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Finance Working Paper N° 972/2024
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## Abstract

We examine whether the threat of requiring Scope 3 emissions disclosures increases affected firms' preference for greater control over production and GHG emissions, which renders outsourcing to foreign countries less desirable. Using the SEC's March 2021 request for input on climate-related disclosures as a shock to the probability that Scope 3 emissions disclosures would be required, we find that affected firms reduce imports relative to unaffected firms. The reduction is concentrated in firms for which disclosing Scope 3 emissions are likely costlier and among firms with greater ability to reduce foreign outsourcing. Further, the reduction is more pronounced among firms facing Scope 3 disclosure pressures from the EU and California. Finally, we find some evidence that affected firms increase in-house production and improve their environmental efforts. Collectively, our findings suggest that the threat of Scope 3 disclosures induces real changes in corporate decisions.


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Keywords: Climate disclosure; GHG emissions; supply chain; real effects

JEL Classifications: G28, M41, L14, L23



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**JEL classification:** G28; M41; M48; Q54
**Data availability:** All data are available from public sources identified in the paper.

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## 1. Introduction

A contentious aspect of greenhouse gas (GHG) emissions disclosures is whether firms should be required to report Scope 3 emissions, which are indirect emissions from upstream and downstream activities in a firm's value chain. This point of contention has intensified in recent years due to proposed Scope 3 disclosure requirements, creating a period of active assessment as firms navigate the evolving regulatory landscape amidst increasing stakeholder interest in climate issues. As Scope 3 emissions often represent the largest portion of a firm's carbon footprint, their potential inclusion in reporting could have real effects on a firm's operations and decision-making, particularly in relation to supply chain management.

We use the Securities and Exchange Commission's (SEC's) March 2021 statement seeking feedback on potential climate-related disclosure rules as a significant event contributing to firms' perception of the probability that they would be required to disclose Scope 3 emissions, within a broader context of related developments. The 2021 statement preceded the March 2022 issuance of proposed rules that mandated disclosure of Scope 1 and Scope 2 emissions for all filers (phased in with smaller reporting companies (SRCs) disclosing two years after large accelerated filers) and disclosure of Scope 3 emissions, if material or if the company provides targets or goals that include Scope 3 emissions, for all but SRCs ("non-SRCs"). After the proposal and prior to the final rule on March 6, 2024, it was uncertain whether all the disclosure requirements, particularly Scope 3, will be in the final rule, providing an opportunity to examine firms' anticipatory behavior. We explore such behavior by examining whether and how firms adjust their supply chains in response to the proposed rule.

The SEC's proposal came shortly after California's SB 260, the Climate Corporate Accountability Act and preceded the European Commission's Corporate Sustainability Reporting

Directive (CSRD) by a month.[1] This series of events constitute a period marked by increasing attention to Scope 3 emissions disclosure and could have prompted firms to contemplate reevaluating their supply chains. Among these events, we focus on the SEC proposal due to its potential to become a federal mandate with significant implications for all public U.S. firms. Moreover, the SEC setting offers better data availability, allowing more precise identification of affected firms and measurement of supply chain outcomes.[2] By examining the SEC proposal, our study captures a critical moment when U.S. firms were likely reevaluating their supply chains in response to the evolving climate disclosure landscape. While our study centers on the SEC proposal, our study does not hinge on it being the only motivation for firms to make supply chain changes. Rather, we posit that the proposal, on the margin, increased firms' desire to make such changes. Even though the SEC's final rule removed the Scope 3 disclosure requirement, our study provides insights into how firms allocate resources in response to potential disclosure regulations, which can inform future regulatory developments.

In the absence of Scope 3 emissions disclosures, U.S. firms could shift their operations to foreign suppliers to hide their GHG emissions, under the assumption that a firm's own emissions, whether in the U.S. or elsewhere, and emissions from outsourced U.S. suppliers are arguably more visible to U.S. stakeholders, compared with GHG emissions from outsourced foreign suppliers. This strategy has been used by firms in non-U.S. settings after ESG disclosure mandates (Deng et

[1] We provide more details on the timelines of the EU, California and SEC climate reporting rules in section 4.4 and Figure 1.

[2] For example, we cannot examine our research question using EU firms in the EU setting as we lack data comparable to Panjiva, which tracks U.S. firms' imports based on real transactions. While we could try to proxy EU imports using firm disclosures, their voluntary nature makes them susceptible to firm incentives, potentially compromising data quality. The California setting requires companies "doing business in California" to disclose their GHG emissions and climate risks. However, it does not define the term, creating ambiguity in identifying affected firms. While we use the California setting in only one of our many cross-sectional tests (section 4.4), we acknowledge that we are identifying firms "doing business in California" with noise. We explore the implications for U.S. firms exposed to the EU and California regulations in the context of the SEC setting in section 4.4.

al. 2023; Lu et al. 2023).[3] However, with the SEC's proposed rule, such a strategy becomes less viable for non-SRCs because they must report all (including non-U.S.) supplier-produced (i.e., Scope 3) emissions, which changes non-SRCs' preference for foreign outsourcing.

First, GHG emissions from outsourced foreign suppliers are part of Scope 3 emissions and would be reported under proposed Scope 3 disclosure requirements. An efficient way to lower overall GHG emissions in the long run is to make the production process more sustainable and less pollutive. Since firms face challenges in monitoring and directly controlling their suppliers, and considering that GHG emission reduction efforts might require new processes in which suppliers cannot or will not invest in, foreign outsourcing becomes less favorable. Second, if Scope 3 emissions must be disclosed, firms would have to rely on suppliers to measure their emissions, provide data, and, when needed, take actions to reduce reported Scope 3 emissions.[4] Because it is infeasible for supplier contracts to specify all possibilities and actions, the disclosure mandate would introduce additional uncertainty for firms that choose to outsource to foreign suppliers. Thus they may prefer to reduce foreign outsourcing to have greater control over their reporting and management of GHG emissions. We therefore hypothesize that, after the proposed disclosure rule, non-SRCs will reduce foreign outsourcing.

However, non-SRCs may not change their behavior after the proposed disclosure rule for three possible reasons. First, instead of terminating foreign supply chain relationship, firms may take other arguably less costly actions, such as coordinating with their suppliers to reduce GHG

[3] More generally, the idea that a firm will relocate its polluting activities to countries with weaker environmental (but not necessarily disclosure) regulations and standards has been explored in economics (see review by Brunnermeier and Levinson (2004)) and underscores the need to assess global supply chain decisions. Building on prior economic research and acknowledging the global scope of the SEC's proposed emission disclosure requirement, we focus on global supply chain decisions, particularly foreign outsourcing.

[4] A headline from *ESG Dive* (2023) reads: "Amazon prioritizing ESG in procurement, but gathering data is 'increasingly painstaking.'" See https://www.esgdive.com/news/amazon-prioritizing-esg-in-procurement-but-gathering-data-is-difficult/700471/ (accessed on February 25, 2024).

emissions. Second, some firms may believe that the disclosure of Scope 3 emissions could be abandoned or scaled back by the SEC, especially given the stiff opposition the Scope 3 proposal faced. Thus these firms might continue outsourcing emissions, which decreases Scope 1 emissions at the expense of Scope 3 emissions (Dai et al. 2024). Third, as disclosure mandates are unlikely to have a first order effect on supply chain decisions, for some firms, the proposed SEC disclosure rule may not be sufficient, even on the margin, to nudge them away from foreign outsourcing.

Empirically, we implement a difference-in-differences design, comparing the behavior of treated firms (i.e., non-SRCs), which are subject to the SEC's proposed disclosure rule for Scope 3 emissions, before and after the proposed rule, to the behavior of control firms (i.e., SRCs, which are unaffected). Even though the SEC proposed the final rule in March 2022, the statement issued in March 2021 seeking feedback on climate change disclosure hinted at the inclusion of Scope 3 emissions. Thus we use the statement issuance date as the treatment date. Our sample consists of 12,076 firm-years from 2018-2023 for 2,189 unique nonfinancial firms. To capture firms' outsourcing to foreign suppliers, we employ the U.S. customs import data at the shipment level from S&P Panjiva and construct two measures of annual imports: volume and weight. Consistent with our hypothesis, we find that both import volume and weight decrease after the SEC's proposed rule for affected firms relative to unaffected ones.

As shifting away from foreign outsourcing is a non-trivial decision, firms would do so only if expected costs from the proposed disclosure rule make outsourcing less desirable. We conduct three cross-sectional tests varying firms' perceived costs from disclosing Scope 3 emissions, and expect the reduction in import activity to be mainly present among firms for which the proposed disclosure rule is particularly costly. We hypothesize and find that reductions are concentrated among firms with material Scope 3 emissions, firms that currently do not voluntarily disclose GHG

emissions, and firms in industries with greater objections to the proposed rules.

Given the potentially significant costs associated with supply chain adjustments, reducing foreign outsourcing may be sensible only for firms that can easily transition to alternative supply chain structures. Thus, we explore if the reduction in import activity is mainly present among firms exhibiting greater capacity and lower cost associated with transitioning away from foreign outsourcing. We find greater reductions in imports concentrated among firms that rely less on imports of minerals for which domestic resource is limited, and firms with excess production capacity to compensate for import reductions.

Concurrent with the SEC proposal were other events that created incentives for firms to "reshore" production, confounding our interpretation. However, for these events to entirely explain our findings, they would need to differentially impact non-SRCs and explain the results in all our cross-sectional tests. Our cross-sectional splits exploit heterogeneity in firms' responses to Scope 3 emissions disclosure requirement (e.g., opposition to Scope 3 disclosures), and it is not immediately obvious how the same splits can be explained by these other events. While we have not identified a *specific* event that both align with the same splits and impact SRCs and non-SRCs in a way that explains our results, we perform several analyses to address concerns that concurrent macroeconomic factors created incentives for firms to "reshore" production.

We confirm that our results hold after excluding imports from China (addressing the concern that increased tariffs would lead to lower importing from China) and from the U.K. (addressing the concern that Brexit increased frictions in imports from the U.K.). To address concern that the COVID-19 pandemic induced supply chain disruptions, leading to import reductions in our sample period, we first include only imports from Canada and Mexico as the disruptions were less severe for non-transoceanic transportation routes, and the inferences remain.

Second, we repeat our analysis using March 2022 (when the proposed rules were issued) as the "treatment" event and examine outsourcing in years 2020-2023 to mitigate concerns that we are capturing pandemic-induced outsourcing declines in 2020-2021.[5] We continue to find a decrease in outsourcing among non-SRCs relative to SRCs. We also examine imports from U.S. firms' foreign subsidiaries, which would be subject to the same supply chain distribution pressures arising from macroeconomic factors but not the Scope 3 emissions disclosures, as subsidiaries' emissions are included in Scope 1. We find no evidence of reduced imports from subsidiaries, providing additional support that our results cannot be explained by reduction in imports due to macroeconomic factors.

To address concerns about the comparability of SRCs and non-SRCs, particularly in terms of firm size, we conduct several tests. First, we construct a control group of large private firms, similar in size to non-SRCs but unaffected by the SEC's proposed rule. Second, we use entropy balancing to match treated and control firms. Third, we employ a regression discontinuity design and compare non-SRCs with a public float just above the $250 million threshold to SRCs just below it. We continue to observe reduced imports for non-SRCs using these alternative research designs. Finally, limiting our sample to large public firms, we conduct placebo tests using alternative public float thresholds and find no significant import reduction, further addressing concerns about firm size differences.

Our research design assumes that the SEC's proposed rule marginally increased non-SRCs' desire to reduce imports amid the increasing pressure for Scope 3 emissions disclosures (i.e., concurrent European Union (EU) and California proposed Scope 3 disclosure requirements). Non-SRCs affected by these concurrent events faced a higher likelihood of reporting Scope 3 emissions

[5] The U.S. Census Bureau data suggests a decline in U.S. imports in 2020, followed by a rebound to pre-COVID levels by early 2021 and exhibited an overall growing trend since then (https://tradingeconomics.com/united-states/imports).

and may be more likely to adjust their supply chains. Non-trivial adjustment costs become more justifiable if there is mounting regulatory pressure from multiple jurisdictions and the potential for greater benefit. To examine this, we partition our sample into firms with and without operations in both the EU and California and find that the reduction in foreign outsourcing is more pronounced for non-SRCs operating in both the EU and California than for other non-SRCs.

To corroborate our interpretation that non-SRCs reduce foreign outsourcing, we examine whether they increase their in-house production after the proposed rule, using reshoring to offset reduced imports. The controllability principle suggests that if managers are accountable for Scope 3 emissions, they would prefer in-house production, which offers greater direct control over outcomes, to foreign outsourcing where such control is diminished. Using managers' discussion of in-house production during the presentation section of earnings conference calls, which captures not just existing in-house production, but also any plans for future in-house production, we find greater discussion after the release of the proposed rule for non-SRCs relative to SRCs.

We conduct several analyses to provide a more complete picture of how the SEC's proposed disclosure rule motivates real changes to non-SRCs' operations. First, we find some evidence that non-SRCs exert environmental efforts that could reduce Scope 1 emissions in the long term. Second, while our analyses primarily focus on upstream supply chain activities, non-SRCs may also implement strategies to reduce their downstream Scope 3 emissions. We find that non-SRCs exhibit significant improvements in environmental scores related to downstream environmental activities, including plastic packaging, waste disposal, and product design compared to SRCs. Third, we find greater reduction in imports from more (versus less) polluting countries, consistent with firms adjusting importing activity with the greatest impact.

Our paper makes several contributions. First, we document an important response to

proposed Scope 3 emissions disclosures. Studies find that disclosures in the form of corporate social responsibility (CSR) ratings (Darendeli et al. 2022) and human rights (She 2022) affect firm supply chain decisions. Other concurrent studies (Deng et al. 2023; Lu et al. 2023) find that environmental-related disclosure regulations create incentives for firms to present themselves as compliant, while, in practice, behaving in ways, such as outsourcing emitting activities, that contradict the underlying spirit of the regulations. We contribute by studying a setting where firms face the possibility of disclosing Scope 1, 2, and 3 emissions, which makes outsourcing emissions an ineffective strategy, to examine how they respond. Second, we contribute to the literature on the real effects of environmental disclosures (Downar et al. 2021; Fiechter et al. 2022; Tomar 2023) by examining how firms react to a *proposed* disclosure rule. Examining firms' anticipatory behavior to proposed regulations, even after they are finalized, provides insights into how firms adjust strategies and allocate resources to navigate regulatory changes, which can inform future regulatory design and corporate behavior. Third, our findings also offer feedback for regulators on how firms assess the potential costs associated with disclosing all Scope 1, 2, and 3 emissions compared to the costs of reducing foreign importing. Understanding these trade-offs can help regulators calibrate the stringency of disclosure requirements, ensuring they successfully encourage desired corporate behavioral changes (e.g., achieve intended environmental outcomes) without imposing disproportionate or unintended economic burdens.

## 2. Institutional Setting, Related Literature, and Hypothesis Development

### *2.1 Institutional setting – SEC climate disclosure regulation and Scope 3 emissions*

In March 2022, the SEC issued its proposed rule for climate-related disclosures, "The Enhancement and Standardization of Climate-Related Disclosures for Investors" (33-11042). In addition to disclosure of Scope 1 (direct emissions) and Scope 2 emissions (indirect emissions

from purchased energy), the rule proposes that companies disclose emissions from upstream and downstream in the supply chain, referred to as Scope 3 emissions, if they are material or if companies disclose targets around Scope 3 emissions. The disclosures of Scope 3 emissions were required for all filers except for SRCs ("non-SRCs") and would have been phased in after other disclosures, starting with large accelerated filers, then accelerated and non-accelerated filers.[6]

The inclusion of Scope 3 emissions in the proposed rule was foreshadowed in March 2021, when the SEC publicly requested input on whether public disclosure adequately informs investors about climate change information. The request, which included 15 questions, specifically mentions Scope 3 emissions in Question 2: "Are there specific metrics on which all registrants should report (such as, for example, Scopes 1, 2, and 3 greenhouse gas emissions, and greenhouse gas reduction goals)?" (Lee 2021).This early indication potentially foreshadowed the SEC's inclination to require Scope 3 emissions disclosures, potentially prompting some companies to anticipate and prepare for this future disclosure requirement.

