficient on the interaction term remains positive and significant across all three columns, confirming our results are not concentrated in the Fama-French industry 12 lawsuit samples.

Finally, three of the seven environmental lawsuits we include in our sample involve Exxon. To confirm our main result is not simply an Exxon (or oil and gas-specific) effect, we re-estimate Equation (1) including only the first Exxon case in the time-series. We present these results in columns 7 through 9 of Table 6 Panel A. While excluding the sample firms associated with the latter two Exxon cases diminishes the power of our tests, our results continue to hold. These results are inconsistent with the main result being

solely driven by Exxon or oil and gas-specific trends in environmental disclosure.

5.1.2 Predicted Values from Kim and Skinner (2012)

Our existing analysis relies on peer firms' environmental disclosure lawsuits to generate variation in litigation risk. To further mitigate concerns that our results manifest from our existing design choices, we next examine the association between litigation risk and the mix of forward-looking and historical environmental disclosure in a broader panel dataset. Specifically, we construct a firm-year litigation risk measure using predicted values from Kim and Skinner's (2012) Model 3. This model estimates the probability that a firm will face a disclosure-related lawsuit in a given year using historical financial data, stock returns, and industry membership. This measure has been widely used in prior research examining litigation risk (Ahmed and Duellman 2013; Cazier and Pfeiffer 2017; Donelson et al. 2022; Iliev et al. 2014). Moreover, in contrast to our main litigation risk proxy, this measure allows us to construct a firm-year level litigation risk measure for a broader sample with significant variation across firms and over time.

We rely on the coefficients from Kim and Skinner's (2012) Model 3, as it yields a significant improvement in predictive ability over using industry membership at a relatively low cost (see discussion in Kim and Skinner 2012, for further details). Moreover, this model does not require the use of any contemporaneous returns or accounting data that could introduce a spurious relation in our regressions and overstate the predictive ability of the model. *KS Litigation Risk* for firm *i* in year *t* is equal to the fitted value using Model 3's coefficients as illustrated by Equation (2) below.

$$\begin{aligned} KS\ Litigation\ Risk_{i.t} &= (-7.883) + \ (0.566) * FPS_{i,t} + (0.518) * Ln\ Asset_{i,t-1} + (0.982) \\ &* Sale\ Growth_{i,t-1} + (0.379) * Return_{i,t-1} + (-0.108) * Return\ Skew_{i,t-1} \\ &+ (25.635) * Return\ Std\ Dev_{i,t-1} + (0.00007) \\ &* Turnover_{i,t-1} \end{aligned} \quad (2)$$

FPS is an indicator equal to one if the firm is in the biotech, computer, electronic, or retail industry, and zero otherwise. *Ln Asset* is the natural logarithm of the firm's total assets measured at the end of year t-1. *Sale Growth* is the change in sales from year t-2 to year t-1 divided by the firm's total assets measured at the beginning of year t-1. *Return* is the market-adjusted 12-month stock return measured during year t-1. *Return Skew* is the skewness of the firm's 12-month returns in year t-1. *Return Std Dev* is the standard

deviation of the firm's 12-month returns in year t-1. *Turnover* is the trading volume accumulated over the 12-month period during year t-1 multiplied by 1000.

We rely on a firm-year sample for this analysis, as the predicted value from Kim and Skinner's (2012) Model 3 is an annual measure of litigation risk. Requiring sufficient data to calculate *KS Litigation Risk* and key control variables yields a sample of 36,659 firm-years. We empirically test the relation between *KS Litigation Risk* and the mix of forward-looking and historical environmental disclosure in conference calls by regressing our primary disclosure variable (*Pct Environmental FLS*) on *KS Litigation Risk* and the suite of controls from equation (1) calculated at the firm-year level. Table 6 Panel B reports the results from this estimation. In all three columns, the coefficient on *KS Litigation Risk* is positive and significant ($p<0.01$, $p<0.10$, and $p<0.10$ across columns 1, 2, and 3, respectively). The results in Table 6 Panel B provide further support for *H1*, and suggest that firms facing higher litigation risk provide a greater portion of forward-looking information in their conference call environmental disclosures.

5.2 Alternative Disclosure Measures

5.2.1 Forward-Looking and Historical Word Counts

We next provide additional evidence to mitigate concerns that our findings are an artifact of how we construct our disclosure variable, *Pct Environmental FLS*. To the extent that firms shift away from historical disclosure toward forward-looking disclosure to mitigate misrepresentation risk, we expect that firms respond to litigation risk by both increasing the amount of forward-looking environmental disclosure and decreasing the amount of historical environmental disclosure in their conference calls. We construct two additional measures of environmental disclosure, which incorporate forward-looking and historical environmental word counts separately. *Environmental FLS WC* is the word count from forward-looking environmental sentences, and *Environmental HIST WC* is the word count from environmental sentences not classified as forward-looking. By design, the sum of *Environmental FLS WC* and *Environmental HIST WC* is equal to the total word count from a firm's environmental conference call sentences. As expected, *Environmental FLS WC* is positively associated with *Pct Environmental FLS* and *Environmental HIST WC* is negatively associated with *Pct Environmental FLS* (Table 2 Panel B).

In Table 7 Panel A, we present the results of re-estimating equation (1), replacing *Pct Environmental FLS* with *Environmental FLS WC* (columns 1-3) and *Environmental HIST WC* (columns 4-6). In addition to the control variables documented in equation (1), we also control for firms' total environmental disclosure word count, *Environmental WC* (though controls are suppressed for brevity). The coefficient on the interaction term in columns 1 through 3 in Table 7 Panel A are consistent with the results reported in Tables 3, suggesting firms provide additional forward-looking environmental disclosure when facing high litigation risk. The negative and significant coefficients on the interaction term from columns 4 through 6 in Table 7 Panel A indicate that firms reduce historical environmental disclosure when facing high litigation risk. The results presented in Table 7 Panel A are consistent with the predictions from *H1*, and inconsistent with our main result arising from the construction of *Pct Environmental FLS* or total disclosure (i.e., denominator) effects.

5.2.2 Quantitative Emissions Disclosures

Our existing disclosure measures capture narrative environmental disclosure in conference calls. However, limitations of text analysis may introduce noise into our measures. Moreover, our key disclosure measures consider disclosure through one channel. To confirm our results are not an artifact of measurement error in the narrative disclosure measures or limited to conference calls, we next re-examine *H1* using quantitative emissions disclosure measures. These measures also capture firms' forward-looking and historical environmental disclosures, but are collected by the data provider from all available disclosure channels. Specifically, our alternative proxy for firms' forward-looking disclosure is *Emissions Target*, an indicator equal to one if a firm has a GHG emissions target during the year, coded using the "Emissions Reduction Target/Objective" variable in Refinitiv's ESG Company Screening Database. Table 2 Panel A indicates that 23 percent of firm-years in the sample with Refinitiv coverage report a GHG target. Similarly, our alternative proxy for historical disclosure captures whether a firm discloses its CO2 Equivalent Emissions during the year. *Emissions Disclosure* equals one if Refinitiv reports a firm's "CO2 Equivalents Emission Total" in the Refinitiv ESG Company Screening Database. Table 2 Panel A indicates that 44 percent of firm-years in the sample with Refinitiv coverage provide historical emissions information.