The SEC received over 10,000 comment letters on the proposed rule, with Scope 3 emissions noted as one of three primary arguments against the proposed rule (Commonwealth Climate and Law Initiative, 2022). Indeed there are challenges for companies in reporting Scope 3 emissions. To assist companies in identifying and measuring Scope 3 emissions, the Carbon Disclosure Project (CDP) has published a technical note that outlines the most significant Scope 3 categories for 16 high-impact sectors.[7] For example, "purchased goods and services," which

[6] While it is unclear whether and how the requirements would be enforced, the mandated disclosure by itself can increase stakeholders' monitoring and expectations of firm activities.

[7] See analysis that identifies the categories that are most likely to be relevant and represent the bulk of Scope 3 emissions for the majority of companies in 16 sectors, namely Agricultural Commodities, Capital Goods, Cement, Chemicals, Coal, Construction, Electric Utilities, Financial Services, Food, Beverage & Tobacco, Metals & Mining, Oil & Gas, Paper & Forestry, Real Estate, Steel, Transport OEMS and Transport Services (see pp. 7–54: https://cdn.cdp.net/cdp-production/cms/guidance_docs/pdfs/000/003/504/original/CDP-technical-note-scope-3-relevance-by-sector.pdf).

reflects upstream emissions, comprises the top three largest proportion of Scope 3 emissions reported by 13 out of 16 non-general sectors while "use of sold products," which reflects downstream emissions, is in the top three for 10 out of 16. Collecting Scope 3 emissions data is difficult because they are not within the corporate boundary (i.e., the firm must obtain the data from its supply chain partners), and, in cases when the data cannot be collected (i.e., customers travel to the firm's location), the firm must estimate the information, resulting in potentially noisy data. Acknowledging these challenges, the SEC disclosure requirements applied to only sources of Scope 3 emissions that are material to the firm.

The resistance to disclosing Scope 3 emissions was not the first time a SEC proposal has faced opposition. The proposal on pay ratio disclosure, for example, was ultimately adopted despite stiff resistance from opponents who raised concerns about the complexity and cost of the required calculations, and the comparability and usefulness of the reported ratio.[8] The resistance to Scope 3 emissions disclosures was not a surprise, given the history of potential industry pushback against increased transparency and accountability.

Before the March 2021 request for input, the SEC disclosure requirements around climate were focused on the risks that climate posed for the firm. The 2010 interpretive guidance (SEC Release 33-9106) provided some directives, but it often led to inconsistent and incomplete disclosures. Acknowledging increased demand for climate-related information since 2010, the SEC's proposed rule in March 2022 (i.e., SEC Release 33-11042) expanded the required disclosure, with the intent of increasing "consistency, comparability, and reliability of climate-related information for investors." When the SEC issued its final rule on March 6, 2024, the Scope 3

[8] Similarly, critics of Scope 3 emissions disclosures have raised concerns about the complexity and cost of reporting such emissions. While critics of pay ratio disclosures also raised concerns about potential privacy implications of collecting and disclosing employee compensation data, Scope 3 emissions disclosures do not present such privacy risks. Despite the resistance from various stakeholders, pay ratio disclosures were mandated on August 5, 2015.

requirement was removed.

*2.2 Related literature*

A stream of literature across economics, finance, and management examines the effect of environmental regulations on firm production and supply chain decisions. While this literature does not address *disclosure* regulations per se, the effects of environmental regulations on firm decisions on production and supply chain are presumably more direct and would set a baseline for understanding firm response. Within this literature, studies have examined the pollution haven hypothesis, which argues that firms will seek to avoid the cost of stringent environmental regulations by relocating production to countries with lax regulations and arrived at mixed evidence (see review by Brunnermeier and Levinson 2004). More recent studies have delved into this issue by using data at the firm level, where production and outsourcing decisions are made.

Using variation in a composite index of environmental regulatory stringency across countries, Ben-David et al. (2021) find that firms headquartered in countries with strict environmental regulations emit less $CO_2$ locally and more $CO_2$ abroad than firms headquartered in countries with lenient regulations. Other studies have focused on specific environmental regulations introduced in a region or country. Dechezleprêtre et al. (2022) evaluate whether the European Union Emissions Trading System (EU ETS), which is a cap-and-trade program intended to lower GHG emissions by the EU countries, caused multinational companies relocate production from countries affected by the EU ETS to less-regulated countries in which they already operate. Comparing the same multinational's emissions in the EU countries to non-EU countries, the paper finds no evidence that multinationals shift their production in response to the regulation. The finding is consistent with earlier studies using non-firm-level data, such as trade flows in Naegele and Zaklan (2019), and finding no evidence that the EU ETS caused carbon leakage.

In the U.S., California implemented a similar trade-and-cap program. Using this setting, Bartram et al. (2022) document that, after the introduction of the program, financially constrained firms shift their production from California to other states where they have similar plants that are underutilized. Using a sample of U.S. firms, Dai et al. (2024) find an inverse relationship between Scope 1 and Scope 3 emissions, and provide evidence consistent with firms substituting self-generated emissions with increased reliance on foreign suppliers. The takeaway that U.S. firms outsource their pollution to foreign countries is consistent with the results of Li and Zhou (2017), who find that U.S. plants emit less when their parent firm imports more from low-wage countries. Taken together, the studies provide some evidence that, when faced with climate disclosure regulations, firms take actions that circumvent the spirit of those regulations.

Accounting researchers and practitioners are specifically interested in the *disclosure* of environmental-related information and its real effects on the firm. Specific to disclosure regulations, studies find that regulations have a positive effect on the data to be disclosed in the context of mine safety records disclosed in financial reports (Christensen et al. 2017), a CSR disclosure mandate for firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange (Chen et al. 2018), the U.K. carbon emissions mandate (Downar et al. 2021), the EU directive requiring large firms to prepare annual nonfinancial reports (Fiechter et al. 2022), and the U.S. GHG reporting program (Tomar 2023).

Studies have also examined how disclosures about suppliers' CSR performance have real effects on supply chains. Darendeli et al. (2022) find that, following the plausibly exogenous introduction of CSR ratings, suppliers with low CSR ratings have a reduction in their corporate customers and number of contracts. Given that CSR ratings are formed from mandatory and voluntary disclosures, the finding implies that disclosures about suppliers' negative CSR

performance can affect a firm's decision to discontinue relationships with suppliers. She (2022) examines a California mandate requiring firms to disclose how they conduct due diligence on their suppliers' human rights abuses and finds better performance among suppliers after the regulation. While the disclosure mandate is not an environmental one, the finding suggests that disclosure mandates can affect a firm's assessment of suppliers prior to entering into contracts.

Most closely related to our study are studies examining the real effects of environmental disclosure regulations on firm production and supply chains. A concurrent working paper by Deng et al. (2023) examines the carbon disclosure regulation that requires U.K. firms to report Scope 1 and 2 emissions but not Scope 3. They find that, following the mandate, U.K. firms reduce the emissions from their own activities (i.e., Scope 1) at the expense of emissions from purchased goods and services (i.e., Scope 3). The substitution appears to be coming from outsourcing emissions to foreign suppliers, consistent with the pollution haven hypothesis mentioned earlier. Another working paper by Lu et al. (2023) uses the staggered introduction of mandatory ESG disclosure in different countries to examine how disclosure mandates affect firms' selection of suppliers. They find that, when firms face ESG disclosure regulations, they switch to suppliers in countries with more opaque ESG disclosures. Taken together, both studies indicate that environmental disclosure regulations create incentives for firms to present themselves as compliant, while, in practice, taking actions that contradict the underlying spirit of the regulations. We build on these studies by examining the effects of the proposed Scope 3 disclosure regulations on U.S. firms' production and supply chain decisions. However, unlike these studies, ours examines how firms react to proposed, rather than mandatory, disclosure rules, offering a unique perspective on anticipatory behavior. Moreover, while these studies examine how firms exploit differences in disclosure requirements across GHG emissions categories to circumvent disclosing emissions that

could hurt their ESG reputation, our study explores how firms react when confronted with the possibility of disclosing *all* of their GHG emissions.

As Deng et al. (2023) and Dai et al. (2024) also study the Scope 3 emissions setting, it is important to clarify the unique insights our study provides. Deng et al. (2023) leverage the UK's carbon disclosure regulations, which mandate reporting of Scope 1 and 2 emissions but not Scope 3, to demonstrate a substitutional relationship between Scope 1 and Scope 3 emissions. Dai et al. (2024) document a similar substitutional effect among U.S. firms without exploiting any differential disclosure requirements, confirming firm incentives to choose one source of emissions in curbing the other. Our study takes a different approach by investigating the effect of proposed disclosures of all emissions, where substitutability is less feasible, allowing us to focus on the unique anticipatory effects of full transparency.[9]

*2.3 Hypothesis development*

The SEC's proposed climate disclosure rule could increase the cost of disclosures for non-SRCs. First, it is challenging for firms to measure their Scope 3 emissions accurately, as they would need to report based on data shared by their suppliers. Not all suppliers estimate their emissions, and, even if they do, it is unclear whether their estimates would be consistent with the SEC's expectations under its proposed rule. Therefore the complexity of measuring Scope 3 emissions accurately can increase the cost of gathering, obtaining, and reporting emissions for firms. Second, prior to the proposed rule, firms with incentives to lower their GHG emissions could hide their GHG emitting activity by outsourcing abroad under the assumption that emissions from suppliers located in the U.S. are arguably more visible to stakeholders. However, with the

[9] Another concurrent working, Cho et al. (2025) find that the *voluntary* initiation of Scope 3 disclosures by customers reduce GHG emissions by their suppliers. We complement their findings by documenting that the mere anticipation of mandatory Scope 3 disclosures can induce expected disclosing firms to make supply chain adjustments. However, our analysis centers on adjustments by these disclosing firms and does not extend to suppliers.

proposed rule, such a strategy becomes less viable for non-SRCs because they face the requirement to include non-U.S. supplier-produced (i.e., Scope 3) emissions. Therefore, the proposed disclosure rule can be costly for non-SRCs seeking to maintain or enhance their ESG reputation.

Before the SEC climate disclosure rule was finalized, it was unclear when the new rule would take effect and whether Scope 3 disclosure would be required. If non-SRCs do not anticipate Scope 3 emissions being part of the final rule, they would not take any actions to minimize the associated disclosure costs. Conversely, some non-SRCs might view the likelihood of disclosing Scope 3 emissions in the SEC's final rule as higher but expect that, even if it were excluded from the SEC's final rule, federal, state or international regulators, or other stakeholders could demand disclosure in the future. Furthermore, given the growing stakeholder interest in ESG issues, coupled with the EU and California proposed disclosure requirements, the SEC's proposal may, on the margin, incentivize some non-SRCs who were previously more indifferent to Scope 3 emissions to take concrete actions. Therefore our hypothesis on whether non-SRCs would change their supply chain decisions in response to the proposed rule also serves as a test of their expectations regarding stakeholder demand for Scope 3 emissions disclosures.

The costs associated with Scope 3 emissions disclosures can change non-SRCs' preference for foreign outsourcing. First, for non-SRCs aiming to report lower emissions, outsourcing emissions to foreign countries becomes less desirable because emissions from non-U.S. suppliers are part of Scope 3 emissions and would be required disclosure. However, Scope 3 emissions originating from non-U.S. suppliers are outside the firm's direct control, which inhibits the implementation of emissions reduction strategies or of holding suppliers accountable for their emissions. Second, from a reporting perspective, firms would have to rely on their suppliers to provide the data, but not all suppliers have the resources or expertise to do so. Even if they do,

firms would have to integrate the data with their own framework or methodology for measuring and estimating Scope 3 emissions, resulting in potential inaccuracies.[10] While firms can include terms on how to measure and report GHG emissions, emissions reduction targets, etc., in supplier contracts, the complexity of measuring and reducing Scope 3 emissions prevents including all possible scenarios. Therefore, we hypothesize that non-SRCs, which would have to disclose Scope 3 emissions under the proposed rule, would rely less on foreign outsourcing to better manage their Scope 3 emissions and report lower overall GHG emissions. The corresponding prediction in our setting is that non-SRCs would reduce their foreign imports following the SEC's proposed rule.

## 3. Sample, Data, and Research Design

### *3.1 Sample construction*

We start with all Compustat firms from fiscal years 2018 to 2023. We begin with 2018 as that provides a 3-year window to establish firm practices prior to 2021, which is the first year of our treatment window. We use 2021 onwards as the treatment years because the SEC's March 2021 statement seeking feedback on climate change disclosure hinted at the inclusion of Scope 3 emissions. Although the SEC proposed the final rule in March 2022, our early treatment window allows us to capture firms' anticipatory behavior. Our sample ends in 2023 as the SEC's final rule in March 2024 removed the Scope 3 requirement. We exclude financial firms (SIC codes 6000-6999) due to their different reporting and regulatory standards as well as firm-years with missing key variables for our main analyses. To get a clean classification of treated and control firms, we only keep firms that are consistently classified as either control or treated firms in our sample period. To improve the accuracy of our import measures using S&P Panjiva data, we drop carriers

[10] The estimation gives firms some discretion, and thus, control over what their *reported* Scope 3 emissions would be, but the discretion could result in inaccurate *actual* Scope 3 emissions.

and logistics firms as they may be recorded as consignees when handling end-to-end shipments (Liu et al. 2023). To ensure that our results are not affected by the change in firm composition, we only include firms with observations in both pre- and post-proposal periods. We further drop firms without available Panjiva firm IDs (e.g., Cen et al. 2024a; Ding et al. 2024) as well as firms in four-digit SIC industries without imports. Our main sample is 12,076 fiscal firm-years from 2018-2023, representing 2,189 unique firms. Table 1 outlines the selection process of our main sample.

### *3.2 Variable measurement*

#### *3.2.1 Definition of treated firms*

As the inclusion of Scope 3 emissions in the SEC's proposed disclosure rule only targets non-SRCs, we define treated firms as non-SRCs, and control firms as SRCs. Our tests assume that non-SRCs anticipated that the rule, when eventually adopted, would be required for them. In accordance with the new SRC definition adopted by the SEC in 2018, we categorize a firm as an SRC if it satisfies any of the following conditions: (1) the firm has public float of less than $250 million; (2) the firm has less than $100 million in annual revenues and no public float or public float of less than $700 million. Following this methodology, our main sample consists of 1,549 unique treated firms and 640 unique control firms.

#### *3.2.2 Definition of imports*

We obtain the transaction-level customs import-export data from Panjiva. The Panjiva U.S. import data contains transaction-level details of goods entering the U.S. based on the original shipment data from the U.S. Customs and Border Protection. Each transaction record in the Panjiva U.S. import data includes detailed transaction information including consignees (i.e., customers), shippers (i.e., suppliers), product descriptions, the quantity imported or exported, and other transaction-specific details. Based on the S&P's identification system, we link the consignees in

Panjiva with corresponding parent firms in Compustat (e.g., Cen et al. 2024a, 2024b; Aral et al. 2025). A benefit of the Panjiva data is its comprehensive coverage unaffected by selective firm disclosure, but its limitation is tracking only physical goods and not services.[11] Thus, our analysis does not encompass the complete range of firms' outsourcing activities.[12] Another limitation of the Panjiva U.S. import data is that it contains only maritime transactions, underestimating imports from neighboring countries (i.e., Mexico and Canada) for which land transportation accounts for a major portion of trade. Therefore, we use the Panjiva Mexico export data to complement our U.S. import data, following Hsu et al. (2023).[13] The Panjiva Mexico export data contains transactions from all types of transportation, including maritime, air, truck, rail, etc. To avoid any double-counting, we only augment non-maritime transactions. We also exclude imports from foreign subsidiaries of U.S. parent firms (i.e., internal suppliers, defined as shippers having the same S&P Capital IQ company IDs with consignees) (Dai et al. 2024), as these imports would be part of Scope 1 emissions and would be required disclosure regardless of the Scope 3 requirement.

We construct two measures of the intensity of import activity at the fiscal firm-year level. The first measure, *Import Volume/Sale*, is the total shipment volume (measured in twenty-foot equivalent units) a firm receives from foreign countries scaled by sales during the current fiscal year. The second measure, *Import Weight/Sale*, is defined similarly but based on the shipment weight measured in kilograms.[14]

[11] Factset Revere Supply Chain Relationships database provides another source of supply chain data. Because the data is sourced from public disclosure, it contains only significant suppliers that are required to be disclosed (potentially from significant customer disclosure) and voluntary disclosure.

[12] While our analysis is most relevant for understanding Scope 3 emission reduction strategies in firms with substantial physical goods imports, the findings are meaningful given that purchased goods and services is a significant component of Scope 3 emissions for the vast majority of sectors (Section 2.1).

[13] Panjiva does not collect data from customs in Canada.

[14] In untabulated analysis, our main inferences are consistent when using total assets or cost of goods sold as the scalar. In Section 6.1, we show that our main inferences are consistent when using the dollar value of imports (*Import Value/Sale*) as the dependent variable. To ensure that inflation is not affecting our main inferences, in untabulated analysis, we adjust sales to 2019 dollars based on the CPI and our conclusions are unchanged.

*3.3 Summary statistics*

Table 2 presents the summary statistics for our main sample. The mean values of *Import Volume/Sale* and *Import Weight/Sale* are 6.029 and 3.963, respectively. In our sample, 41% firm-year observations have non-zero *Import Volume/Sale* and *Import Weight/Sale*. The mean values of our key independent variables of interest, *Treat* and *Post*, are 0.720 and 0.492, respectively, suggesting that 72.0% of firm-years in our sample are classified as treated firm-years and 49.2% of firm-years are during the post-proposal period.

*3.4 Research design*

We use the following ordinary least squares model with a difference-in-differences (DID) design to examine the effect of the proposed SEC climate disclosure rule on imports:

$$Import_{i,t} = \alpha + \beta_1 Treat_i \times Post_t + \beta_k Controls_{i,t} + \delta_i + \gamma_t \; or \; \gamma_{ind \times t} + \epsilon_{i,t} \quad (1)$$

The dependent variable, $Import_{i,t}$, represents firm $i$'s import activity during fiscal year $t$, proxied by two variables, *Import Volume/Sale* and *Import Weight/Sale*. $Treat_i$ is an indicator variable equal to one for non-SRCs and zero otherwise. $Post_t$ is an indicator variable equal to one for observations on or after the proposed SEC climate disclosure rule (i.e., 2021-2023) and zero for the period from 2018 to 2020. Following recent literature (e.g., Hsu et al. 2023; Niu et al. 2023; Bisetti et al. 2024), we control for a set of firm-level characteristics, including firm size (*Size*), financial leverage (*Lev*), cash holdings (*Cash*), profitability (*ROA*), tangibility (*PPE*), and sales growth rate (*Sales Growth*). We include firm fixed effects to control for unobservable firm-specific, time-invariant characteristics that might affect firms' import activity, and focus on within-firm changes in import activity. We also include fiscal year fixed effects to control for any unobservable general time trends that impact import activity. In an alternative specification, we include two-digit SIC industry × fiscal year fixed effects to control for any time-varying, industry-level

characteristics that may affect firms' import activity. Following recent studies (e.g., Kwon 2018; Ding et al. 2024; Liu et al. 2024), we cluster standard errors by two-digit SIC industry to account for the within-industry correlation of residuals across firms and years.[15]

## 4. Main Analyses

### *4.1 Baseline tests: Effect of the proposed SEC climate disclosure rule on imports*

We estimate Eq. (1) and tabulate the regression results in Table 3 Panel A. In column 1 where we use *Import Volume/Sale* as the dependent variable and only include firm and fiscal year fixed effects, the coefficient on *Treat* × *Post* is significantly negative (coef.= -2.075; t-stat.= -3.42). In column 2, the inferences are similar after further controlling for a set of firm characteristics (coef.= -1.873; t-stat.= -3.03). Column 3 presents the results including firm and industry × fiscal year fixed effects and also reports a significantly negative coefficient on *Treat* × *Post* (coef.= -1.854; t-stat.= -2.86). In terms of economic significance, this corresponds to an 8.4 percent decrease in imports relative to the sample standard deviation.[16] In terms of the control variables, the coefficient on *Lev* is negative, consistent with Moon and Philips (2021), and that on *ROA* is positive, consistent with Jiang et al. (2007) and Awe et al. (2018). There is no association between *Size* and import activity as our dependent variable is scaled by sales, which accounts for firm size. Columns 4-6 show consistent results using *Import Weight/Sale* as the dependent variable. These results in Table 3 Panel A indicate that non-SRCs reduce their import activity relative to SRCs following the revelation that Scope 3 emissions disclosures may be part of the proposed SEC rule.

As the parallel trend assumption must be satisfied to get a reliable DID estimator, we conduct an event-time analysis to examine the dynamic treatment effect of the proposed SEC

[15] In untabulated analysis, our main inferences are similar if we cluster standard errors by firm or by industry and year.
[16] -1.854 (coefficient on *Treat* × *Post*) / 21.982 (standard deviation of *Import Volume/Sale*) = 8.4%.

climate disclosure rule on imports and test the validity of the parallel trend assumption (Angrist and Pischke 2008). Specifically, we estimate the following ordinary least squares model:

$$Import_{i,t} = \alpha + \beta_1 Treat_i \times Pre3_t + \beta_2 Treat_i \times Pre2_t + \beta_3 Treat_i \times Current_t + \beta_4 Treat_i \times Post1_t + \beta_5 Treat_i \times Post2_t + \beta_k Controls_{i,t} + \delta_i + \gamma_t \text{ or } \gamma_{ind \times t} + \epsilon_{i,t} \quad (2)$$

*Pre3* (*Pre2*, *Current*, *Post1*, *Post2*) is an indicator variable equal to one for fiscal year 2018 (2019, 2021, 2022, 2023), and zero otherwise. *Pre1* is omitted since it serves as the benchmark period. Table 3 Panel B shows the results estimating Eq. (2). Across columns 1-6, the coefficients on *Treat* × *Pre3* and *Treat* × *Pre2* are not different from zero, the coefficients on *Treat* × *Current* are negative although insignificant in two columns, and the coefficients on *Treat* × *Post1* and *Treat* × *Post2* are overall significantly negative. Figure 2 Panel A (B) plots the coefficients of the results in column 2 (5) of Table 3 Panel B and includes 90% confidence intervals calculated based on standard errors clustered by industry. Overall, the results in Table 3 Panel B and Figure 2 provide support for the parallel trend assumption.

Concurrent studies in other settings indicate that firms not required to disclose Scope 3 emissions may outsource their emissions (Deng et al. 2023; Dai et al. 2024). To explicitly test whether our results are driven by a reduction in outsourcing by non-SRCs (i.e., treated firms), or an increase in outsourcing by SRCs (i.e., control firms), we separately analyze treated and control firms' import activity before and after the SEC climate disclosure proposal. Formally, we estimate the following model for treated and control firms, separately:

$$Import_{i,t} = \alpha + \beta_1 Post_t + \beta_k Controls_{i,t} + \delta_i + \epsilon_{i,t} \quad (3)$$

We include firm fixed effects to examine within-firm changes in import activity. We do not include year or industry-year fixed effects as there is no cross-sectional variation in the treatment within treated firms and within control firms. Table 3 Panel C tabulates the results

estimating Eq. (3) for treated firms only. The negative and significant coefficients on *Post* suggest that treated firms in our sample experience a decline in import activity during the post-proposal period. The results in Table 3 Panel D show that the control firms do not exhibit a significant change in import activity. Together, these findings confirm that our main inferences are driven by the reduction in treated firms' outsourcing instead of an increase in control firms' outsourcing, which provides new insights beyond other concurrent studies (Deng et al. 2023; Dai et al. 2024).

*4.2 Cross-sectional tests: Incentives to reduce foreign outsourcing*

We conduct a set of cross-sectional analyses to strengthen our main inferences. These tests move beyond the average effect across all firms to help uncover the heterogeneity of the treatment effects. Because our cross-sectional splits are based on the costs and benefits of disclosing Scope 3 emissions, the results help us understand the mechanisms through which the treatment operates and provide a more complete picture of how and why the treatment is working.

Using heterogeneity in firms' incentives to reduce foreign outsourcing as a response to the proposed SEC climate disclosure rule, we predict that the reduction is mainly present among firms finding Scope 3 emissions disclosures more costly. First, under the proposed rule, Scope 3 emissions are only required to be disclosed if they are material. Thus, we partition our firms into two subsamples based on NAICS-6 industry level supply chain GHG emission factors developed by the U.S. Environmental Protection Agency (EPA), which are intended for quantifying emissions from purchased goods and services using the spend-based method defined in the Greenhouse Gas Protocol Technical Guidance for Calculating Scope 3 Emissions (Ingwersen and Li 2020). A higher supply chain GHG emission factor means that Scope 3 emissions are more material to the firm. Table 4 Panel A presents the results splitting the sample on the median value of supply chain GHG emission factors. Our results are concentrated among firms with higher

supply chain GHG emission factors, for which Scope 3 emissions are more likely to be material.

Firms not currently reporting GHG emissions information may be doing so because they have higher emissions than voluntary disclosers, and are likely more affected by the potential mandated disclosure. We conjecture that the decrease in import activity of treated firms relative to control firms would concentrate among firms that do not voluntarily disclose GHG emissions information. Following recent studies (Bolton and Kacperczyk 2023; Greenstone et al. 2023; Aswani et al. 2024; Shi et al. 2025), we use S&P Trucost to classify firms into those that provide voluntary GHG emissions disclosure and those that do not. As Table 4 Panel B shows, consistent with our conjecture, the reduction in outsourcing of treated firms relative to control firms is concentrated among firms not voluntarily disclosing GHG emissions.[17]

The SEC received over 10,000 comments made by companies, trade associations, NGOs, investors, academics, and regulators, among others, after the release of the proposed climate disclosure rule.[18] We expect the proposed disclosure rule to be less threatening for firms issuing supportive comments, in particular, on the mandatory Scope 3 emissions disclosures (See Appendix B for examples of public company comments on the SEC climate disclosure proposal). We manually match companies issuing comment letters with firms in Compustat and code whether each comment is supportive of mandating Scope 3 emissions disclosures. Then we partition our main sample based on the median value of the number of firms issuing supportive comments within each two-digit SIC industry, and tabulate the cross-sectional results in Table 4 Panel C. In line with our prediction, the results are concentrated in industries with fewer firms issuing

[17] An an alternative proxy, we identify firms with publicly stated GHG emissions reduction targets (*GHG Reduction Target*), hypothesizing that firms without these targets likely have higher emissions and would be more affected by the potential mandate. As predicted, we find (untabulated) that reductions in imports concentrate in firms without GHG emissions targets.

[18] See https://www.sec.gov/comments/s7-10-22/s71022.htm.

supportive comments on the proposal of mandating Scope 3 emissions disclosures.

Overall, the results in Table 4 suggest that the decrease in import activity of treated firms relative to control firms is concentrated among firms that find disclosure of Scope 3 emissions to be more costly, corroborating that the threat of Scope 3 disclosures in the SEC's proposed rule influences import activities.

*4.3 Cross-sectional tests: Ability to reduce foreign outsourcing*

We next examine how firms' ability to reduce foreign outsourcing influences their response to the proposed SEC rule. We expect the foreign outsourcing reductions to be concentrated among firms with greater capacity and that face lower costs to accommodate the reduction. First, some foreign-sourced inputs may have domestic substitutes while others may be harder to produce or source domestically. For example, firms may not have substitutes for minerals mined overseas and therefore we would not expect firms heavily relying on them to reduce foreign outsourcing. We identify minerals that the U.S. heavily imports from overseas (defined as two-digit Harmonized System (HS) codes 25-28 and 81) and construct a two-digit SIC industry level measure of the reliance on mineral imports, calculated as the import of minerals scaled by total imports.[19] As reported in Table 5 Panel A, we split our sample on the median value of the reliance on mineral imports and find our results are concentrated among firms in industries that rely less on mineral imports, for which it is less challenging to find substitutes. We find no evidence of reduced foreign outsourcing for firms in industries dependent on importing minerals, implying that there are constraints that limit firms' responses to the proposed SEC rule even in the presence of incentives.

Second, we predict that firms with excess production capacity would find it more feasible to bring production in house, enabling them to more easily reduce foreign outsourcing. Following

[19] The list of mineral commodities on which the U.S. has a net import reliance is obtained from the 2023 Mineral Commodity Summaries published by the U.S. Geological Survey (https://pubs.usgs.gov/publication/mcs2023).

prior literature (Modi and Mishra 2011; Manikas and Patel 2016), we construct an industry mean adjusted standardized measure of excess production capacity, defined as each firm's ratio of sales-to-production resources (i.e., property, plant, and equipment) compared to its four-digit SIC industry. A lower ratio indicates more production slack and excess capacity. We split our sample based on the median value of excess production capacity and tabulate the results in Table 5 Panel B. Consistent with our prediction, the reduction in foreign outsourcing is concentrated among firms with higher excess production capacity.

*4.4 How concurrent Scope 3 disclosure requirements influence non-SRCs' actions*

The SEC's proposed rule coincided with growing momentum for Scope 3 emissions disclosure requirements. Specifically, the European Commission proposed CSRD to amend Non-Financial Reporting Directive (NFRD) and widen its scope in April 2021. The proposal for CSRD was approved by European Parliament and Council in June 2022, and the draft of European Sustainability Reporting Standards (ESRS), which is the reporting framework and methodology, was published in November 2022. In California, the Climate Corporate Accountability Act (SB 260) was introduced in January 2021 requiring U.S.-based companies doing business in California and generating over $1 billion in gross annual revenue to disclose all their GHG emissions, and passed the senate in January 2022. Even though it eventually failed in the assembly in August 2022, it was the precursor to SB 253, which was introduced in January 2023 and approved in October 2023. These timelines are visually summarized in Figure 1.

It is reasonable to assume that firms conduct a cost-benefit analysis for each potential mandate to determine if it is worthwhile to adjust their outsourcing. Non-SRCs with operations in the EU and California likely experienced the most combined pressure of potentially reporting Scope 3 emissions. Thus, we conjecture that the impact of the proposed SEC rule on outsourcing

is likely to be larger for non-SRCs with operations in the EU and California.

The EU's CSRD applies to large, and in some cases, small and medium-sized companies based in the EU, including subsidiaries of U.S. firms. It also covers U.S. firms with significant EU net turnover, that have an EU large subsidiary, an EU-listed subsidiary, or a substantial EU branch (Deloitte 2024). To identify U.S. firms affected by the CSRD, we classify a firm as operating in the EU if it satisfies any of the following conditions during the pre-proposal period (2018-2020): (i) headquartered in the EU; (ii) has at least one subsidiary in the EU, based on the Exhibit 21 data; or (iii) has at least one segment in the EU, based on the segment reporting data.[20]

SB 253 applies to companies "doing business" in California, but in the absence of a definition for the term, legal experts have turned to other California statues with broad definitions (Thompson 2023). For example, the Revenue and Taxation Code (Cal. Rev. & Tax. Code §23101(a)) defines "doing business" as "actively engaging in any transaction for the purpose of financial or pecuniary gain or profit." To apply this broad definition, we deem a firm as "doing business" in California if it meets any of the following conditions during the pre-proposal period (2018-2020): (i) headquartered in California; (ii) has at least one subsidiary in California; or (iii) has at least one factory in California, based on the data from the U.S. EPA TRI Program.[21]

In cross-sectional tests, we partition firms into two subsamples: those operating in both the EU and California, and all others, including firms operating in either EU or California and firms

[20] One caveat of using segment reporting data to identify firms operating in the EU is that firms often report "Europe" instead of individual countries, which limits our ability to precisely identify firms operating within the EU.

[21] We cannot use segment reporting data as firms typically report the U.S. as a whole, rather than reporting individual states. While our approach to identifying firms "doing business" in California, which considers significant business activities (e.g., HQ, subsidiary), seems reasonable, we acknowledge the potential measurement error associated with identifying firms affected by the California regulation. To mitigate this, in subsequent tests, we define "affected firms" as those affected by both the EU and California regulations. This helps to reduce the misidentification of "affected firms" if there are firms identified as "doing business" in California when they are not. The alternative that we miss identifying some firms that are doing business in California is possible, but this omission would likely introduce noise into our data, which would make it more challenging to reject the null.

operating in neither. As reported in Table 6, the reduction of foreign outsourcing following the proposed SEC disclosure rule is more pronounced for non-SRCs with operations in both the EU and California.[22] The results support our predictions that other concurrent Scope 3 disclosure requirements add additional tailwinds for firms' desires to respond to the proposed rule.