We report the results from re-estimating equation (1) replacing *Pct Environmental FLS* with *Emissions Target* (columns 1-3) and *Emissions Disclosure* (columns 4-6), using the sample of firm-years with Refinitiv coverage (N=3,368) in Table 7 Panel B. In addition to the controls from equation (1), we add two controls for the firm's ESG performance. Specifically, we control for firms' total estimated CO2 equivalent emissions scaled by total assets (*Scaled Emissions*) and the ESG score from Refinitiv (*Score*).[20] We find a positive and significant coefficient on *Affected Firm * Post Lawsuit* in columns 1 and 2 and a positive, albeit insignificant, coefficient in column 3 (p=0.146) when we include firm fixed effects. In columns 4 and 5, we document a negative and significant coefficient on *Affected Firm * Post Lawsuit*, suggesting firms facing litigation risk are less likely to provide historical emissions disclosures. Again, we find a negative and insignificant coefficient in column 6 when firm fixed effects are included (p=0.123). These results are generally consistent with the narrative disclosure results from Table 7 Panel A, suggesting firms increase (decrease) their forward-looking (historical) environmental disclosure when facing increased litigation risk. Importantly, this result is consistent with firms perceiving relatively high litigation risk associated with some disclosures the SEC is considering mandating (e.g., historical emissions), and relatively low litigation risk associated with others (e.g., emissions targets).

6. Falsification Tests

6.1 Litigation Risk and Environmental Performance

One alternative explanation for our results is that firms respond to litigation risk by altering their environmental activities, which in turn impacts firms' disclosure decisions. To rule out this alternative explanation, we investigate the relationship between litigation risk and firms' emission practices. We measure firms' emission practices with firms' estimated CO2 equivalent emissions from Refinitiv's ESG Company Screening Database. Importantly, our measure of firms' emission practices are third-party estimates and therefore do not require firms to provide emission disclosures. Specifically, our measure of

[20] We do not include controls for ESG performance in our main tests as these variables are measured at the firm-year level, and their inclusion would result in significant sample attrition due to data availability. We confirm the main result is robust to including these controls, using the firm-year sample to estimate equation (1) (untabulated).

firms' emissions practices, *Scaled Emissions*, is equal to Refinitiv's "Estimated CO2 Equivalents Emission Total" scaled by total assets following Aswani et al. (2022). We re-estimate equation (1) using the firm-year sample, replacing *Pct Environmental FLS* with *Scaled Emissions,* and report our results in Table 8 Panel A. We do not find any evidence that firms respond to peers' environmental disclosure lawsuits by adjusting their carbon emissions, which is inconsistent with the alternative explanation for our findings that litigation risk affects disclosure through changes in the firm's underlying activities.[21]

6.2 Lawsuits Not Related to Disclosure

We also argue that firms alter their disclosures because they are concerned about being sued for their environmental disclosures, specifically. For this reason, we rely on environmental-disclosure-specific lawsuits to generate variation in relevant litigation risk. To corroborate this argument, we perform a falsification test in which we examine whether firms adjust the mix of forward-looking/historical environmental disclosures in response to environmental litigation that is not specifically disclosure related. We begin with the subset of environmental lawsuits that none of the authors identified as related to firms' environmental disclosure. Similar to our primary design, we retain the first lawsuit for each industry-year and exclude lawsuits after 2019 to ensure we have sufficient post-period observations for our analyses. We then rely on this sample of environmental lawsuits not related to disclosure to recreate our *Affected Industry* indicator for the falsification test. If the association between litigation risk and forward-looking disclosure we document in the main result is attributable to *environmental-disclosure-specific* litigation risk, then re-estimating equation (1) with lawsuits unrelated to disclosure should yield a null result.

We report the results from this estimation in Table 8 Panel B. Consistent with our expectations, we do not find any evidence that firms respond to other environmental lawsuits (i.e., not related to disclosure) by shifting the mix of forward-looking and historical disclosure. We acknowledge that firms may provide more environmental disclosure in response to peers' environmental lawsuits (e.g., managers may highlight

[21] A different but related possibility is that firms respond to the sued firm's actions (including changes to the sued firm's disclosures), not directly to litigation risk. In untabulated analysis, we document the results in Table 3 are robust to including case fixed effects, which helps rule out the possibility that our results manifest from firms responding to any single sued firm's actions.

their firm's environmental performance or comment on the relevance of the lawsuit to their firm's operations). However, we are unable to provide any evidence that firms strategically shift away from historical disclosures to providing more forward-looking disclosures, consistent with managers implementing this strategy specifically to minimize the risk of being sued for misrepresentation.

6.3 Pseudo Event Window Test

An additional alternative explanation for our results is that firms in treated industries are increasing the proportion of forward-looking environmental disclosure over time relative to comparison firms for reasons other than litigation risk. If so, any pre-/post- analysis would generate the same result pattern. We mitigate this concern by performing a placebo test using pseudo-event dates.[22] For each of the seven environmental disclosure lawsuits we move the actual lawsuit filing date back two years to create a *pseudo* filing date. We then re-estimate equation (1) using our *pseudo* filing date and two years before and after the *pseudo* filing date. We report the results of our placebo test in Table 8 Panel C. We are unable to find any evidence that treated firms exhibit disclosure changes around placebo treatment dates relative to control firms prior to the actual treatment, which is inconsistent with our results manifesting from the treatment firms' shift toward forward-looking environmental disclosure over time.

7. Conclusion

In the context of the evolving legal and regulatory landscape, we investigate whether litigation risk is associated with firms' environmental disclosure decisions in the current regime. While prior research indicates managers incorporating litigation risk into their voluntary financial disclosure decisions face conflicting incentives, we develop our predictions around the unique features of environmental disclosures. Consistent with our expectations, we provide evidence that litigation risk is associated with firms providing relatively more forward-looking (and less historical) environmental disclosures in firms' conference calls. These findings are consistent with firms perceiving forward-looking environmental disclosures as

[22] Drawing causal inferences from a difference-in-differences research design heavily relies on the parallel trends assumption (Armstrong and Kepler, 2018). While the pseudo-event test helps validate the parallel trends assumption, we test for parallel trends explicitly in Appendix D.

satisfying investor demand without inviting substantial misrepresentation risk. Our findings primarily contribute to the ESG literature by providing evidence consistent with litigation risk motivating firms' voluntary environmental disclosure decisions.

Our findings should also inform the SEC's ongoing efforts to draft climate change disclosure regulation appliable to public firms in the U.S. Specifically, the SEC's proposed climate change disclosures include a mix of forward-looking and historical information. For example, the SEC is considering requiring firms to disclose how climate-related risks are likely to affect business over the short-, medium-, or long-term, as well as firms' historical direct and indirect GHG emissions (SEC 2022b). Practitioners have increasingly criticized the proposed rules as potentially imposing excess legal burden on issuers (e.g., Alphabet et al. 2021; Blackman et al. 2021; Milstead 2022). By examining the association between litigation risk and voluntary environmental disclosure, we shed light on how disclosures may continue to evolve if they are not mandated. Specifically, our results suggest that firms perceive relatively high litigation risk associated with some types of disclosure the SEC is considering mandating (e.g., historical emissions), resulting in less disclosure, and relatively low litigation risk associated with other types of disclosure the SEC is considering mandating (e.g., environmental risks and emissions targets), resulting in more disclosure.

Our study is also subject to various limitations. First, while we include various controls and fixed effect structures throughout the analyses and rely on peers' lawsuits to generate variation in litigation risk, we cannot fully rule out the possibility that litigation risk and environmental disclosure are endogenously determined. Second, while ESG-related lawsuits are on the rise, we only incorporate seven environmental disclosure lawsuits in our main tests due to data constraints. Finally, firms increasingly provide disclosures through many channels and our primary tests only incorporate conference calls. Despite these limitations, our study provides new and robust evidence consistent with firms strategically responding to litigation risk by shifting the mix of their forward-looking and historical environmental disclosures.