*4.5 Effect of the proposed SEC climate disclosure rule on in-house production*

To corroborate our interpretation that proposed Scope 3 disclosures decrease non-SRCs' preference for foreign outsourcing, we investigate whether non-SRCs increase in-house production after the release of the proposal in 2021, relative to SRCs. If firms reduce their foreign outsourcing, an option within reshoring is to increase in-house production.[23] This option might be attractive to firms that wish to evaluate managers on their firms' total emissions; producing in-house meets the controllability principle that managers should be held accountable only for outcomes within their control (McNally 1980; Atkinson et al. 2007).

It is empirically challenging to measure firms' actual in-house production with financial data, as measures based on inventory levels (i.e., Roychowdhury 2006) do not differentiate purchased inventory from in-house produced inventory. Thus, we construct a set of disclosure-based proxies for in-house production using narratives in the presentation part of earnings conference calls – one of the most significant information events to the market (e.g., Frankel et al. 1999; Bowen et al. 2002).[24] Managerial discussion of in-house production during earnings calls

[22] In analysis reported in the online appendix Table OA1, we restrict the comparison group to include only firms without any operations in both the EU and California as they face the least pressure to report Scope 3 emissions and our evidence is stronger.

[23] Firms may also switch from foreign suppliers to domestic suppliers if they believe that domestic suppliers have lower emissions or more reliable emissions data. Unfortunately, data limitations preclude empirical testing. Compustat Segment data is incomplete and biased as it only includes supplier-customer relationships where the customer is a major client of the public supplier. FactSet Revere, while more comprehensive, relies on potentially greenwashed firm disclosures, and lacks detailed volume data needed for our analysis.

[24] Unlike the Q&A part of the earnings calls, the presentation part is likely to represent what managers think is a meaningful summary of the firm's existing and future activities. The Q&A part reflects topics deemed significant by

can capture both existing and future in-house production activities. Using a list of keywords to identify managers' discussion of in-house production (see Appendix A), our first firm-year level proxy is the number of earnings calls mentioning in-house production activities scaled by the total number of earnings calls hosted by the firm (*Call Ratio*). The second proxy is the number of sentences discussing in-house production scaled by the total number of sentences (*Sentence Ratio*). For these tests, we are able to use a broader sample that is not constrained by firms with available Panjiva firm IDs.[25] Table 7 Panel A reports the results estimating a modified Eq. (1) using *Call Ratio* or *Sentence Ratio* as the dependent variable. We find an increase in the discussion of in-house production after the proposed SEC climate disclosure rule for non-SRCs relative to SRCs.[26]

In Table 7 Panel B, we present the dynamic treatment effect, based on a modified Eq. (2) using *Call Ratio* or *Sentence Ratio* as the dependent variable. In Figure 3, we plot the coefficients of the results in columns 1 and 3 of Table 7 Panel B and include 90% confidence intervals calculated based on standard errors clustered by industry. As Table 7 Panel B and Figure 3 show, all the coefficients during the pre-proposal period are indistinguishable from zero, lending support to the validity of the parallel trend assumption.

In untabulated analysis, we find that non-SRCs increase the number of employees, in particular, the number of domestic employees, after the proposed SEC climate disclosure rule, relative to SRCs. This suggests an increase in firm operations and activities in the U.S., including

call participants, leaving managers with no opportunity to mention in-house production even if there had been enhancements or future plans to do so.

[25] One advantage of using a broader sample, not restricted to Panjiva data, is that it enhances the generalizability and validity of our inferences. Non-SRCs without import records in Panjiva can still respond to Scope 3 emissions disclosures by reducing outsourcing and increasing in-house production. In analysis reported in the online appendix Table OA2, our in-house production results are consistent when using the smaller sample with available Panjiva data.

[26] We acknowledge that increased discussion of in-house production does not equate to an actual increase. Our list of key words includes more general ones such as "firm boundary", "in-house production", and "in-house manufacturing" which might not necessarily represent an increase in production. However, many words such as "acquire suppliers", "vertical acquisitions", "reduce outsourcing", "outsource less", and their variations could.

production. While this alone is not conclusive evidence, it aligns with an increase in in-house production when combined with our earlier analysis of earnings calls.

## 5. Effect of the Proposed Rule on Other Actions Taken by Non-SRCs

### *5.1 Effect on environmental outcomes*

We examine how the threat of SEC climate disclosure induces real changes to non-SRCs' environmental outcomes that could potentially reduce GHG emissions. First, we obtain data on a series of environmental activities from Refinitiv ESG, including environmental supply chain management (*Envi Supply Chain Mgmt*), environmental products (*Envi Product*), environmental materials sourcing (*Envi Materials Sourcing*), and ESG innovation score (*ESG Innovation*).[27] Table 8 Panel A presents the results estimating a modified Eq. (1) using these proxies for environmental activities as dependent variables. These results suggest that non-SRCs engage in more environmental activities after the SEC's proposed disclosure rule, relative to SRCs.

Second, we examine pollution behavior in a subset of manufacturing firms. Under the Emergency Planning and Community Right to Know Act, manufacturing plants (SIC codes 2000-3999) with more than 10 full-time employees are required to report the amount and number of toxic chemicals released into the air, water, or land.[28] Following Lyu et al. (2022), we construct pollution proxies using data from the U.S. EPA TRI Program, including toxic releases intensity (*Toxic Releases/Production*, *Toxic Releases/Sale*), the number of polluting plants (*Num Polluting Plants*), and the number of chemicals emitted (*Num Chemicals*), manually matching firm names between TRI and Compustat. As reported in Table 8 Panel B, non-SRCs reduce polluting behavior across all three proxies during the post-period, compared to SRCs. Overall, the results in Table 8

[27] In untabulated analysis, we use environmental pillar ratings or overall ESG ratings as the dependent variable and find consistent evidence that non-SRCs' ratings increase after the SEC proposal, relative to SRCs.
[28] See https://www.govinfo.gov/content/pkg/USCODE-2019-title42/html/USCODE-2019-title42-chap116.htm.

suggest that the proposed SEC rule incentivizes non-SRCs to undertake real environmental efforts such as increasing environmental products and materials and reducing pollution.

*5.2 Effect on downstream supply chain activities*

Our results provide evidence on how non-SRCs reduce upstream Scope 3 emissions, however firms may also implement strategies to reduce their downstream Scope 3 emissions. The extent of control over emissions differs between upstream and downstream operations. Firms likely exert greater direct control over emissions when shifting from outsourcing to in-house production (upstream), whereas downstream Scope 3 emission reductions are more heavily determined by end-user behavior. Thus, we focus on upstream operations in our main analysis. Moreover, there is no data on GHG emissions from downstream activities such as end-of-life waste and emissions from customer use. Nevertheless, we examine non-SRCs' downstream activities indirectly by examining their environmental scores from S&P Global ESG database in downstream-related areas of plastic packaging, waste disposal, and product design. As reported in Table 9, we find that non-SRCs exhibit an improvement in these environmental scores relative to SRCs. This indirect evidence complements our evidence in the main analysis and points to a broader approach to Scope 3 mitigation, but further research is needed to fully understand the impact of these strategies.

*5.3 Effect on the source of import activity*

If firms seek to reduce their Scope 3 GHG emissions, they will reduce sourcing from countries with higher levels of pollution relative to countries with lower levels. We construct two subsamples based on the source of import activity, partitioning on whether imports originate from countries with higher or lower levels of pollution. We measure the level of pollution measured as PM2.5 concentrations in 2021 as reported by IQAir. Countries in the bottom tercile (pollution less

than 13.2 μg/$m^3$, where 5 μg/$m^3$ or lower meets WHO guidelines) are classified as "low pollution" and all other countries, "high pollution". As Table 10 shows, comparing imports from "low pollution" versus "high pollution" countries, we find that import reductions from "high pollution" countries are statistically greater than "low pollution" countries, consistent with our prediction.

## 6. Robustness Tests

### *6.1 Import measure issues*

In our main analyses, we do not use the dollar value of imports as the dependent variable, because coverage of import dollar value in the Panjiva U.S. import data is incomplete. We test the robustness of our analyses using an alternative measure of import intensity that approximates dollar value. Following recent studies (Jain et al. 2014; Hsu et al. 2023; Jain and Wu 2023; Cen et al. 2024a), we impute missing import dollar value by using the average value-to-weight ratio of each import country-HS code-year pair. When this condition is not met, we repeat the process using the average value-to-weight ratio at the import country-firm-year level, and if needed, at the import country-two digit SIC industry-year level and import country-one digit SIC industry-year level. With the data limitation in mind, we use this value of imports (*Import Value/Sale*) as the dependent variable to re-estimate our main and cross-sectional tests. Overall, the results, reported in Table OA3 of the online appendix, are consistent with our main inferences.

To mitigate the concern that our import measure does not fully capture the shipments via land transportation, we exclude firms in automotive related businesses (SIC codes 3711, 3713, 3714, 5010, 5012, 5013, 5500-5599, and 7500-7599), as automotive products have a major portion of trade via land transportation within North America (Hsu et al. 2023). In an additional test, we restrict our sample to firms with at least one shipment record during our sample period. The results, reported in the online appendix Table OA4, suggest that our main inferences remain consistent.

*6.2 Difference between non-SRCs and SRCs as an alternative explanation*

To alleviate the concern that size disparities between non-SRCs and SRCs may drive the results, we construct an alternative control sample using large private firms. Large private firms are more similar to non-SRCs in terms of size but are not subject to the proposed SEC disclosure rule. We hand-collect fundamental data for private firms from Capital IQ (e.g., Gao et al. 2013; Gao et al. 2017). To more closely approximate non-SRC firm size, we start with private firms with annual sales exceeding $100 million. After performing fuzzy name matching (with manual inspection) between private firms collected from Capital IQ and firms in Panjiva, we combine them with treated public firms with annual sales above $100 million in our main sample to create a firm-year level sample comprising both large private and public firms. Untabulated descriptive statistics suggest that these private firms (i.e., control firms) and public firms (i.e., treated firms) have similar firm-level characteristics, such as import activities, firm size, and financial leverage. As reported in the online appendix Table OA5 Panel A, we estimate Eq. (1) using this alternative sample and find that public firms subject to the proposed SEC climate disclosure rule reduce their foreign imports, relative to their large private counterparts. We plot the coefficients of the results estimating a modified Eq. (2) using this alternative sample and find that the coefficients during the pre-proposal period are not distinguishable from zero, suggesting the parallel trend assumption is not violated (see online appendix Figure OA1).

Second, we employ entropy balancing approach to reweight our treated sample and control sample by matching firms on the dependent variable in the pre-period and all control variables except for firm size in our main analyses with 0.01 tolerance (Hainmueller 2012; McMullin and Schonberger 2020, 2022).[29] The results based on an entropy balanced matched sample (reported

[29] We balance on the first, second and third moments. We cannot implement entropy balancing for firm size due to substantial difference between our treated and control firms, based on their definitions.

in the online appendix Table OA5 Panel B) yield consistent evidence. In addition, we further control for the squared value of firm size to allow for nonlinearities and get similar results.

Third, we compare non-SRCs with public float that is just above the $250 million threshold (i.e., within $100 million above) to SRCs just below the threshold (i.e., within $100 million below) on the assumption that these non-SRCs and SRCs are more similar except for the proposed disclosure requirements. We continue to find reduced imports in the post-period for non-SRCs (reported in the online appendix Table OA5 Panel C).

Finally, to further address concerns that firm size disparities between non-SRCs and SRCs may drive our results, we conduct placebo tests using alternative public float thresholds to classify treated and control firms. Specifically, we limit our sample to firms with public float above the SRC threshold of $250 million, and then classify these firms into placebo-treated and control groups based on the sample median or bottom tercile of public float. As reported in the online appendix Table OA5 Panels D and E, we do not find statistically significant differences in import reduction between these placebo-treated and control firms, alleviating concerns regarding the potential impact of firm size differences on our results.

*6.3 Potential macroeconomic events affecting temporal shifts in foreign outsourcing*

During our study period, there were macroeconomic events in the U.S. that potentially motivated firms to "reshore" production, leading to reduction in imports. For these events to be solely responsible for our findings, they would need to differentially impact non-SRCs and explain all our cross-sectional results. For example, the event would need to create dissimilar incentives for non-SRCs and SRCs to import from overseas, and especially when the non-SRCs and SRCs have greater Scope 3 emissions, more strongly oppose the proposed SEC rule around Scope 3 emissions disclosures, and did not voluntary disclose GHG emissions. Given that these cross-

sectional cuts are specific to change in climate-related disclosures, it is not immediately obvious that macroeconomic events can explain all our findings. Nonetheless, we consider some notable events during our sample period, and conduct tests to rule out alternative explanations.

First, Brexit officially began in 2020 and may have impacted imports from the U.K. We repeat our main analyses excluding imports from the U.K. and find our main conclusions remain (online appendix Table OA6 Panel A). Second, the imposition of import tariffs in 2018 and 2019, particularly on goods from China, impacted imports in our sample period. If firms respond to the tariffs, we would observe a reduction in imports during and shortly after 2018 and 2019. However, our results indicate a reduction in the post-period (2021 to 2023) compared to the pre-period (2018 to 2020) during which the tariffs were levied.[30] Nevertheless, we repeat our main analyses excluding imports from China and our results remain (online appendix Table OA6 Panel B).

Third, the supply chain disruptions that occurred during the COVID-19 pandemic could have led to decreased imports. Even if firms' imports were not directly affected, the disruptions highlighted negative impacts of reliance on overseas suppliers and may have encouraged U.S. firms to reduce imports from foreign suppliers. To rule this out, we focus on imports from Canada and Mexico because the supply chain disruptions were less severe for non-transoceanic transportation routes. Our inferences remain (online appendix Table OA6 Panel C). To further mitigate potential confounding effects of COVID-19, we limit our sample period to years 2020-2023, designating 2022 onwards as the treatment years, given the SEC's issuance of the climate disclosure proposal in March 2022. According to U.S. monthly import data from the U.S. Census Bureau, foreign imports declined in 2020 but rebounded starting in 2021. If the pandemic was the

[30] It is possible that the tariff effect was delayed by a few years, resulting in an import reduction only beginning from 2021. However, according to estimates from the Tax Foundation, the dollar value of imports was lowest in 2020 and was back to above 2018 levels by 2021 and 2022. See https://taxfoundation.org/research/all/federal/tariffs-trump-trade-war/ (accessed on December 6, 2023).

primary driver of our results, we would not expect to observe a continuous decline during the new post-treatment period (i.e., years 2022-2023). Nevertheless, we find a significant decline in imports among non-SRCs relative to SRCs in 2022-2023 (online appendix Table OA6 Panel D). These findings provide additional assurance that COVID-19 is unlikely to explain our inferences.

Collectively, these macroeconomic events are unlikely to explain our results entirely. However, we acknowledge that these events likely impact import activity in our sample period and are not a comprehensive list of macroeconomic events occurring in the period.[31] Therefore, to further strengthen our inferences, we conduct a placebo test, which is described in the next section.

Our main tests exclude foreign imports from firms' subsidiaries as these Scope 1 emissions are unaffected by Scope 3 disclosure requirements. If macroeconomic factors explain a decrease in foreign imports by non-SRCs, we should observe a similar decrease in imports from the firms' own subsidiaries. By contrast, if the SEC's proposed Scope 3 disclosure requirement explains non-SRCs' reduction in foreign imports, there would be no decrease in imports from subsidiaries. As subsidiaries' GHG emissions would already be included in Scope 1 emissions, the requirement to disclose Scope 3 emissions should not alter firms' behaviors with respect to subsidiary imports. In tests where we replace our dependent variable with only subsidiary, and not all, imports (online appendix Table OA6 Panel E), we find no statistically significant reduction, further supporting our main hypothesis.