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APPENDIX A: Environmental Disclosure Lawsuits

Panel A: Sample Environmental Disclosure Lawsuits

N	Case	Filed	Case Details	Disclosures Cited	Hist. Disc. Cited?	FLS Disc. Cited?	Defendant's Outcome
1	People of State of New York v. Pricewaterhouse Coopers LLP	8/19/2016	Action by New York Attorney General to compel compliance with subpoenas issued in its investigation of Exxon Mobil Corporation's climate change disclosures. All documents requested relate to PwC's audits of Exxon.	Working papers and other documentation supporting Exxon's oil/gas reserve valuations; climate change current financial statement impact analyses; Exxon's internal communication regarding expected impacts of climate change.	Y	Y	Lost (required to comply with subpoenas, produce documents)
2	Ramirez v. Exxon Mobil Corp.	11/7/2016	Securities fraud class action against Exxon Mobil Corporation (Exxon) alleging that Exxon failed to disclose climate risks. In particular, Exxon failed to notify investors that climate change could impact the likelihood of Exxon extracting hydrocarbons from existing reserves. Exxon recorded unexpected impairments to Exxon's reserves during the quarter ended September 30, 2016.	Public corporate disclosures regarding the potential impact of climate change on the value of Exxon's hydrocarbon reserves; internal corporate communication regarding carbon pricing and its impact on reserve valuation.	Y	Y	Ongoing
3	Smith v. Keurig Green Mountain, Inc.	9/28/2018	Class action lawsuit alleging that defendant misrepresented the recyclability of single-use "coffee pods". Plaintiff alleges that the product is often not recycled, even when sent to recycling centers, due to the products' special features.	Product labels on single-use coffee pods and product descriptions from the corporate website regarding the products' ability to be recycled.	Y	N	$10M settlement
4	People of the State of New York v. Exxon Mobil Corporation	10/24/2018	Action alleging fraudulent scheme by Exxon Mobil Corporation to deceive investors about the company's management of climate change regulation risk. Plaintiff alleges Exxon's public disclosure materially understated the "carbon proxy cost" applied when evaluating the value of existing and future projects.	Public corporate disclosures that contain the "carbon proxy cost" Exxon applies when valuing current and existing hydrocarbon projects. Internal disclosures/communication regarding the actual "carbon proxy cost" applied to projects.	Y	Y	Won (plaintiff failed to prove material misrepresentation) .

5	Barnes v. Edison International	11/16/2018	Securities class action against utility company in Southern California alleging misrepresentations regarding exposure to wildfire risk. The lawsuit alleges the company disclosed risks and responses to mitigate wildfire risks but failed to effectively implement the disclosed mitigation procedures.	Public corporate disclosures regarding the risks of wildfire, potential losses associated with these risks, and the company's policies and procedures to mitigate these risks.	Y	N	Dismissed
6	California Fueling, LLC v. Best Energy Solutions & Technology Corp.	12/10/2018	Lawsuit alleging conspiracy and fraud by defendants who produced and marketed an additive to reduce nitrogen oxides emissions associated with biodiesel. The lawsuit alleges that a fuel additive marketed as significantly reducing nitrogen oxide emissions does not reduce emissions as marketed by the company.	Public corporate product marketing materials regarding the product's effectiveness at mitigating nitrogen oxide emissions from vehicles.	Y	N	Ongoing
7	In re Exxon Mobil Corp. Derivative Litigation	5/2/2019	Consolidated shareholder derivative action against directors and senior officers of Exxon Mobil Corporation for misleading the public concerning climate change and its impacts on Exxon's business. The lawsuit alleges that executives and directors misrepresented the cost of carbon to investors. This misrepresentation is alleged to represent a breach of fiduciary duty, waste of corporate assets, and unjust enrichment by executives and directors. This lawsuit is a derivate lawsuit related to Ramirez v. Exxon Mobil Corp.	Public corporate disclosures related to Exxon's future estimates of hydrocarbon energy demand; public disclosures regarding Exxon's expectations regarding how climate change will impact their existing hydrocarbon portfolio; public corporate disclosures regarding Exxon's cost of carbon and its associated impact on current and future projects; internal corporate disclosures regarding climate change risks and carbon proxy pricing.	Y	Y	Ongoing

Panel B: Overview of Environmental Disclosure Lawsuits Excluded from Primary Sample

N	Case	Filed	Description	SIC	FF12	Disc?	Excl. Reason
8	Fentress v. Exxon Mobil Corp.	11/23/2016	Class action lawsuit on behalf of Exxon Mobil Corporation employees alleging that Exxon defendants' failure to disclose climate change information violated fiduciary duties under Employee Retirement Income Security Act.	2911	4	Y	Retain first case for industry-year
9	In re Exxon Mobil Corp. Derivative Litigation	8/6/2019	Shareholder derivative lawsuit against Exxon Mobil Corporation directors and officials concerning alleged misrepresentations of the company's use of proxy costs of carbon.	2911	4	Y	Retain first case for industry-year
10	Commonwealth v. Exxon Mobil Corp.	10/24/2019	Action by Massachusetts attorney general asserting that Exxon Mobil Corporation committed deceptive practices against Massachusetts investors and consumers, including by failing to disclose climate change risks.	2911	4	Y	Retain first case for industry-year
11	Beyond Pesticides v. Exxon Mobil Corp.	5/15/2020	Lawsuit asserting that Exxon Mobil Corporation's representations regarding its investment in clean energy violated D.C. Consumer Protection Procedures Act.	2911	4	Y	Insufficient Post-Period
12	District of Columbia v. Exxon Mobil Corp.	6/25/2020	Lawsuit filed by the District of Columbia against oil and gas companies for allegedly violating the Consumer Protection Procedures Act by misleading consumers about “the central role their products play in causing climate change.”	2911	4	Y	Insufficient Post-Period
13	City of Hoboken v. Exxon Mobil Corp.	9/2/2020	Lawsuit seeking to recover climate change-related damages allegedly resulting from the defendant energy companies' production of fossil fuels and concealment of fossil fuels’ harms.	2911	4	Y	Insufficient Post-Period
14	Greenpeace, Inc. v. Walmart Inc.	12/16/2020	Lawsuit alleging that Walmart's marketing of plastic and plastic-packaged products as recyclable violated California's Unfair Competition Law.	5311	9	Y	Insufficient Post-Period
15	City of Annapolis v. BP p.l.c.	2/22/2021	Lawsuit brought by the City of Annapolis against fossil fuel companies seeking damages and other relief based on the companies' alleged concealment of information about their products' contribution to climate change.	2911	4	Y	Insufficient Post-Period

16	Jacob v. Bloom Energy Corp.	2/25/2021	Lawsuit to compel company to allow stockholders to inspect books and records for multiple purposes, including to investigate potential misrepresentations regarding performance of "green energy" technology.	3620	3	Y	Insufficient Post-Period
17	Last Beach Cleanup v. TerraCycle, Inc.	3/4/2021	Lawsuit alleging that defendants engage in unlawful, unfair, and deceptive business practices by marketing products and packaging made from single-use plastics and other difficult-to-recycle materials as recyclable.	4950	12	Y	Insufficient Post-Period
18	City of New York v. Exxon Mobil Corp.	4/22/2021	Lawsuit against oil and gas companies and trade group alleging they systematically and intentionally mislead consumers about their products' role in causing climate change.	2911	4	Y	Insufficient Post-Period
19	Rosencrants v. Danimer Scientific, Inc.	5/14/2021	Federal securities class action against company that produces a biodegradable plastic alternative for allegedly making false and misleading statements, including overstating the product's biodegradability in oceans and landfills.	2821	5	Y	Insufficient Post-Period
20	Earth Island Institute v. Coca-Cola Co.	6/8/2021	Lawsuit alleging that Coca-Cola engaged in false and deceptive marketing by representing itself as a “sustainable and environmentally friendly company" despite being one of the world's largest contributors to plastic pollution.	2086	1	Y	Insufficient Post-Period
21	Dwyer v. Allbirds, Inc.	6/13/2021	Class action lawsuit alleging that shoe company made misleading claims regarding the environmental impacts of its wool shoes as well as misleading animal welfare claims.	5661	9	Y	Insufficient Post-Period
22	Muto v. Coca-Cola Co.	6/16/2021	Lawsuit alleging that Coca-Cola's advertising, marketing, and sale of water in plastic bottles labeled as "100% recyclable" constitutes unlawful, unfair, and deceptive business practices	2086	1	Y	Insufficient Post-Period
23	In re Oatly Group AB Securities Litigation	7/26/2021	Securities class action against oatmilk company alleging greenwashing, among other misleading statements.	2099	1	Y	Insufficient Post-Period
24	Earth Island Institute v. BlueTriton Brands	8/27/2021	Lawsuit alleging that beverage company mispresented itself as a sustainable and environmentally friendly company.	2080	1	Y	Insufficient Post-Period
25	Vermont v. Exxon Mobil Corp.	9/14/2021	Consumer protection lawsuit brought by the State of Vermont against fossil fuel companies alleging deceptive and unfair business practices in connection with the companies' sale of their products.	2911	4	Y	Insufficient Post-Period
26	New York City Employees’ Retirement System v. TransDigm Group, Inc.	12/6/2018	Lawsuit brought by New York City pension funds to compel aerospace company to include climate change-related shareholder proposal in its proxy materials.	3728	3	N	Included in Table 6
27	York County v. Rambo	2/22/2019	Federal securities class action brought by bond investors in PG&E in connection with California wildfires in 2017 and 2018.	4931	8	N	Included in Table 6