## 7. Conclusion

We examine changes in firms' supply chain decisions following proposed Scope 3 emissions disclosures, using the SEC's March 2021 statement requesting input for climate-related

[31] For example, the CHIPS and Science Act that was signed into law in August 2022 provided funding for the development of a domestic infrastructure for semiconductor production; firms may have begun reshoring in anticipation.

disclosures as a shock to the probability that Scope 3 emissions disclosures would be mandated. Using a difference-in-differences design, we compare the import activity of affected (non-SRCs) to unaffected (SRCs) firms before and after the public indication of the proposed SEC Scope 3 disclosure requirement. We find a decrease in import activity for non-SRCs relative to SRCs, implying that the proposed disclosure creates costs that make foreign outsourcing less favorable.

In cross-sectional tests, we find our results concentrate among non-SRCs with greater incentives to reduce foreign outsourcing in response to proposed Scope 3 disclosures, including those with material Scope 3 emissions, those not voluntarily disclosing emissions information, and those in industries with fewer supportive comments on the mandated Scope 3 disclosures in the SEC's proposal. In a second set of cross-sectional tests, our main results concentrate among non-SRCs with higher ability to reduce foreign outsourcing to respond to proposed Scope 3 disclosures, including those less relying on imports of minerals, and those with excess production capacity. These findings suggest that the results are mainly present among non-SRCs that find disclosure of Scope 3 emissions to be particularly costly and those that are better able to reduce foreign outsourcing, allowing us to better attribute the change in import activity to proposed Scope 3 disclosures. We also find that the reduction in foreign outsourcing is more pronounced among non-SRCs facing Scope 3 disclosure pressures from multiple jurisdictions (i.e., non-SRCs with operations in both the EU and California). Finally, we provide evidence that non-SRCs also increase their in-house production and number of employees, as well as exhibit greater improvements in environmental efforts, compared to SRCs.

Our study contributes to the literature on the real effects of ESG disclosure by providing evidence of change in firms' supply chain decisions in anticipation of more expansive disclosure requirement. Our findings highlight the sensitivity of firms to proposed disclosure requirements

that would render their existing strategies less effective, and should be of interest to a broad range of stakeholders, including regulators and policymakers.

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**Appendix A**
Variable definitions

This table provides a detailed description of the procedures used to compute each variable used in the analyses. The data are obtained through the S&P Panjiva, Refinitiv ESG, U.S. Environmental Protection Agency (EPA), S&P Trucost, S&P Capital IQ, Compustat, U.S. Securities and Exchange Commission (SEC), Exhibit 21, and Net Zero Tracker. All continuous variables are winsorized at the 1st and 99th percentiles of their distributions.

Primary dependent variables:

| Variable | Definition |
|---|---|
| *Import Volume/Sale* | The firm's import volume of shipments from foreign countries, measured in twenty-foot equivalent unit, scaled by sales for the current fiscal year. This measure is multiplied by 100 for ease of interpretation. |
| *Import Weight/Sale* | The firm's import weight of shipments from foreign countries, measured in million kilograms, scaled by sales for the current fiscal year. This measure is multiplied by 10,000 for ease of interpretation. |

Primary independent and control variables:

| Variable | Definition |
|---|---|
| *Treat* | An indicator variable equal to one if the firm is categorized as a non-smaller reporting company (non-SRC), and zero otherwise. We categorize a firm as a SRC if it satisfies any of the following conditions: (1) the firm has public float of less than $250 million; (2) the firm has less than $100 million in annual revenues and no public float or public float of less than $700 million. |
| *Post* | An indicator variable equal to one for fiscal year 2021 and onwards, and zero otherwise. |
| *Size* | The natural log of the firm's book value of assets at the prior fiscal year-end. |
| *Lev* | The firm's long-term debt and short-term debt scaled by total assets at the prior fiscal year-end. |
| *Cash* | The firm's cash and short-term investments scaled by total assets at the prior fiscal year-end. |
| *ROA* | The firm's net income for the current fiscal year scaled by total assets at the prior fiscal year-end. |
| *PPE* | The firm's net property, plant, and equipment scaled by total assets at the prior fiscal year-end. |
| *Sales Growth* | The growth rate of the firm's sales for the current fiscal year relative to sales for the prior fiscal year. |

Additional dependent variables:

| Variable | Definition |
|---|---|
| *Call Ratio* | The number of in-house production-related earnings conference calls scaled by total number of earnings conference calls hosted by the firm for the current fiscal year. An in-house production-related earnings conference call is defined as an earnings conference call mentioning at least one of the keywords on in-house production in its presentation part: "vertical integration", "vertically integrated", "acquire suppliers", "vertical acquisition", "firm boundary", "in-house production", "in-house manufacturing", "reduce outsourcing", "outsource less", with variations (i.e. adding "s", "ed", or "ing"). |
| *Sentence Ratio* | The number of sentences on in-house production scaled by total number of sentences in the presentation part of earnings conference calls hosted by the firm for the current fiscal year. The ratio is multiplied by 100 for ease of interpretation. |
| *Envi Supply Chain Mgmt* | The firm's environmental supply chain management score for the current fiscal year. |
| *Envi Product* | The firm's environmental products score for the current fiscal year. |
| *Envi Materials Sourcing* | The firm's environmental materials sourcing score for the current fiscal year. |
| *ESG Innovation* | The firm's ESG innovation score for the current fiscal year. |

| | |
|---|---|
| *Toxic Releases/Production* | The firm's toxic release amount scaled by the summation of cost of goods sold and the change in total inventory for the current fiscal year. |
| *Toxic Releases/Sale* | The firm's toxic release amount scaled by sales for the current fiscal year. |
| *Num Polluting Plants* | The firm's number of polluting plants for the current fiscal year. |
| *Num Chemicals* | The firm's number of polluting chemicals emitted for the current fiscal year. |
| *Product Design Criteria* | The firm's product design criteria score for the current fiscal year. |
| *Life Cycle Assessment* | The firm's life cycle assessment score for the current fiscal year. |
| *Plastic Packaging* | The firm's plastic packaging score for the current fiscal year. |
| *Waste Disposal* | The firm's waste disposal score for the current fiscal year. |
| *Import Value/Sale* | The firm's import dollar value of shipments from foreign countries, measured in million USD, scaled by sales for the current fiscal year. This measure is multiplied by 100 for ease of interpretation. |

Additional independent and control variables:

| Variable | Definition |
|---|---|
| *Supply Chain GHG Emission Factor* | NAICS-6 industry level supply chain GHG emission factors developed by the U.S. EPA. |
| *Voluntary GHG Emissions Disc* | An indicator variable equal to one if the firm voluntarily discloses GHG emissions, and zero otherwise. |
| *GHG Reduction Target* | An indicator variable equal to one if the firm has a GHG reduction target, and zero otherwise, based on the data from the Net Zero Tracker and Refinitiv ESG. |
| *Support Comments* | The number of firms issuing comments supportive of mandating Scope 3 emissions disclosures within each two-digit SIC industry. |
| *Mineral Reliance* | The import of minerals scaled by total imports from foreign countries within each two-digit SIC industry, measured in twenty-foot equivalent unit. Minerals are defined based on two-digit Harmonized System (HS) codes 25-28 and 81. |
| *Production Capacity* | The firm's sales for the current fiscal year scaled by total property, plant, and equipment at the prior fiscal year-end. This measure is adjusted by four-digit SIC industry × fiscal year level mean and standard deviation. |
| *EU&CA Operation* | An indicator variable equal to one if a firm operates in both the EU and California during the pre-proposal period (2018-2020), and zero otherwise. A firm is classified as operating in the EU if it satisfies any of the following conditions: (i) it is headquartered in the EU; (ii) it has at least one subsidiary in the EU; (iii) it has at least one segment in the EU. A firm is classified as operating in California if it satisfies any of the following conditions: (i) it is headquartered in California; (ii) it has at least one subsidiary in California; (iii) it has at least one factory in California. |
| *Pollution in Supplier Countries* | An indicator variable equal to one if the firm's imports come from a country that has PM2.5 concentrations higher than the sample bottom tercile in 2021 (13.2 $\mu g/m^3$). PM2.5 concentration data are obtained from IQAir (https://www.iqair.com/us/world-most-polluted-countries). |
| *Placebo Treat 1* | An indicator variable equal to one if a firm has public float larger than the sample median, and zero otherwise. The sample is limited to firms with public float above the SRC threshold of $250 million. |
| *Placebo Treat 2* | An indicator variable equal to one if a firm has public float larger than the sample bottom tercile, and zero otherwise. The sample is limited to firms with public float above the SRC threshold of $250 million. |

**Appendix B**
Examples of comments issued by public companies on the SEC climate disclosure proposal

**Example 1: Supportive of the SEC proposal in general and the inclusion of Scope 3 emissions in particular**

Excerpts from Alphabet, Autodesk, Dropbox, eBay, Hewlett Packard Enterprise, HP Inc., Intel, Meta, PayPal, and Workday's joint comments:

We support regular and consistent reporting of climate-related matters to complement the significant actions we each are taking to address climate change. We each already voluntarily report our Scope 1, 2, and 3 greenhouse gas ("GHG") emissions footprints, recognizing that Scope 3 involves a significant level of estimation, relies heavily on third party data, and is a nascent, fast-evolving category. We believe that it is critical to regularly measure and report on our progress towards our climate goals and to share updates with investors and other stakeholders.

We welcome the SEC's leadership on climate action and we are supportive of the SEC's efforts to establish required climate-related disclosures. Investors need consistent, comparable, and reliable information on the material risks and impacts of climate-related events and transition activities on a registrant's consolidated financial position. Investors are also asking for transparent and useful information around registrants' impact on climate change, such as emissions footprints and companies' abilities and efforts to reduce their carbon footprint. Such disclosures are effective when they provide investors and other stakeholders with useful information that informs decision making, in a manner that enables comparability across companies, and that balances the benefits with the operational costs to provide such information.

**Example 2: Supportive of the SEC proposal in general but not the inclusion of Scope 3 emissions**

Excerpts from Hydro One Limited's comments:

Hydro One recognizes and supports the importance of transparent and standardized ESG reporting. We support the SEC's decision to leverage the TCFD framework which is widely used and accepted by many companies, financial institutions, and investors. Providing climate related disclosures in accordance with the TCFD recommendations provides us a framework with which to report our work on reducing our carbon footprint and creating a resilient grid for the future.

We believe that disclosure of GHG emissions by an issuer, be it Scope 1, Scope 2, Scope 3, or a combination thereof, should be based on materiality. We believe that reporting of Scope 3 emissions should not be required for upstream and downstream value chain emissions over which the issuer has no control or influence, and it may be double-reported with disclosures reported by other issuers who have direct control over these GHG emission sources. If the SEC requires issuers to disclose Scope 3 emissions, we believe this process would be labour intensive and expensive for many organizations, including Hydro One. We believe that the labour and financial commitment needed to disclose Scope 3 emissions would be better spent on adapting to climate change and mitigating GHG emission impacts that are under the direct control of organizations.

**Example 3: Unsupportive of the SEC proposal**

Excerpts from Brigham Exploration Company's comments:

The SEC's proposed rule would be devastating to the country's oil and gas sector at a time when the domestic supply is as important as ever. The proposed rule would be tremendously burdensome and inherently unworkable for the publicly traded companies directly subject to its reporting requirements, as no doubt will be addressed by comments from those companies… The Commission has an obligation to consider all costs and benefits of its proposed rules. As noted above, however, it has failed to consider many of the indirect costs and economic repercussions of the proposal, particularly on privately held companies in the energy sector.

**Figure 1**
Timeline of the progression of reporting regulations across different jurisdictions

This figure presents the timelines detailing the progression of reporting regulations across different jurisdictions: the European Union Corporate Sustainability Reporting Directive (CSRD), California Climate Corporate Accountability Act (SB 253), and the SEC climate disclosure rule.

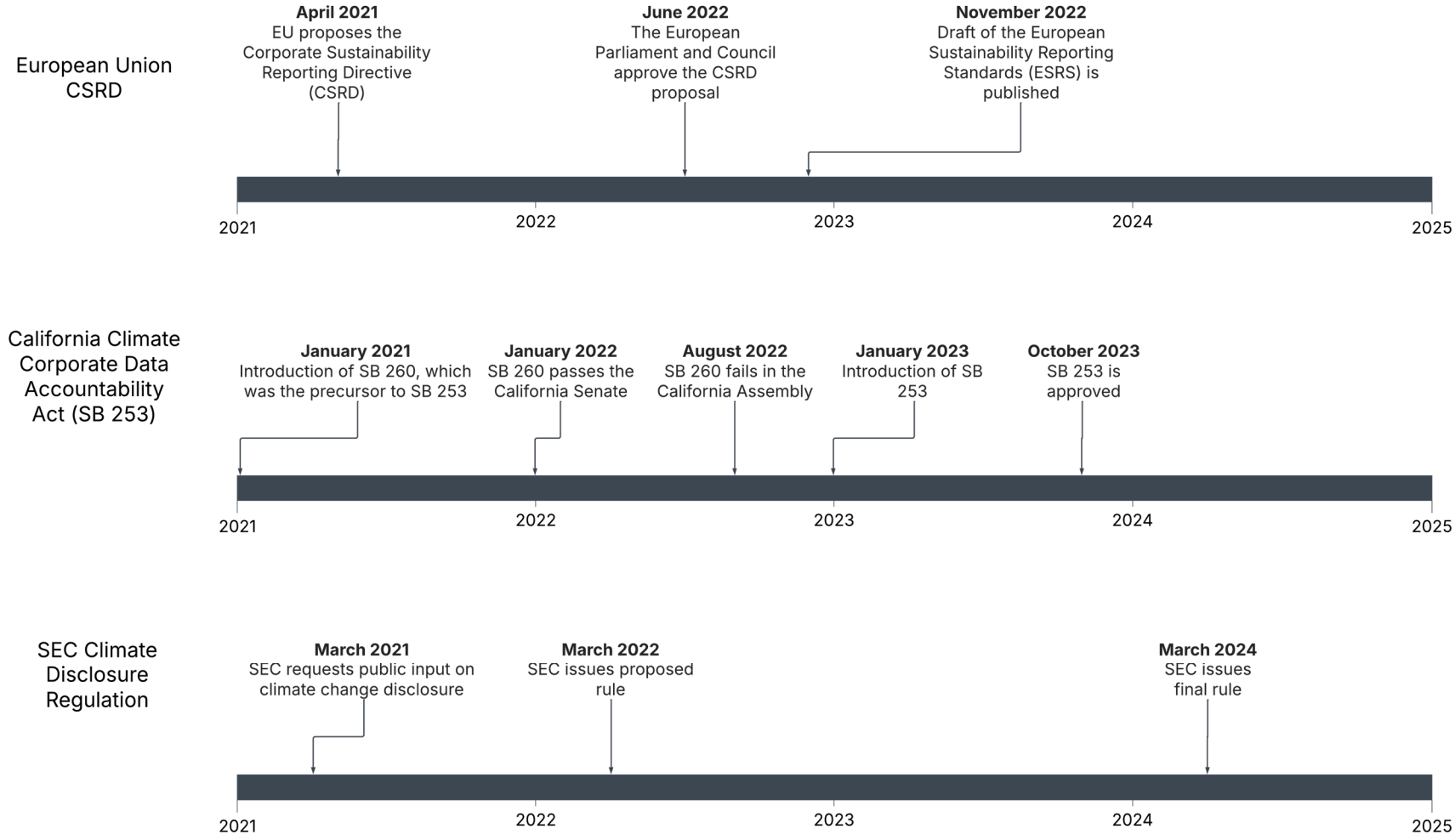
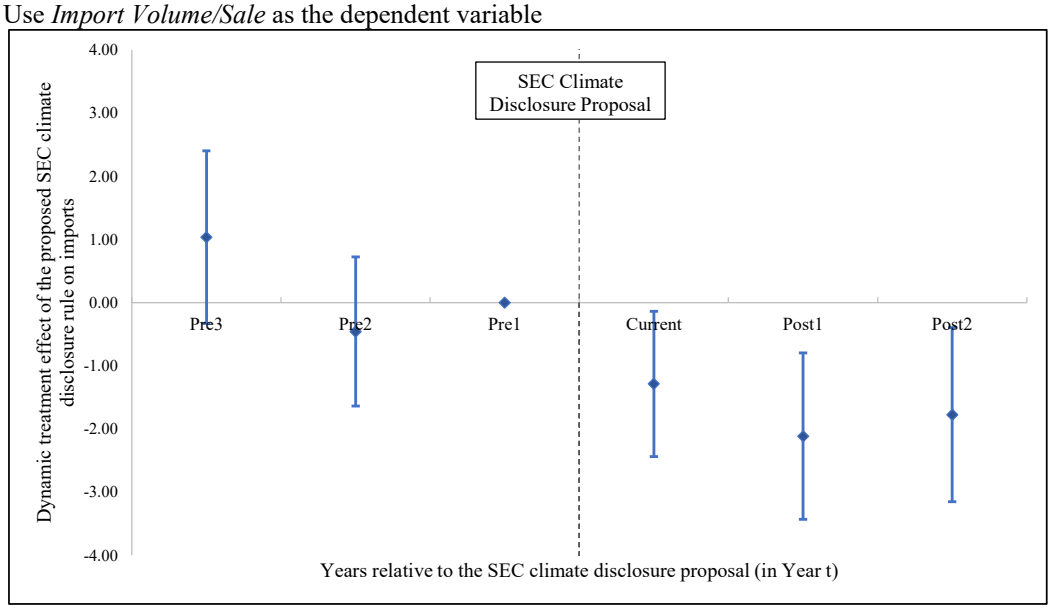