APPENDIX B: Hypothesis Development

Predictions: Voluntary Financial Disclosures				
	Characteristics		**Implications for Litigation Risk**	**Implications For Disclosure**
FLS	**Important?**	*Yes*	Increase: Omission Risk	More Disclosure
	Verifiable?	*Yes*	Increase: Misrepresentation Risk	Less Disclosure
	Predictions for Total Voluntary Financial Disclosure:			***Ambiguous***

Predictions: Voluntary Environmental Disclosures				
	Characteristics		**Implications for Litigation Risk**	**Implications For Disclosure**
HISTORICAL	**Important?**	*Yes*	Increase: Omission Risk	More Disclosure
	Verifiable?	*Yes*	Increase: Misrepresentation Risk	Less Disclosure
	Predictions for Historical Voluntary Environmental Disclosure:			***Ambiguous***
	Characteristics		**Implications for Litigation Risk**	**Implications For Disclosure**
FLS	**Important?**	*Yes*	Increase: Omission Risk	More Disclosure
	Verifiable?	*No*	Decrease: Misrepresentation Risk	More Disclosure
	Predictions for FLS Environmental Voluntary Disclosure:			***More Disclosure***
	Predictions for Total Voluntary Environmental Disclosure:			***Ambiguous***

This appendix summarizes the arguments in section 2. Specifically, we summarize how we expect voluntary financial and environmental disclosures to interact with omission and misrepresentation risk, and the implications of these relationships for managers' voluntary disclosure decisions. Because managers do not exercise as much discretion in their historical financial disclosures, these disclosures are generally not studied in prior research examining litigation risk and financial disclosure, and we exclude historical financial disclosure from the table accordingly.

APPENDIX C: Variable Measurement

Panel A: Variable Definitions

Variable	Definition
Litigation Risk Variables	
Post Lawsuit	Indicator equal to one if the firm-quarter is in the eight quarters following the lawsuit.
Affected Industry	Indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation.
KS Litigation Risk	Firm-year litigation risk measure calculated as the predicted value from Model 3 in Kim and Skinner (2012).
Disclosure Variables	
Pct Environmental FLS	We first identify forward-looking sentences from the prepared remarks of the firm's conference calls that include both at least one bigram from the Robinson et al. 2023 environmental bigram list and at least one forward-looking phrase from the modified Bozanic et al. 2018 phrase list with additional environment-specific forward-looking phrases (adjusted for grammar errors, following Blankespoor et al. 2022). *Pct Environmental FLS* is equal to the number of words from firms' forward-looking environmental disclosures, divided by total environmental disclosure words.
Environmental FLS WC	The number of words in sentences from the prepared remarks of the firm's conference calls that include both at least one bigram from the Robinson et al. 2023 environmental bigram list and at least one forward-looking phrase from the modified Bozanic et al. 2018 phrase list.
Environmental HIST WC	The number of words in sentences from the prepared remarks of the firm's conference calls that include at least one bigram from the Robinson et al. 2023 environmental bigram list but do not include any forward-looking phrase from the modified Bozanic et al. 2018 phrase list.
Horizon	The natural log of one plus the difference between the latest year mentioned in a conference call's forward-looking environmental disclosures and the fiscal year in which the call occurred. For environmental disclosures that do not mention a future year, the difference is set equal to zero.
Emissions Target	Indicator equal to one if the firm issues an emissions target based on the "Emissions Reduction Target/Objective" variable in Refinitiv's ESG Company Screening Database.
Emissions Disclosure	Indicator equal to one if the firm publicly discloses the amount of its total emissions level based on the "CO2 Equivalents Emission Total" variable in Refinitiv's ESG Company Screening Database.
Control Variables	
Size	The natural log of market value of equity measured at the end of the fiscal quarter.
Leverage	Long-term debt divided by book value of equity at the end of the fiscal quarter.
MTB	Market value of equity divided by book value of equity at the end of the fiscal quarter.
ROA	Earnings before extraordinary items divided by total assets at the end of the fiscal quarter.
Sales Growth	Quarterly sales minus sales from same quarter of the prior year divided by sales from same quarter of the prior year.
Age	The natural log of one plus the number of years the firm is present in Compustat.
Return Volatility	The standard deviation of monthly stock returns over the prior 12 months.

Turnover	Total trading volume during the fiscal quarter divided by common shares outstanding.
Employees	The number of employees listed for that firm-year in Compustat.
Analyst Follow	The natural log of one plus the number of analysts issuing forecasts for that firm in that quarter.
IO	The percentage of shares owned by institutions at the end of the fiscal quarter.
International Operations	Indicator equal to one if the firm has international operations.
HHI	Herfindahl–Hirschman index for that firm's industry-quarter.
Environmental WC	Total number of words in sentences from the prepared remarks of the firm's conference calls that include at least one bigram from the Robinson et al. 2023 environmental bigram list.
Pre KS Lit Risk	The firm's Kim and Skinner (2012) litigation risk measure (*KS Litigation Risk*) averaged over the pre-period.
Score	The firm's ESG score for the year from Thomson's Refinitiv database.
Scaled Emissions	The firm's total estimated emissions during the year from Thomson's Refinitiv database scaled by its total assets multiplied by 1000.

*Panel B: Environmental Disclosure Example (SIC = 2911, Affected Firm * Post Lawsuit= 1)*

Shell Energy Earnings Call
April 30, 2020

And while addressing, of course, the challenges and the global circumstances in the short term, which is important, we also need to keep an eye on the long term to address our long-term strategic ambitions. *So earlier, I mentioned our new ambition for Shell to be a net-zero emissions energy business* ***by 2050*** *or sooner, if that's possible. As the world tackles climate change, societal focus has been placed increasingly on limiting the global temperature rise to 1.5 degrees celsius. And in order to achieve this aim, the world is likely to need to stop adding to the stock of greenhouse gases in the atmosphere, the state that we call net-zero emissions, by around 2060*. The pace of change will, of course, vary from country to country, and those who can move faster must move faster. *That is why we have welcomed the EU's and the UK's ambition to reach net-zero emissions* ***by 2050***. We in Shell would also like to move faster.

In 2017, our ***ambition*** *was to be in step with a society that was working towards a well below 2 degrees celsius future. But now our society moves towards a 1.5 degrees* ***celsius future****, Shell has set out its new* ***ambition*** *to become a net-zero emissions energy business* ***by 2050*** *or sooner in step again with society.* And we intend to work towards this in 3 ways. *Firstly, by seeking to be net zero on all emissions from the manufacturer of all our products* ***by 2050 at the latest****. This includes the emissions that are created by our own operations and also those associated with the energy we consume. So these are known as the scope 1 and 2 emissions. But of course, the bulk of the emissions in our industry are customers' emissions when they use our products. That's known as scope 3 emissions. And that's why Shell's second step towards being a net-zero emissions energy business is our enhanced net carbon footprint* ***ambition****. Our* ***long-term ambition*** *here is to reduce the net carbon footprint, in step with society, of the energy products that we sell by 65%* ***by 2050,*** *and that is instead of the previous 50%. And our interim medium-term* ***ambition*** *is now to reduce it by 30%* ***by 2035***. That's instead of 20%. […]

That's how we intend to achieve our ***ambition*** *in net-zero emissions energy business* ***by 2050*** *or sooner. Now it's, of course, easy to state an* ***ambition,*** *it's a whole lot harder to achieve it.* And today, of course, Shell's business plans will not get us to where we want to be.

Panel A contains detailed variable definitions, and Panel B contains an example of environmental disclosures in the conference call. Environmental sentences are indicated by *italics*, while forward-looking language is indicated with **bold** font.

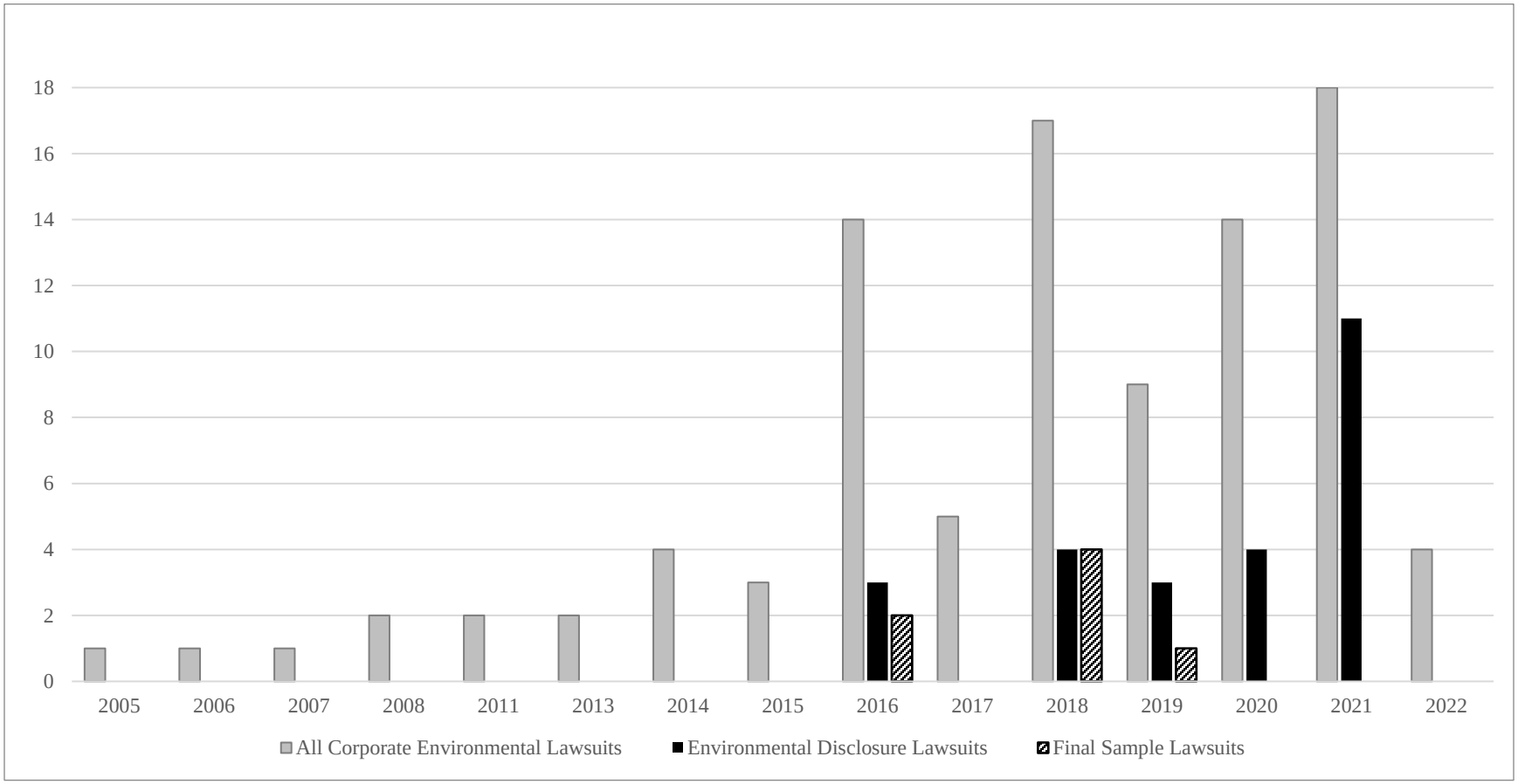
APPENDIX D: Parallel Trends

Our identification strategy requires that the firms whose peers are sued for their environmental disclosures would exhibit similar environmental disclosure trends to the control firms, absent the lawsuit (i.e., "parallel trends"). To examine whether this assumption holds, we create a time trend variable for firm-quarters in the pre-period, equal to one for the first quarter in the sample and eight for the quarter immediately preceding the lawsuit (*Time Trend*). If treatment and comparison firms' environmental disclosures are trending similarly, prior to their peer's environmental disclosure lawsuits, we should not observe a significant coefficient on *Affected Firm * Time Trend*. We present the result of regressing *Pct Environmental FLS* on *Affected Firm*, *Time Trend* and *Affected Firm * Time Trend* using specifications that otherwise reflect the specifications in Table 3 in columns 1-3 below.

DEPVAR =	*Pct Environmental FLS*					
	(1)	(2)	(3)	(4)	(5)	(6)
Affected Industry	-0.001	-0.001	-0.001	-0.001	-0.001	-0.000
	(-0.567)	(-0.603)	(-0.481)	(-0.404)	(-0.383)	(-0.074)
Time Trend	-0.086*	-0.087*	-0.076	-0.079*	-0.082*	-0.069
	(-1.887)	(-1.752)	(-1.250)	(-1.849)	(-1.828)	(-1.197)
Affected Industry * Time Trend	**0.004**	**0.004**	**0.008***	**0.003**	**0.003**	**0.006**
	(1.307)	**(1.149)**	**(1.977)**	**(0.565)**	**(0.516)**	**(0.963)**
Sample	Pre-Period, All Cases			Pre-Period, Excluding Cases 4 and 7		
Controls	N	Y	Y	N	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y	Y	Y	Y
Industry FE (SIC4)	Y	Y	N	Y	Y	N
Firm FE	N	N	Y	N	N	Y
Observations	11,762	11,762	11,732	9,326	9,326	9,299
Adjusted R-squared	0.028	0.031	0.133	0.031	0.034	0.131

Consistent with our expectations, we note that the interaction on *Affected Firm * Time Trend* is not significantly different from zero when we include industry fixed effects, but becomes marginally significant when we incorporate firm fixed effects. As evident in Appendix A, the industries and pre-periods for cases 4 and 7 heavily overlap with the industries and post-periods for cases 2 and 4, respectively. Therefore, it is possible that the significant difference in the pre-period in column 3 is evidence of the treatment effect from the earlier cases. We replicate the analysis in columns 1-3 after removing cases 4 and 7, and no longer observe a significant difference across any of the specifications (columns 4-6). We also show the main result is robust to excluding those cases (see Table 6 Panel A columns 7-9). In addition to the placebo event dates in Table 8 Panel C, these tests should alleviate concerns that our results would have manifested absent peers' lawsuits related to environmental disclosure.

FIGURE 1: Environmental Lawsuits by Year



This figure plots the number of corporate environmental lawsuits, the number of environmental disclosure lawsuits, and the number of lawsuits in our final sample, collected from the U.S. Climate Change Litigation Database, by year. Because data collection took place in 2022, the number of lawsuits identified from that year is incomplete.