**Figure 2**
Dynamic treatment effect of the proposed SEC climate disclosure rule on imports

The figure in Panel A (B) below reports the coefficients of an ordinary least squares regression investigating the effect of the proposed SEC climate disclosure rule on imports in event time, using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Formally, we estimate $Import_{i,t} = \alpha + \beta_1\ Treat_i \times Pre3_t + \beta_2\ Treat_i \times Pre2_t + \beta_3\ Treat_i \times Current_t + \beta_4\ Treat_i \times Post1_t + \beta_5\ Treat_i \times Post2_t + \beta_k Controls + \delta_i + \gamma_t + \epsilon_{i,t}$, where $\delta_i$ and $\gamma_t$ represent firm and fiscal year fixed effects, respectively. In each panel, *Pre3* (*Pre2*, *Current*, *Post1*, *Post2*) is an indicator variable equal to one for fiscal year 2018 (2019, 2021, 2022, 2023), and zero otherwise. Each point estimate is accompanied by a 90% confidence interval calculated based on standard errors clustered by industry. Note that *Pre1* has a coefficient of zero and no confidence interval as it serves as the benchmark period. All variables are defined in Appendix A.

Panel A: Use *Import Volume/Sale* as the dependent variable




Panel B: Use *Import Weight/Sale* as the dependent variable

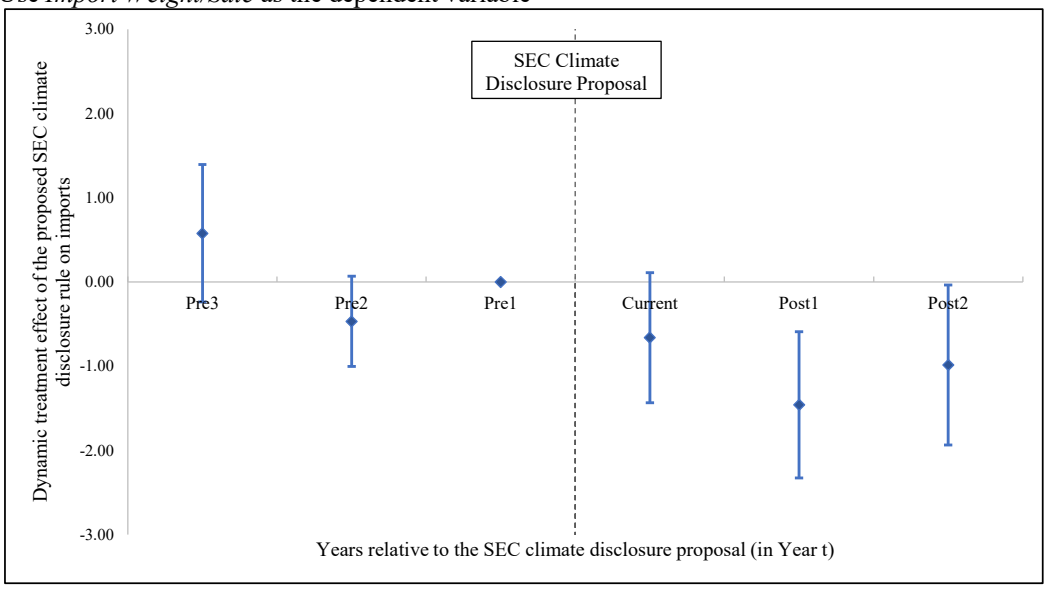
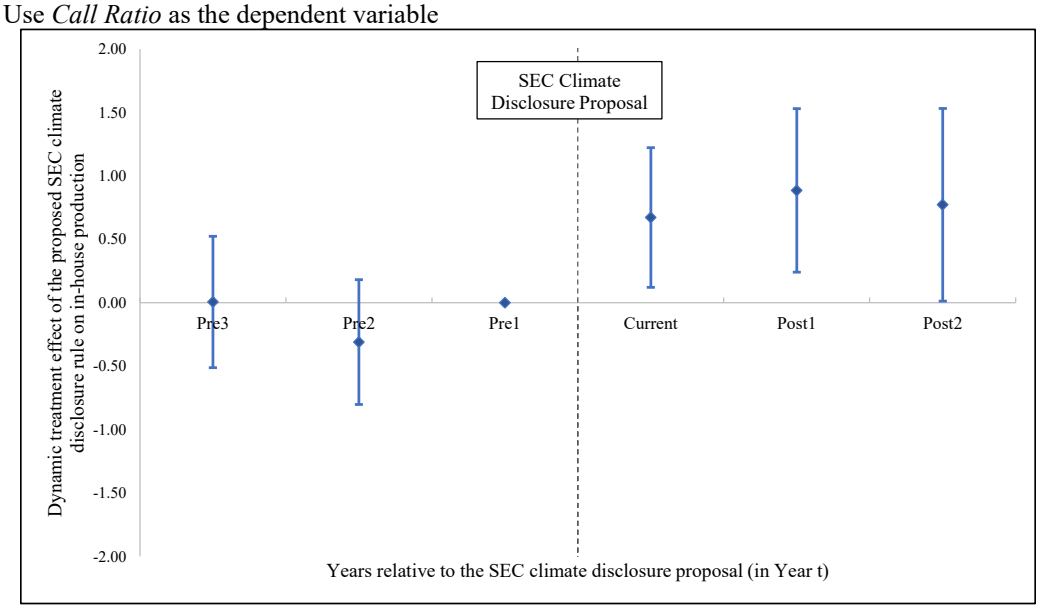


**Figure 3**
Dynamic treatment effect of the proposed SEC climate disclosure rule on in-house production

The figure in Panel A (B) below reports the coefficients of an ordinary least squares regression investigating the effect of the proposed SEC climate disclosure rule on in-house production in event time, using *Call Ratio/Sale* (*Sentence Ratio*) as the dependent variable. Formally, we estimate $In\text{-}House\ Production_{i,t} = \alpha + \beta_1\ Treat_i \times Pre3_t + \beta_2\ Treat_i \times Pre2_t + \beta_3\ Treat_i \times Current_t + \beta_4\ Treat_i \times Post1_t + \beta_5\ Treat_i \times Post2_t + \beta_k Controls + \delta_i + \gamma_t + \epsilon_{i,t}$, where $\delta_i$ and $\gamma_t$ represent firm and fiscal year fixed effects, respectively. In each panel, *Pre3* (*Pre2*, *Current*, *Post1*, *Post2*) is an indicator variable equal to one for fiscal year 2018 (2019, 2021, 2022, 2023), and zero otherwise. Each point estimate is accompanied by a 90% confidence interval calculated based on standard errors clustered by industry. Note that *Pre1* has a coefficient of zero and no confidence interval as it serves as the benchmark period. All variables are defined in Appendix A.

Panel A: Use *Call Ratio* as the dependent variable




Panel B: Use *Sentence Ratio* as the dependent variable

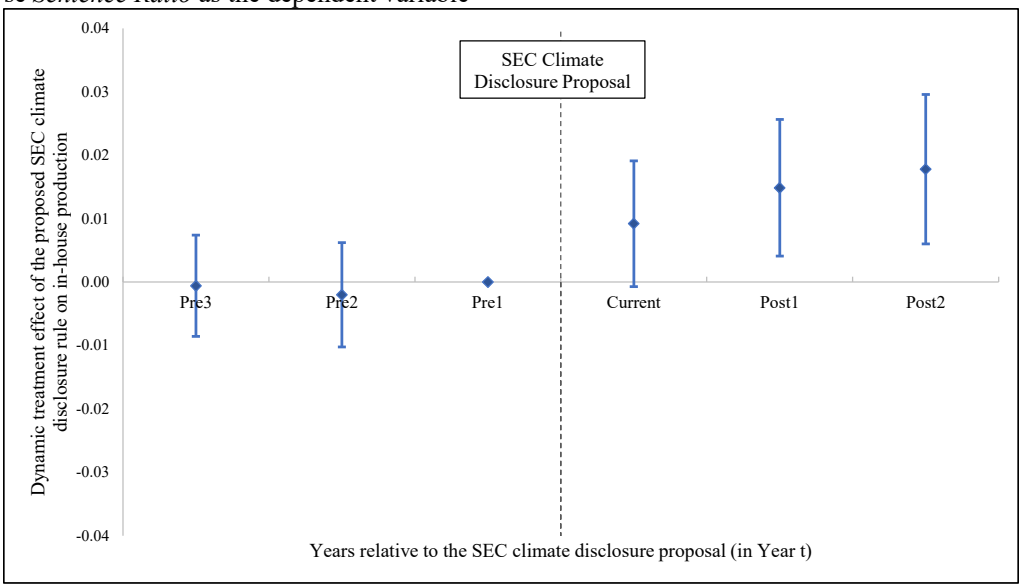


**Table 1**
Sample selection

| Description | No. of firm-years dropped | No. of firm-years remaining |
|---|---|---|
| All fiscal firm-years in Compustat over 2018-2023 | | 71,403 |
| Exclude financial firms (SIC codes 6000-6999) | (32,060) | 39,343 |
| Exclude firm-years with negative sales, missing sales, or missing control variables | (9,903) | 29,440 |
| Exclude firms without consistent classification of smaller reporting companies | (5,366) | 24,074 |
| Exclude carriers and logistics firms | (104) | 23,970 |
| Exclude firms without observations in pre- or post- periods | (3,270) | 20,700 |
| Exclude firms without Panjiva IDs or in 4-digit SIC industries without imports | (8,624) | 12,076 |
| Final sample of firm-years | | **12,076** |
| Final sample of unique firms | | **2,189** |

**Table 2**
Summary statistics

This table presents descriptive information for the sample and variables of interest. The sample consists of firm-years with the necessary data for the import tests during the fiscal years 2018 to 2023. Details of variable construction are contained in Appendix A.

| Variables | N | Mean | SD | P25 | P50 | P75 |
|---|---|---|---|---|---|---|
| Primary dependent variables: | | | | | | |
| *Import Volume/Sale* | 12,076 | 6.029 | 21.982 | 0.000 | 0.000 | 0.375 |
| *Import Weight/Sale* | 12,076 | 3.963 | 14.502 | 0.000 | 0.000 | 0.213 |
| Primary independent variables: | | | | | | |
| *Treat* | 12,076 | 0.720 | 0.449 | 0.000 | 1.000 | 1.000 |
| *Post* | 12,076 | 0.492 | 0.500 | 0.000 | 0.000 | 1.000 |
| *Size* | 12,076 | 7.301 | 2.575 | 5.691 | 7.637 | 9.145 |
| *Lev* | 12,076 | 0.304 | 0.273 | 0.113 | 0.271 | 0.417 |
| *Cash* | 12,076 | 0.194 | 0.213 | 0.042 | 0.112 | 0.268 |
| *ROA* | 12,076 | -0.042 | 0.318 | -0.037 | 0.034 | 0.083 |
| *PPE* | 12,076 | 0.270 | 0.238 | 0.086 | 0.186 | 0.396 |
| *Sales Growth* | 12,076 | 0.141 | 0.483 | -0.039 | 0.064 | 0.192 |

**Table 3**
Effect of the proposed SEC climate disclosure rule on imports

This table presents the results examining the effect of the proposed SEC climate disclosure rule on imports. Panel A (B) shows the results of the average (dynamic) treatment effect. Panel C (D) shows the results for treated (control) firms only. In Panels A-B, columns 1-3 (4-6) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. In Panels A-B, columns 1, 2, 4, and 5 include firm and fiscal year fixed effects, and columns 3 and 6 include firm and industry × fiscal year fixed effects. In Panels C-D, columns 1-2 (3-4) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable, and all columns include firm fixed effects. The sample consists of firm-year observations from 2018-2023. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Average treatment effect

| Dependent variable: | | *Import Volume/Sale* | | | *Import Weight/Sale* | | |
|---|---|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) |
| *Treat × Post* | - | -2.075*** | -1.873*** | -1.854*** | -1.166*** | -1.047*** | -1.012** |
| | | (-3.42) | (-3.03) | (-2.86) | (-2.98) | (-2.76) | (-2.63) |
| *Size* | | | 0.033 | -0.005 | | -0.123 | -0.169 |
| | | | (0.07) | (-0.01) | | (-0.39) | (-0.54) |
| *Lev* | | | -2.327** | -2.005** | | -1.185** | -1.092** |
| | | | (-2.59) | (-2.26) | | (-2.32) | (-2.11) |
| *Cash* | | | 2.324 | 2.169 | | 0.966 | 0.784 |
| | | | (0.71) | (0.65) | | (0.51) | (0.40) |
| *ROA* | | | 1.207 | 1.475* | | 0.902** | 0.953** |
| | | | (1.64) | (1.92) | | (2.14) | (2.21) |
| *PPE* | | | 4.169 | 4.460 | | 2.031 | 1.912 |
| | | | (1.17) | (1.23) | | (0.84) | (0.77) |
| *Sales Growth* | | | -0.380 | -0.372 | | -0.202 | -0.247* |
| | | | (-1.04) | (-1.10) | | (-1.22) | (-1.80) |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | Yes | Yes | No |
| Year × Industry FE | | No | No | Yes | No | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12076 | 12068 | 12076 | 12076 | 12068 |
| Adj. R-Squared | | 0.678 | 0.679 | 0.684 | 0.722 | 0.722 | 0.728 |

**Table 3 (continued)**

Panel B: Dynamic treatment effect

| Dependent variable: | | *Import Volume/Sale* | | | *Import Weight/Sale* | | |
|---|---|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) |
| *Treat × Pre3* | 0 | 1.027 | 1.035 | 1.130 | 0.610 | 0.578 | 0.592 |
| | | (1.25) | (1.27) | (1.30) | (1.22) | (1.19) | (1.13) |
| *Treat × Pre2* | 0 | -0.471 | -0.457 | -0.445 | -0.446 | -0.467 | -0.494 |
| | | (-0.65) | (-0.65) | (-0.65) | (-1.36) | (-1.46) | (-1.39) |
| *Treat × Current* | 0/- | -1.420* | -1.288* | -1.320** | -0.724 | -0.662 | -0.740* |
| | | (-1.94) | (-1.87) | (-2.13) | (-1.49) | (-1.44) | (-1.78) |
| *Treat × Post1* | - | -2.394*** | -2.113*** | -2.093*** | -1.592*** | -1.460*** | -1.469*** |
| | | (-2.89) | (-2.68) | (-2.91) | (-3.03) | (-2.82) | (-2.98) |
| *Treat × Post2* | - | -1.983** | -1.774** | -1.574* | -1.094** | -0.986* | -0.765 |
| | | (-2.53) | (-2.16) | (-1.68) | (-2.02) | (-1.74) | (-1.18) |
| *Size* | | | 0.055 | 0.019 | | -0.115 | -0.163 |
| | | | (0.12) | (0.04) | | (-0.37) | (-0.52) |
| *Lev* | | | -2.313** | -2.003** | | -1.165** | -1.079** |
| | | | (-2.55) | (-2.23) | | (-2.27) | (-2.08) |
| *Cash* | | | 2.252 | 2.098 | | 0.896 | 0.722 |
| | | | (0.69) | (0.64) | | (0.47) | (0.37) |
| *ROA* | | | 1.166 | 1.438* | | 0.881** | 0.937** |
| | | | (1.57) | (1.86) | | (2.10) | (2.17) |
| *PPE* | | | 4.161 | 4.464 | | 2.041 | 1.949 |
| | | | (1.17) | (1.23) | | (0.84) | (0.79) |
| *Sales Growth* | | | -0.378 | -0.370 | | -0.201 | -0.247* |
| | | | (-1.04) | (-1.10) | | (-1.20) | (-1.81) |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | Yes | Yes | No |
| Year × Industry FE | | No | No | Yes | No | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12076 | 12068 | 12076 | 12076 | 12068 |
| Adj. R-Squared | | 0.678 | 0.679 | 0.684 | 0.722 | 0.722 | 0.728 |