TABLE 1: Sample Construction

Panel A: Conference Call Firm-Quarter Sample Construction

Sample Filter	**Firm-quarters**
Firm-quarter obs from 2009 to 2021 with S&P conference call data:	173,933
less: obs not in the same FF12 industry and (-2yrs, +2yrs) window	(144,919)
less: obs with missing control variables	(5,960)
Firm-quarters for main spillover tests:	**23,054**

Panel B: Lawsuit Sample Distribution

No.	**Case**	**Filing Date**	**Affected FF12**	**Treated SIC 4-digit**	**Firm-quarters from (-2yrs, +2yrs)**	**# of firms in sample**
1	*People of State of New York v. PricewaterhouseCoopers LLP*	8/19/2016	12	8721	6,482	577
2	*Ramirez v. Exxon Mobil Corp.*	11/7/2016	4	2911	2,500	231
3	*Smith v. Keurig Green Mountain, Inc.*	9/28/2018	1	2090	1,899	158
4	*People of the State of New York v. Exxon Mobil Corporation*	10/24/2018	4	2911	2,291	218
5	*Barnes v. Edison International*	11/16/2018	8	4911	1,276	104
6	*California Fueling, LLC v. Best Energy Solutions & Technology Corp.*	12/10/2018	12	8711	6,406	575
7	*In re Exxon Mobil Corp. Derivative Litigation*	5/2/2019	4	2911	2,200	213
				Total	23,054	2,076

This table contains the details of our sample selection procedures. Panel A includes the details for the full sample, and Panel B reports the sample distribution across the seven environmental disclosure cases.

TABLE 2: Descriptive Statistics and Correlations

Panel A: Univariate Descriptives

VARIABLES	N	Mean	SD	p25	p50	p75
Pct Environmental FLS	23,054	0.255	0.352	0.000	0.000	0.477
Horizon	23,054	0.015	0.101	0.000	0.000	0.000
Size	23,054	7.473	1.903	6.144	7.509	8.753
Leverage	23,054	0.971	3.356	0.270	0.700	1.328
MTB	23,054	2.521	5.170	0.926	1.710	2.970
ROA	23,054	0.000	0.040	-0.006	0.006	0.017
Sales Growth	23,054	0.113	0.445	-0.071	0.047	0.189
Age	23,054	3.007	0.749	2.485	3.091	3.555
Return Volatility	23,054	0.124	0.078	0.070	0.103	0.152
Turnover	23,054	0.594	0.588	0.228	0.423	0.741
Employees	23,054	13.490	31.160	0.700	2.918	11.000
Analyst Follow	23,054	1.468	1.169	0.000	1.609	2.485
IO	23,054	0.534	0.403	0.000	0.684	0.890
International Operations	23,054	0.428	0.495	0.000	0.000	1.000
HHI	23,054	1042	953	370	826	1374
Pre KS Lit Risk	20,819	0.056	0.045	0.025	0.042	0.075
KS Litigation Risk	36,659	0.062	0.061	0.023	0.041	0.077
Environmental FLS WC	23,054	23.560	36.820	0.000	0.000	37.000
Environmental HIST WC	23,054	44.550	53.470	1.000	28.000	65.000
Environmental WC	23,054	68.380	73.090	15.000	48.000	98.000
Emissions Target	3,368	0.234	0.423	0.000	0.000	0.000
Emissions Disclosure	3,368	0.442	0.497	0.000	0.000	1.000
Scaled Emissions	3,368	0.226	0.462	0.024	0.087	0.241
Score	3,368	0.407	0.198	0.247	0.370	0.557

Panel B: Correlation Table

	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)	*Pct Environmental FLS*	1.00																
(2)	*Horizon*	0.16[a]	1.00															
(3)	*Size*	0.04[a]	0.06[a]	1.00														
(4)	*Leverage*	0.00	-0.01	0.02[a]	1.00													
(5)	*MTB*	-0.01[b]	0.00	0.18[a]	0.56[a]	1.00												
(6)	*ROA*	-0.01[c]	0.00	0.30[a]	0.01[c]	0.14[a]	1.00											
(7)	*Sales Growth*	0.00	-0.02[b]	0.02[a]	-0.04[a]	0.04[a]	0.14[a]	1.00										
(8)	*Age*	0.03[a]	0.04[a]	0.35[a]	0.00	0.05[a]	0.09[a]	-0.19[a]	1.00									
(9)	*Return Volatility*	-0.01	0.01	-0.46[a]	0.00	-0.13[a]	-0.37[a]	-0.10[a]	-0.20[a]	1.00								
(10)	*Turnover*	0.03[a]	0.00	-0.04[a]	0.00	-0.07[a]	-0.17[a]	-0.05[a]	0.06[a]	0.40[a]	1.00							
(11)	*Employees*	0.03[a]	0.03[a]	0.42[a]	0.05[a]	0.16[a]	0.11[a]	-0.06[a]	0.24[a]	-0.20[a]	-0.07[a]	1.00						
(12)	*Analyst Follow*	0.01	-0.02[a]	0.32[a]	-0.01	0.05[a]	0.12[a]	0.15[a]	0.05[a]	-0.25[a]	0.17[a]	0.08[a]	1.00					
(13)	*IO*	0.04[a]	-0.01	0.10[a]	0.00	0.01[b]	0.10[a]	0.01[b]	0.22[a]	-0.13[a]	0.26[a]	0.03[a]	0.15[a]	1.00				
(14)	*International Operations*	0.01	-0.02[a]	0.12[a]	0.03[a]	0.07[a]	0.04[a]	-0.06[a]	0.16[a]	-0.10[a]	0.02[b]	0.16[a]	0.08[a]	0.27[a]	1.00			
(15)	*HHI*	-0.02[b]	-0.03[a]	0.01	0.03[a]	0.04[a]	0.08[a]	-0.05[a]	-0.01[b]	-0.08[a]	-0.07[a]	0.11[a]	-0.04[a]	-0.01	0.07[a]	1.00		
(16)	*Environmental FLS WC*	0.69[a]	0.23[a]	0.10[a]	0.00	-0.02[b]	-0.01	-0.02[b]	0.07[a]	-0.02[a]	0.01	0.04[a]	-0.04[a]	0.03[a]	0.01	-0.04[a]	1.00	
(17)	*Environmental HIST WC*	-0.14[a]	0.06[a]	0.13[a]	0.01	0.00	0.00	-0.03[a]	0.09[a]	-0.02[a]	-0.01[b]	0.05[a]	-0.06[a]	0.01	0.01	-0.03[a]	0.27[a]	1.00
(18)	*Environmental WC*	0.25[a]	0.16[a]	0.14[a]	0.00	0.00	-0.01	-0.03[a]	0.10[a]	-0.03[a]	-0.01	0.05[a]	-0.06[a]	0.02[b]	0.01[c]	-0.04[a]	0.70[a]	0.87[a]

This table contains univariate descriptive statistics and Pearson correlations for key variables used throughout our tests. All variables are defined in Appendix C. The statistical significance of the correlations in Panel B are represented by a $p<0.01$, b $p<0.05$, c $p<0.1$.

TABLE 3: Environmental Disclosure Litigation and Conference Call Disclosures

DEPVAR =	*Pct Environmental FLS*		
	(1)	(2)	(3)
Affected Industry	-0.052	-0.052	-0.025
	(-1.259)	(-1.182)	(-0.641)
Post Lawsuit	-0.004	-0.005	-0.003
	(-1.176)	(-1.268)	(-0.794)
Affected Industry * Post Lawsuit	**0.034*** **	**0.032*** **	**0.035*** **
	(2.621)	**(2.840)**	**(3.705)**
Size		0.011***	0.013*
		(3.838)	(1.916)
Leverage		0.002	0.000
		(0.766)	(0.137)
MTB		-0.002**	0.000
		(-2.108)	(0.150)
ROA		-0.235*	-0.008
		(-1.780)	(-0.077)
Sales Growth		0.005	0.011
		(0.848)	(1.521)
Age		0.011	0.102**
		(1.502)	(2.446)
Return Volatility		0.057	0.056
		(1.157)	(1.003)
Turnover		0.012*	-0.003
		(1.725)	(-0.428)
Employees		0.000	0.000
		(0.124)	(0.096)
Analyst Follow		-0.001	-0.010
		(-0.095)	(-1.447)
IO		0.013	0.004
		(1.088)	(0.154)
International Operations		-0.004	-0.025
		(-0.449)	(-0.788)
HHI		-0.000	0.000
		(-0.103)	(0.546)
Year FE	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	23,054	23,054	23,054
Adjusted R-squared	0.026	0.029	0.124

This table presents results from estimating equation (1). *Pct Environmental FLS* is the number of words from forward-looking environmental sentences scaled by total environmental disclosure words. *Post Lawsuit* is an indicator for the post-lawsuit period. *Affected Industry* is an indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation. All other variables are defined in Appendix C. Standard errors are clustered at the industry level and t-statistics are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 4: Corroborating Evidence – Environmental Disclosure Litigation and Conference Call Disclosures

Panel A: Cross-Sectional Test on Ex Ante Litigation Risk

DEPVAR =	*Pct Environmental FLS*		
	(1)	(2)	(3)
Affected Industry	-0.034	-0.038	-0.027
	(-0.835)	(-0.870)	(-0.724)
Post Lawsuit	-0.005	-0.008	-0.006
	(-0.634)	(-1.091)	(-0.817)
*Affected Industry * Post Lawsuit*	-0.002	-0.005	-0.006
	(-0.112)	(-0.232)	(-0.268)
Pre KS Lit Risk	0.480***	0.283	0.004
	(3.171)	(1.318)	(0.016)
*Affected Industry * Pre KS Lit Risk*	-0.070	0.048	0.645*
	(-0.344)	(0.223)	(1.669)
*Post Lawsuit * Pre KS Lit Risk*	0.072	0.087	0.055
	(0.643)	(0.844)	(0.518)
Affected Industry * Post Lawsuit * Pre KS Lit Risk	**0.323***	**0.340***	**0.367***
	(1.832)	**(1.968)**	**(1.967)**
Controls	N	Y	Y
Year FE	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	20,819	20,819	20,819
Adjusted R-squared	0.031	0.033	0.122

Panel B: Environmental Disclosure Horizon

DEPVAR =	*Years Horizon*		
	(1)	(2)	(3)
Affected Industry	-0.010	-0.009	-0.009
	(-0.574)	(-0.509)	(-0.466)
Post Lawsuit	-0.001	-0.001	-0.001
	(-1.026)	(-1.138)	(-1.000)
Affected Industry * Post Lawsuit	**0.020*** **	**0.020*** **	**0.022*** **
	(2.726)	**(2.867)**	**(3.334)**
Controls	N	Y	Y
Year FE	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	23,054	23,054	23,054
Adjusted R-squared	0.014	0.017	0.070

This table presents corroborating evidence on the relation between environmental disclosure litigation risk and firms' conference call disclosures. *Pct Environmental FLS* is the number of words from forward-looking environmental sentences scaled by total environmental disclosure words. *Post Lawsuit* is an indicator for the post-lawsuit period. *Affected Industry* is an indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation. *Pre KS Lit Risk* is a firm's Kim and Skinner (2012) litigation risk measure averaged over the pre-period. *Horizon* is the natural log of one plus the difference between the latest year mentioned in a firm's environmental disclosure and the fiscal year of the conference call. All other variables are defined in Appendix C. Standard errors are clustered at the industry level and t-statistics are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 5: Lawsuit Characteristics and Conference Call Disclosures

Panel A: Conference Call Reference

DEPVAR =	*Pct Environmental FLS*					
	(1)	(2)	(3)	(4)	(5)	(6)
Lawsuits Included =	*Conference Calls Cited*			*Conference Calls Not Cited*		
Affected Industry * Post Lawsuit	**0.040*** (7.578)**	**0.034*** (4.531)**	**0.031*** (3.471)**	**0.026* (1.754)**	**0.027* (1.904)**	**0.035** (2.355)**
Controls	N	Y	Y	N	Y	Y
Year	Y	Y	Y	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y	Y	Y	Y
Industry FE (SIC4)	Y	Y	N	Y	Y	N
Firm FE	N	N	Y	N	N	Y
Observations	4,699	4,699	4,699	18,348	18,348	18,348
Adjusted R-squared	0.012	0.021	0.107	0.029	0.032	0.120

Panel B: Media Coverage

DEPVAR =	*Pct Environmental FLS*					
	(1)	(2)	(3)	(4)	(5)	(6)
Lawsuits Included =	*High Media Coverage*			*Low Media Coverage*		
Affected Industry * Post Lawsuit	**0.052*** (10.239)**	**0.047*** (8.447)**	**0.046*** (5.161)**	**0.006 (0.358)**	**0.008 (0.427)**	**0.017 (0.822)**
Controls	N	Y	Y	N	Y	Y
Year	Y	Y	Y	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y	Y	Y	Y
Industry FE (SIC4)	Y	Y	N	Y	Y	N
Firm FE	N	N	Y	N	N	Y
Observations	8,889	8,889	8,889	14,164	14,164	14,164
Adjusted R-squared	0.021	0.028	0.122	0.029	0.033	0.127

This table reports results from estimating equation (1) on subsample splits on whether the case mentions the sued firm's conference calls specifically and media coverage of the lawsuit. *Pct Environmental FLS* is the number of words from the firms' forward-looking environmental disclosure scaled by total environmental disclosure words. *Post Lawsuit* is an indicator equal to one if the firm-year is in the post-period of the litigation risk spillover sample. *Affected Industry* is an indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation. All other variables are defined in Appendix C. Standard errors are clustered at the industry level and t-statistics are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 6: Robustness – Alternative Litigation Risk Measures

Panel A: Alternative Lawsuit Sample Construction

DEPVAR =	*Pct Environmental FLS*								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lawsuits Included =	Nine Cases			Drop FF Industry=12 Cases			First Exxon Case Only		
Affected Industry * Post Lawsuit	**0.037****	**0.036****	**0.039*****	**0.039*****	**0.034*****	**0.034*****	**0.020***	**0.017***	**0.028****
	(2.268)	**(2.424)**	**(2.936)**	**(3.371)**	**(3.178)**	**(3.257)**	**(1.917)**	**(1.682)**	**(2.267)**
Controls	N	Y	Y	N	Y	Y	N	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Industry FE (SIC4)	Y	Y	N	Y	Y	N	Y	Y	N
Firm FE	N	N	Y	N	N	Y	N	N	Y
Observations	28,601	28,601	28,601	10,165	10,165	10,165	18,563	18,563	18,559
Adjusted R-squared	0.026	0.030	0.126	0.022	0.029	0.123	0.030	0.034	0.122

Panel B: Kim and Skinner 2012 Litigation Risk (Firm-Year Sample)