Panel C: Treated firms only

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Post* | - | -1.423*** | -1.122*** | -0.795*** | -0.740*** |
| | | (-4.19) | (-2.82) | (-3.86) | (-2.95) |
| *Size* | | | -0.616 | | -0.142 |
| | | | (-1.24) | | (-0.46) |
| *Lev* | | | -4.736*** | | -2.357** |
| | | | (-2.82) | | (-2.13) |
| *Cash* | | | 1.268 | | 1.016 |
| | | | (0.50) | | (0.66) |
| *ROA* | | | 0.437 | | 0.925 |
| | | | (0.25) | | (0.82) |
| *PPE* | | | 2.232 | | 2.333 |
| | | | (0.47) | | (0.75) |
| *Sales Growth* | | | 0.166 | | 0.448 |
| | | | (0.39) | | (1.60) |
| Firm FE | | Yes | Yes | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 8696 | 8696 | 8696 | 8696 |
| Adj. R-Squared | | 0.675 | 0.675 | 0.717 | 0.717 |

**Table 3 (continued)**

Panel D: Control firms only

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Post* | 0 | 0.733 | 0.279 | 0.419 | 0.315 |
| | | (1.02) | (0.39) | (0.98) | (0.72) |
| *Size* | | | 0.535 | | -0.237 |
| | | | (0.54) | | (-0.53) |
| *Lev* | | | -0.603 | | -0.636 |
| | | | (-0.37) | | (-0.78) |
| *Cash* | | | 5.772** | | 2.498 |
| | | | (2.11) | | (1.55) |
| *ROA* | | | 1.336 | | 1.027* |
| | | | (1.22) | | (1.86) |
| *PPE* | | | 7.842 | | 3.166 |
| | | | (1.52) | | (1.06) |
| *Sales Growth* | | | -0.364 | | -0.323 |
| | | | (-0.72) | | (-1.56) |
| Firm FE | | Yes | Yes | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 3380 | 3380 | 3380 | 3380 |
| Adj. R-Squared | | 0.676 | 0.676 | 0.723 | 0.723 |

**Table 4**
Cross-sectional tests: Incentives to reduce foreign outsourcing

This table presents the results examining the influence of cross-sectional variation in incentives to reduce foreign outsourcing on the effect of the proposed SEC climate disclosure rule on imports. Panel A (B, C) shows the results using *Supply Chain GHG Emission Factor* (*Voluntary GHG Emissions Disc*, *Support Comments*) as the cross-sectional sample-split. In each panel, columns 1-4 (5-8) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1-2 and 5-6 include firm and fiscal year fixed effects, and columns 3-4 and 7-8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A. Sample sizes vary based on availability of cross-sectional variables. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Materiality of Scope 3 emissions

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for incentives: | | *Supply Chain GHG Emission Factor* | | | | *Supply Chain GHG Emission Factor* | | | |
| Subsample: | | Low | High | Low | High | Low | High | Low | High |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | 0.144 | -3.990*** | -0.016 | -3.566*** | 0.253 | -2.423*** | 0.119 | -2.043*** |
| | | (0.28) | (-4.01) | (-0.03) | (-3.55) | (0.82) | (-3.81) | (0.32) | (-3.29) |
| *p-value for difference in coefficients* | | <0.01 | | <0.01 | | <0.01 | | 0.02 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 5160 | 5149 | 5144 | 5130 | 5160 | 5149 | 5144 | 5130 |
| Adj. R-Squared | | 0.719 | 0.662 | 0.726 | 0.657 | 0.736 | 0.721 | 0.748 | 0.719 |

Panel B: Voluntary GHG emissions disclosure

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for incentives: | | *Voluntary GHG Emissions Disc* | | | | *Voluntary GHG Emissions Disc* | | | |
| Subsample: | | Yes | No | Yes | No | Yes | No | Yes | No |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | -0.688 | -3.470** | -0.415 | -3.792** | 0.060 | -1.814** | 0.155 | -1.972** |
| | | (-0.91) | (-2.60) | (-0.53) | (-2.63) | (0.10) | (-2.20) | (0.25) | (-2.16) |
| *p-value for difference in coefficients* | | 0.08 | | 0.07 | | 0.10 | | 0.08 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 4831 | 5244 | 4792 | 5192 | 4831 | 5244 | 4792 | 5192 |
| Adj. R-Squared | | 0.638 | 0.714 | 0.645 | 0.735 | 0.701 | 0.729 | 0.710 | 0.746 |

**Table 4 (continued)**

Panel C: Supportive comments to the proposed SEC climate disclosure rule

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for incentives: | | *Support Comments* | | | | *Support Comments* | | | |
| Subsample: | | High | Low | High | Low | High | Low | High | Low |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | -0.636 | -3.332*** | -0.613 | -3.435** | -0.296 | -1.945** | -0.276 | -1.949** |
| | | (-1.22) | (-2.70) | (-1.11) | (-2.51) | (-1.45) | (-2.40) | (-1.33) | (-2.23) |
| *p-value for difference in coefficients* | | 0.03 | | 0.05 | | 0.05 | | 0.06 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 6131 | 5945 | 6131 | 5937 | 6131 | 5945 | 6131 | 5937 |
| Adj. R-Squared | | 0.585 | 0.730 | 0.585 | 0.738 | 0.652 | 0.754 | 0.652 | 0.761 |

**Table 5**
Cross-sectional tests: Ability to reduce foreign outsourcing

This table presents the results examining the influence of cross-sectional variation in ability to reduce foreign outsourcing on the effect of the proposed SEC climate disclosure rule on imports. Panel A (B) shows the results using *Mineral Reliance* (*Production Capacity*) as the cross-sectional sample-split. In each panel, columns 1-4 (5-8) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1-2 and 5-6 include firm and fiscal year fixed effects, and columns 3-4 and 7-8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A. Sample sizes vary based on availability of cross-sectional variables. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Reliance on mineral imports

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for ability: | | *Mineral Reliance* | | | | *Mineral Reliance* | | | |
| Subsample: | | High | Low | High | Low | High | Low | High | Low |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | -0.713 | -3.703** | -0.606 | -3.781** | -0.332 | -2.231** | -0.305 | -2.143** |
| | | (-1.44) | (-2.56) | (-1.09) | (-2.57) | (-1.18) | (-2.63) | (-0.94) | (-2.60) |
| *p-value for difference in coefficients* | | 0.04 | | 0.04 | | 0.04 | | 0.03 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 6770 | 5306 | 6770 | 5298 | 6770 | 5306 | 6770 | 5298 |
| Adj. R-Squared | | 0.642 | 0.716 | 0.641 | 0.728 | 0.696 | 0.743 | 0.696 | 0.753 |

Panel B: Excess production capacity

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for ability: | | *Production Capacity* | | | | *Production Capacity* | | | |
| Subsample: | | Low | High | Low | High | Low | High | Low | High |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | -0.802 | -2.855*** | -0.223 | -2.861** | -0.571 | -1.731*** | -0.205 | -1.652** |
| | | (-1.00) | (-2.97) | (-0.36) | (-2.54) | (-1.09) | (-2.69) | (-0.52) | (-2.17) |
| *p-value for difference in coefficients* | | 0.10 | | 0.07 | | 0.10 | | 0.08 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 5705 | 5709 | 5669 | 5687 | 5705 | 5709 | 5669 | 5687 |
| Adj. R-Squared | | 0.669 | 0.694 | 0.679 | 0.703 | 0.706 | 0.733 | 0.720 | 0.743 |

**Table 6**
Cross-sectional tests: Concurrent Scope 3 disclosure requirements

This table presents the results examining the influence of concurrent Scope 3 disclosure requirements on the effect of the proposed SEC climate disclosure rule on imports. Specifically, this table shows the results comparing firms with both the EU and California operations to all other firms. Columns 1-4 (5-8) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1-2 and 5-6 include firm and fiscal year fixed effects, and columns 3-4 and 7-8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for EU and CA operations: | | *EU&CA Operation* | | | | *EU&CA Operation* | | | |
| Subsample: | | No | Yes | No | Yes | No | Yes | No | Yes |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | -1.186* | -7.362*** | -1.303* | -5.656** | -0.680* | -3.929** | -0.764* | -2.382* |
| | | (-1.81) | (-2.87) | (-1.76) | (-2.17) | (-1.73) | (-2.38) | (-1.72) | (-1.79) |
| *p-value for difference in coefficients* | | 0.01 | | 0.05 | | <0.01 | | 0.09 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 9472 | 2604 | 9461 | 2536 | 9472 | 2604 | 9461 | 2536 |
| Adj. R-Squared | | 0.686 | 0.646 | 0.691 | 0.703 | 0.745 | 0.588 | 0.750 | 0.650 |

**Table 7**
Effect of the proposed SEC climate disclosure rule on in-house production

This table presents the results examining the effect of the proposed SEC climate disclosure rule on in-house production, proxied by the discussion of such in the presentation part of earnings conference calls. Panel A shows the results of the average treatment effect, and Panel B presents the results of the dynamic treatment effect. In each panel, columns 1-2 (3-4) show the results using *Call Ratio* (*Sentence Ratio*) as the dependent variable. Columns 1 and 3 include firm and fiscal year fixed effects, and columns 2 and 4 include firm and industry × fiscal year fixed effects. The sample consists of firm-year observations from 2018-2023. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Average treatment effect

| Dependent variable: | | *Call Ratio* | | *Sentence Ratio* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat* × *Post* | + | 0.872** | 0.945** | 0.014** | 0.016*** |
| | | (2.02) | (2.25) | (2.16) | (2.87) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 18711 | 18709 | 18711 | 18709 |
| Adj. R-Squared | | 0.492 | 0.493 | 0.629 | 0.630 |

Panel B: Dynamic treatment effect

| Dependent variable: | | *Call Ratio* | | *Sentence Ratio* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat* × *Pre3* | 0 | 0.006 | 0.107 | -0.001 | 0.000 |
| | | (0.02) | (0.32) | (-0.12) | (0.07) |
| *Treat* × *Pre2* | 0 | -0.311 | -0.377 | -0.002 | -0.004 |
| | | (-1.06) | (-1.23) | (-0.41) | (-0.79) |
| *Treat* × *Current* | 0/+ | 0.672** | 0.695** | 0.009 | 0.009 |
| | | (2.04) | (2.37) | (1.55) | (1.53) |
| *Treat* × *Post1* | + | 0.885** | 0.974*** | 0.015** | 0.016*** |
| | | (2.30) | (2.76) | (2.31) | (2.83) |
| *Treat* × *Post2* | + | 0.772* | 0.920** | 0.018** | 0.020*** |
| | | (1.70) | (2.16) | (2.53) | (3.32) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 18711 | 18709 | 18711 | 18709 |
| Adj. R-Squared | | 0.492 | 0.493 | 0.629 | 0.630 |

**Table 8**
Effect of the proposed SEC climate disclosure rule on environmental outcomes

This table presents the results examining the effect of the proposed SEC climate disclosure rule on environmental outcomes. Panel A shows the results on environmental activities, and Panel B presents the results on pollution. In Panel A, columns 1-2 (3-4, 5-6, 7-8) show the results using *Envi Supply Chain Mgmt* (*Envi Product*, *Envi Materials Sourcing*, *ESG Innovation*) as the dependent variable. In Panel B, columns 1-2 (3-4, 5-6, 7-8) show the results using *Toxic Releases/Production* (*Toxic Releases/Sale*, *Num Polluting Plants*, *Num Chemicals*) as the dependent variable. In each panel, columns 1, 3, 5, and 7 include firm and fiscal year fixed effects, and columns 2, 4, 6, and 8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A. Sample sizes vary based on availability of dependent variables. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Environmental activities

| Dependent variable: | | *Envi Supply Chain Mgmt* | | *Envi Product* | | *Envi Materials Sourcing* | | *ESG Innovation* | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | + | 0.017*** | 0.007 | 0.009 | 0.009 | 0.015*** | 0.006*** | 0.023*** | 0.028*** |
| | | (2.97) | (1.43) | (1.51) | (1.35) | (5.41) | (3.23) | (2.81) | (3.37) |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 3689 | 3640 | 3156 | 3118 | 2104 | 2061 | 3730 | 3696 |
| Adj. R-Squared | | 0.961 | 0.974 | 0.978 | 0.988 | 0.971 | 0.982 | 0.863 | 0.861 |

Panel B: Pollution

| Dependent variable: | | *Toxic Releases/Production* | | *Toxic Releases/Sale* | | *Num Polluting Plants* | | *Num Chemicals* | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | - | -11.164* | -10.948 | -10.235** | -9.145* | -1.782*** | -1.542*** | -0.765*** | -0.737*** |
| | | (-1.94) | (-1.52) | (-2.43) | (-1.78) | (-6.60) | (-7.81) | (-8.53) | (-5.72) |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 7860 | 7860 | 8510 | 8509 | 8510 | 8509 | 8510 | 8509 |
| Adj. R-Squared | | 0.916 | 0.917 | 0.856 | 0.866 | 0.893 | 0.907 | 0.905 | 0.918 |

**Table 9**
Effect of the proposed SEC climate disclosure rule on downstream supply chain activities

This table presents the results examining the effect of the proposed SEC climate disclosure rule on downstream supply chain activities. Columns 1-2 (3-4, 5-6, 7-8) show the results using *Product Design Criteria* (*Life Cycle Assessment*, *Plastic Packaging*, *Waste Disposal*) as the dependent variable. Columns 1, 3, 5, and 7 include firm and fiscal year fixed effects, and columns 2, 4, 6, and 8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A. Sample sizes vary based on availability of dependent variables. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

| Dependent variable: | | *Product Design Criteria* | | *Life Cycle Assessment* | | *Plastic Packaging* | | *Waste Disposal* | |
|---|---|---|---|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | + | 8.817*** | 7.545*** | 3.431*** | 2.299** | 2.573** | 2.962* | 4.940*** | 5.647*** |
| | | (6.53) | (7.31) | (4.69) | (2.80) | (2.36) | (1.78) | (3.52) | (3.42) |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 2573 | 2550 | 2840 | 2818 | 1229 | 1186 | 9772 | 9746 |
| Adj. R-Squared | | 0.790 | 0.795 | 0.789 | 0.786 | 0.852 | 0.852 | 0.641 | 0.642 |

**Table 10**
Effect of the proposed SEC climate disclosure rule on the source of import activity

This table presents the effect of the proposed SEC climate disclosure rule on the source of import activity. Countries with the PM2.5 concentrations in the bottom tercile are classified as "low pollution" and all other countries are classified as "high pollution". Columns 1, 3, 5, and 7 show the results using imports from "low pollution" countries as the dependent variable, and columns 2, 4, 6, and 8 show the results using imports from "high pollution" countries as the dependent variable. Columns 1-2 and 5-6 include firm and fiscal year fixed effects, and columns 3-4 and 7-8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for country pollution level: | | *Pollution in Supplier Countries* | | | | *Pollution in Supplier Countries* | | | |
| Imports from countries: | | Low | High | Low | High | Low | High | Low | High |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | -0.026 | -1.371*** | 0.003 | -1.382*** | -0.043 | -0.714*** | -0.026 | -0.729** |
| | | (-0.35) | (-3.20) | (0.04) | (-3.19) | (-1.02) | (-2.69) | (-0.53) | (-2.61) |
| *p-value for difference in coefficients* | | 0.04 | | 0.02 | | 0.10 | | 0.09 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12076 | 12068 | 12068 | 12076 | 12076 | 12068 | 12068 |
| Adj. R-Squared | | 0.649 | 0.699 | 0.650 | 0.706 | 0.670 | 0.730 | 0.671 | 0.736 |

**Online Appendix**

**Real Effects of Proposed Scope 3 Disclosures**

**Carter, Lee and Yu**

This online appendix contains additional tables and figure discussed but not tabulated in the main document.