DEPVAR =	*Pct Environmental FLS*		
	(1)	(2)	(3)
KS Litigation Risk	**0.130*** **	**0.086***	**0.093***
	(2.885)	**(1.855)**	**(1.797)**
Size		0.005***	0.005
		(3.152)	(1.148)
Leverage		0.001	-0.000
		(1.297)	(-0.259)
MTB		-0.001***	-0.000
		(-2.832)	(-0.173)
ROA		-0.079***	-0.059***
		(-5.264)	(-2.888)
Sales Growth		0.007*	0.015***
		(1.857)	(3.379)
Age		-0.005	-0.001
		(-1.565)	(-0.052)
Return Volatility		0.018	-0.010
		(0.484)	(-0.211)
Turnover		0.001	0.001
		(1.435)	(1.128)
Employees		-0.000***	-0.000
		(-2.607)	(-0.182)
Analyst Follow		0.014***	0.001
		(4.021)	(0.305)
IO		0.020**	-0.021
		(2.329)	(-1.286)
International Operations		0.004	0.006
		(0.954)	(0.610)
HHI		-0.000	-0.000
		(-1.488)	(-0.846)
Year FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	36,659	36,659	36,659
Adjusted R-squared	0.022	0.027	0.134

This table examines the relation between litigation risk and environmental disclosures using the alternative litigation risk measures. In both Panel A and Panel B, the dependent variable (*Pct Environmental FLS*) is the number of words from firms' forward-looking environmental disclosures, divided by total environmental disclosure words. We use alternative lawsuit samples to conduct the spillover test in Panel A. *Post Lawsuit* is an indicator equal to one if the firm-year is in the post-period of the litigation risk spillover sample. *Affected Industry* is an indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation. In Panel B, we report results using a firm-year panel sample, and proxy for litigation risk with *KS Litigation Risk*, equal to the firm-year litigation risk measure from Kim and Skinner (2012). All control variables are defined in Appendix C. Standard errors are clustered at the industry level and t-statistics are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 7: Robustness – Alternative Disclosure Measures

Panel A: Alternative Conference Call Disclosure Measures

DEPVAR =	*Environmental FLS WC*			*Environmental HIST WC*		
	(1)	(2)	(3)	(4)	(5)	(6)
Affected Industry	-5.879**	-5.830**	-4.024	5.074**	5.054**	2.847
	(-2.076)	(-1.998)	(-1.495)	(2.181)	(2.087)	(1.390)
Post Lawsuit	0.098	0.086	0.114	0.078	0.093	0.007
	(0.407)	(0.362)	(0.425)	(0.312)	(0.373)	(0.026)
Affected Industry * Post Lawsuit	**3.038*** **	**3.024*** **	**4.151*** **	**-3.084*** **	**-3.111*** **	**-3.940*** **
	(3.006)	**(3.286)**	**(5.037)**	**(-3.599)**	**(-3.739)**	**(-4.228)**
Controls	N	Y	Y	N	Y	Y
Year and Fiscal Quarter FE	Y	Y	Y	Y	Y	Y
Industry FE (SIC4)	Y	Y	N	Y	Y	N
Firm FE	N	N	Y	N	N	Y
Observations	23,054	23,054	23,054	23,054	23,054	23,054
Adjusted R-squared	0.502	0.503	0.559	0.759	0.759	0.784

Panel B: Quantitative Emissions Disclosures

DEPVAR =	*Emissions Target*			*Emissions Disclosure*		
	(1)	(2)	(3)	(4)	(5)	(6)
Affected Industry	-0.082***	-0.077***	-0.064*	-0.070*	-0.074*	-0.088
	(-3.351)	(-3.149)	(-1.743)	(-1.824)	(-1.771)	(-1.327)
Post Lawsuit	0.051***	0.015	0.022**	0.017	0.032**	0.031**
	(2.699)	(1.599)	(2.155)	(1.290)	(2.601)	(2.563)
Affected Industry * Post Lawsuit	**0.071***	**0.062***	**0.066**	**-0.066** **	**-0.069***	**-0.067**
	(1.789)	**(1.797)**	**(1.463)**	**(-1.999)**	**(-1.810)**	**(-1.554)**
Controls	N	Y	Y	N	Y	Y
Year and Fiscal Quarter FE	Y	Y	Y	Y	Y	Y
Industry FE (SIC4)	Y	Y	N	Y	Y	N
Firm FE	N	N	Y	N	N	Y
Observations	3,368	3,368	3,368	3,368	3,368	3,368
Adjusted R-squared	0.506	0.526	0.772	0.593	0.600	0.813

In this table, we examine alternative measures of forward-looking and historical environmental disclosures. Panel A reports results using word count of forward-looking environmental disclosure (*Environmental FLS WC*) and historical environmental disclosure (*Environmental HIST WC*) in conference calls as dependent variables. Panel B reports results using quantitative emissions disclosures. *Emissions Target* is an indicator equal to one if the firm issues an emissions target from Thomson's Refinitiv database. *Emissions Disclosure* is an indicator equal to one if the firm publicly discloses the amount of its total emissions level based on Thomson's Refinitiv database In all three panels, key independent variables include an indicator equal to one if the firm-year is in the post-period of the litigation risk spillover sample (*Post Lawsuit*) and an indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation (*Affected Industry*). All control variables are defined in Appendix C. Standard errors are clustered at the industry level and t-statistics are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

TABLE 8: Falsification Tests

Panel A: Emissions activities

DEPVAR =	*Scaled Emissions*		
	(1)	(2)	(3)
Affected Industry	0.226	0.227	0.008
	(1.407)	(1.513)	(0.423)
Post Lawsuit	-0.013	-0.030	0.001
	(-1.276)	(-1.370)	(0.098)
Affected Industry * Post Lawsuit	**0.029**	**0.017**	**-0.019**
	(0.446)	**(0.254)**	**(-0.588)**
Controls	N	Y	Y
Year FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	3,368	3,368	3,368
Adjusted R-squared	0.280	0.296	0.916

Panel B: Lawsuits not related to disclosure

DEPVAR =	*Pct Environmental FLS*		
	(1)	(2)	(3)
Affected Industry	0.009	0.012	-0.002
	(0.614)	(0.772)	(-0.156)
Post Lawsuit	0.002	0.002	-0.001
	(0.577)	(0.808)	(-0.323)
Affected Industry * Post Lawsuit	**-0.003**	**-0.003**	**0.009**
	(-0.165)	**(-0.181)**	**(0.479)**
Controls	N	Y	Y
Year FE	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	69,971	69,971	69,971
Adjusted R-squared	0.026	0.029	0.123

Panel C: Pseudo event window

DEPVAR =	*Pct Environmental FLS*		
	(1)	(2)	(3)
Affected Industry	-0.025	-0.026	-0.009
	(-1.092)	(-1.141)	(-0.456)
Post Lawsuit	0.006	0.007*	0.006
	(1.596)	(1.658)	(1.551)
Affected Industry * Post Lawsuit	**-0.002**	**-0.006**	**0.003**
	(-0.119)	**(-0.320)**	**(0.198)**
Controls	N	Y	Y
Year FE	Y	Y	Y
Fiscal Quarter FE	Y	Y	Y
Industry FE (SIC4)	Y	Y	N
Firm FE	N	N	Y
Observations	23,198	23,198	23,198
Adjusted R-squared	0.023	0.027	0.131

This table presents results from three falsification tests. In Panel A, we examine the relation between environmental disclosure lawsuits and firms' real environmental activities. *Scaled Emissions* is the firm's total estimated emissions from Thomson's Refinitiv database scaled by its total assets in year *t*. In Panel B, we study the disclosure response to environmental lawsuits unrelated to disclosure issues on forward-looking environmental disclosure in conference calls. The dependent variable (*Pct Environmental FLS*) is the number of words from firms' forward-looking environmental disclosures, divided by total environmental disclosure words. In Panel C, we conduct a pseudo-event test by moving the filing date for each of the seven lawsuits back by two years. The dependent variable is *Pct Environmental FLS*. In all three panels, key independent variables include an indicator equal to one if the firm-year is in the post-period or pseudo post-period of the litigation risk spillover sample (*Post Lawsuit*) and an indicator equal to one if the firm is in the same SIC 4-digit industry as the firm experiencing environmental-disclosure-related litigation (*Affected Industry*). All control variables are defined in Appendix C. Standard errors are clustered at the industry level and t-statistics are in parentheses. *, **, *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.