## Table of Contents

**Table OA1: Including only firms without operations in EU and CA in the comparison group**

This table presents the results examining the influence of concurrent Scope 3 disclosure requirements on the effect of the proposed SEC climate disclosure rule on imports, using an alternative comparison group. Specifically, this table shows the results comparing firms with operations in both the EU and California to firms without any operations in both the EU and California. Columns 1-4 (5-8) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1-2 and 5-6 include firm and fiscal year fixed effects, and columns 3-4 and 7-8 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A in the manuscript. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

| Dependent variable: | | *Import Volume/Sale* | | | | *Import Weight/Sale* | | | |
|---|---|---|---|---|---|---|---|---|---|
| Proxy for EU and CA operations: | | *EU&CA Operation* | | | | *EU&CA Operation* | | | |
| Subsample: | | No | Yes | No | Yes | No | Yes | No | Yes |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| *Treat × Post* | 0,- | 0.021 | -7.362*** | -0.603 | -5.656** | -0.368 | -3.929** | -0.617 | -2.382* |
| | | (0.02) | (-2.87) | (-0.52) | (-2.17) | (-0.72) | (-2.38) | (-0.87) | (-1.79) |
| *p-value for difference in coefficients* | | <0.01 | | 0.01 | | <0.01 | | 0.08 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | | Yes | Yes | No | No | Yes | Yes | No | No |
| Year × Industry FE | | No | No | Yes | Yes | No | No | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 4536 | 2604 | 4504 | 2536 | 4536 | 2604 | 4504 | 2536 |
| Adj. R-Squared | | 0.655 | 0.646 | 0.653 | 0.703 | 0.728 | 0.588 | 0.729 | 0.650 |

**Table OA2: In-house production on sample of firms with Panjiva data**

This table presents the results examining the effect of the proposed SEC climate disclosure rule on in-house production, proxied by the discussion of such in the presentation part of earnings conference calls. The sample consists of firm-year observations from 2018-2023, including only firms with Panjiva data. Columns 1-2 (3-4) show the results using *Call Ratio* (*Sentence Ratio*) as the dependent variable. Columns 1 and 3 include firm and fiscal year fixed effects, and columns 2 and 4 include firm and industry × fiscal year fixed effects. All variables are defined in Appendix A in the manuscript. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

| Dependent variable: | | *Call Ratio* | | *Sentence Ratio* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat* × *Post* | + | 0.780* | 1.069** | 0.014* | 0.019** |
| | | (1.79) | (2.25) | (1.83) | (2.08) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12068 | 12076 | 12068 |
| Adj. R-Squared | | 0.514 | 0.513 | 0.639 | 0.637 |

**Table OA3: Dollar value of imports as the dependent variable**

This table presents the robustness tests examining the effect of the proposed SEC climate disclosure rule on imports, using *Import Value/Sale* as the dependent variable. Panel A shows the results of the average treatment effect. Panel B shows the results of cross-sectional tests on the incentives to reduce foreign outsourcing, with columns 1-2 (3-4, 5-6) using *Supply Chain GHG Emission Factor* (*Voluntary GHG Emissions Disc*, *Support Comments*) as the cross-sectional sample-split. Panel C shows the results of cross-sectional tests on the ability to reduce foreign outsourcing, with columns 1-2 (3-4) using *Mineral Reliance* (*Production Capacity*) as the cross-sectional sample-split. In Panel A, column 1 includes firm and fiscal year fixed effects, and column 2 includes firm and industry × fiscal year fixed effects. In Panels B-C, all columns include firm and industry × fiscal year fixed effects. The sample consists of firm-year observations from 2018-2023. All variables are defined in Appendix A in the manuscript. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Treatment effect

| Dependent variable: | | *Import Value/Sale* | |
|---|---|---|---|
| | Pr. Sign | (1) | (2) |
| *Treat × Post* | - | -9.495** | -10.976** |
| | | (-2.09) | (-2.01) |
| Controls | | Yes | Yes |
| Firm FE | | Yes | Yes |
| Year FE | | Yes | No |
| Year × Industry FE | | No | Yes |
| S.E. clustered by industry | | Yes | Yes |
| No. of observations | | 12076 | 12068 |
| Adj. R-Squared | | 0.636 | 0.639 |

Panel B: Cross-sectional tests: Incentives to reduce foreign outsourcing

| Dependent variable: | | *Import Value/Sale* | | | | | |
|---|---|---|---|---|---|---|---|
| Proxy for incentives: | | *Supply Chain GHG Emission Factor* | | *Voluntary GHG Emissions Disc* | | *Support Comments* | |
| Subsample/Imports from countries: | | Low | High | Yes | No | High | Low |
| | Pr. Sign | (1) | (2) | (3) | (4) | (5) | (6) |
| *Treat × Post* | 0,- | -4.218 | -14.184** | -0.907 | -18.323* | -8.186 | -14.651 |
| | | (-0.54) | (-2.04) | (-0.15) | (-1.99) | (-1.19) | (-1.47) |
| *p-value for difference in coefficients* | | 0.17 | | 0.13 | | 0.32 | |
| Controls | | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes | Yes | Yes |
| Year × Industry FE | | Yes | Yes | Yes | Yes | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes | Yes | Yes |
| No. of observations | | 5144 | 5130 | 4792 | 5192 | 6131 | 5937 |
| Adj. R-Squared | | 0.618 | 0.635 | 0.577 | 0.667 | 0.573 | 0.688 |

**Table OA3 (continued)**

Panel C: Cross-sectional tests: Ability to reduce foreign outsourcing

| Dependent variable: | | *Import Value/Sale* | | | |
|---|---|---|---|---|---|
| Proxy for ability: | | *Mineral Reliance* | | *Production Capacity* | |
| Subsample: | | High | Low | Low | High |
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | 0,- | 0.714 | -30.014*** | -2.126 | -18.844** |
| | | (0.09) | (-4.10) | (-0.40) | (-2.02) |
| *p-value for difference in coefficients* | | 0.01 | | 0.07 | |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year × Industry FE | | Yes | Yes | Yes | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 6770 | 5298 | 5669 | 5687 |
| Adj. R-Squared | | 0.612 | 0.675 | 0.631 | 0.640 |

**Table OA4: Alternative samples to address import measurement error**

This table presents robustness tests examining the effect of the proposed SEC climate disclosure rule on imports, addressing additional import measure issues. Panel A shows the results excluding automotive firms. Panel B shows the results only keeping firms with non-zero imports during the sample period. In each panel, columns 1-2 (3-4) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1 and 3 include firm and fiscal year fixed effects, and columns 2 and 4 include firm and industry × fiscal year fixed effects. The sample consists of firm-year observations from 2018-2023. All variables are defined in Appendix A in the manuscript. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Exclude automotive firms

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | - | -1.770*** | -1.694*** | -1.014*** | -0.939** |
| | | (-2.92) | (-2.70) | (-2.68) | (-2.49) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 11715 | 11707 | 11715 | 11707 |
| Adj. R-Squared | | 0.677 | 0.683 | 0.723 | 0.730 |

Panel B: Keep firms with non-zero imports during the sample period

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | - | -3.305** | -3.207** | -1.869** | -1.779** |
| | | (-2.59) | (-2.35) | (-2.40) | (-2.17) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 6865 | 6828 | 6865 | 6828 |
| Adj. R-Squared | | 0.663 | 0.669 | 0.708 | 0.717 |

**Table OA5: Difference between non-SRCs and SRCs as an alternative explanation**

This table presents the additional robustness tests examining the effect of the proposed SEC climate disclosure rule on imports. Panel A uses large private firms as a control sample. Panel B shows the results after entropy balancing the sample of control firm-years to match the distribution of the sample of treated firm-years, based on the dependent variable in the pre-period and all control variables except for firm size with 0.01 tolerance. Panel C uses a subsample of firms within $100 million (+/-) of the $250 million public float threshold. Panels D-E present the placebo tests using placebo treatment thresholds to define treated firms, limiting the sample to firms with public float above the SRC threshold of $250 million. Panel D classifies firms into placebo treated and control groups based on the sample median of public float (~$4,109 million). Panel E classifies firms into placebo treated and control groups based on the sample bottom tercile of public float (~$2,093 million). The sample sizes in Panels D and E differ due to the requirement that only firms with consistent placebo treatment classification throughout the sample period are included. In each panel, columns 1-2 (3-4) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1 and 3 include firm and fiscal year fixed effects, and columns 2 and 4 include firm and industry × fiscal year fixed effects. The sample consists of firm-year observations from 2018-2023. All variables are defined in Appendix A in the manuscript. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Large private firms as a control sample

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | - | -0.810*** | -0.871** | -0.518** | -0.719** |
| | | (-2.90) | (-2.30) | (-2.15) | (-2.56) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 11863 | 11843 | 11863 | 11843 |
| Adj. R-Squared | | 0.733 | 0.740 | 0.738 | 0.745 |

Panel B: Entropy balanced matching

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | - | -4.269** | -3.336*** | -2.740** | -2.043*** |
| | | (-2.37) | (-2.77) | (-2.52) | (-2.66) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12068 | 12076 | 12068 |
| Adj. R-Squared | | 0.685 | 0.703 | 0.699 | 0.717 |

**Table OA5 (continued)**

Panel C: Sample of firms around the $250 million public float threshold

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | - | -4.489** | -6.788*** | -2.582* | -4.333*** |
| | | (-2.08) | (-2.96) | (-1.70) | (-2.70) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 1485 | 1408 | 1485 | 1408 |
| Adj. R-Squared | | 0.752 | 0.796 | 0.727 | 0.769 |

Panel D: Placebo test: Use the sample median as the placebo treatment threshold

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Placebo Treat 1 × Post* | 0 | 0.485 | 0.203 | 0.335 | 0.204 |
| | | (0.67) | (0.30) | (0.80) | (0.57) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 6946 | 6918 | 6946 | 6918 |
| Adj. R-Squared | | 0.698 | 0.709 | 0.736 | 0.748 |

Panel E: Placebo test: Use the sample bottom tercile as the placebo treatment threshold

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Placebo Treat 2 × Post* | 0 | 0.331 | 0.319 | 0.498 | 0.509 |
| | | (0.44) | (0.43) | (0.99) | (1.06) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 6745 | 6727 | 6745 | 6727 |
| Adj. R-Squared | | 0.673 | 0.686 | 0.716 | 0.731 |

**Table OA6: Potential macroeconomic events and foreign outsourcing**

This table presents the additional robustness tests examining the effect of the proposed SEC climate disclosure rule on imports. Panel A excludes imports from the United Kingdom. Panel B excludes imports from China. Panel C uses only imports from Canada and Mexico. Panel D limits the sample to 2020-2023 and uses 2022 as treatment year. Panel E uses only imports from overseas subsidiaries. In each panel, columns 1-2 (3-4) show the results using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Columns 1 and 3 include firm and fiscal year fixed effects, and columns 2 and 4 include firm and industry × fiscal year fixed effects. In all panels except Panel D, the sample consists of firm-year observations from 2018-2023. All variables are defined in Appendix A in the manuscript. The *t*-statistics are reported below coefficient estimates in parentheses and are calculated based on standard errors clustered by industry. *, **, *** indicate statistics significance at the 0.10, 0.05, and 0.01 levels, respectively, using a two-tailed *t*-test.

Panel A: Excluding imports from the United Kingdom

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat* × *Post* | - | -1.938*** | -1.934*** | -1.068*** | -1.035*** |
| | | (-3.23) | (-2.97) | (-2.95) | (-2.77) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by firm | | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12068 | 12076 | 12068 |
| Adj. R-Squared | | 0.682 | 0.688 | 0.722 | 0.729 |

Panel B: Excluding imports from China

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat* × *Post* | - | -0.966** | -0.918** | -0.638** | -0.555** |
| | | (-2.54) | (-2.23) | (-2.32) | (-2.12) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by firm | | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12068 | 12076 | 12068 |
| Adj. R-Squared | | 0.662 | 0.666 | 0.705 | 0.709 |

Panel C: Using only Canadian and Mexican imports

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat* × *Post* | - | -0.970** | -0.940** | -0.765** | -0.720** |
| | | (-2.24) | (-2.12) | (-2.54) | (-2.32) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12068 | 12076 | 12068 |
| Adj. R-Squared | | 0.598 | 0.626 | 0.655 | 0.675 |

**Table OA6 (continued)**

Panel D: Limiting sample to 2020-2023 and using 2022 as treatment year

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | - | -1.497*** | -1.372** | -0.970** | -0.804* |
| | | (-2.68) | (-2.22) | (-2.34) | (-1.74) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by industry | | Yes | Yes | Yes | Yes |
| No. of observations | | 7761 | 7757 | 7761 | 7757 |
| Adj. R-Squared | | 0.691 | 0.696 | 0.726 | 0.734 |

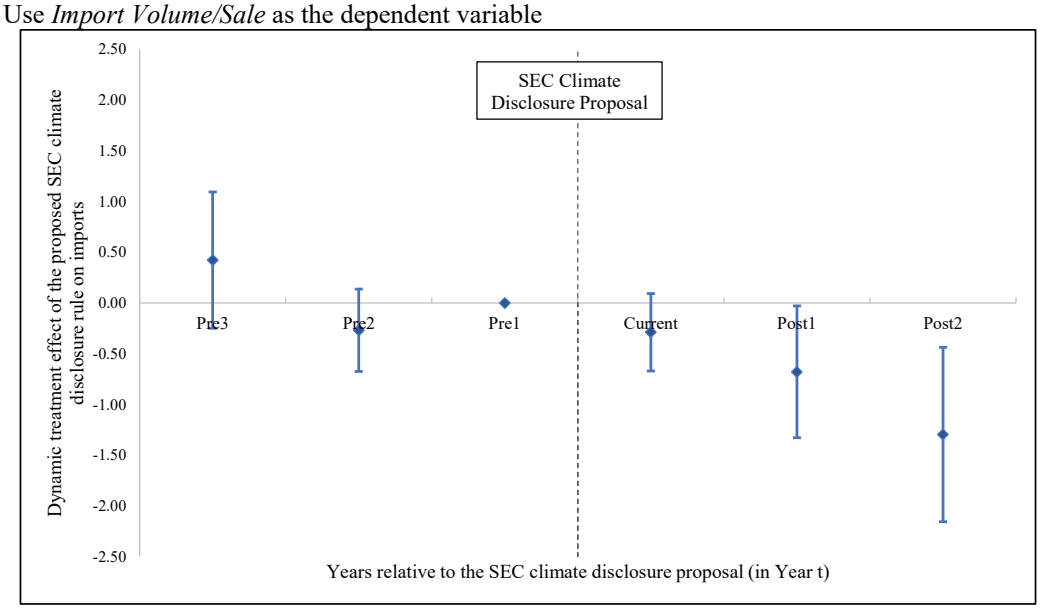
Panel E: Using only subsidiary imports

| Dependent variable: | | *Import Volume/Sale* | | *Import Weight/Sale* | |
|---|---|---|---|---|---|
| | Pr. Sign | (1) | (2) | (3) | (4) |
| *Treat × Post* | 0 | -0.001 | -0.001 | -0.001 | -0.000 |
| | | (-0.74) | (-0.41) | (-1.37) | (-0.85) |
| Controls | | Yes | Yes | Yes | Yes |
| Firm FE | | Yes | Yes | Yes | Yes |
| Year FE | | Yes | No | Yes | No |
| Year × Industry FE | | No | Yes | No | Yes |
| S.E. clustered by firm | | Yes | Yes | Yes | Yes |
| No. of observations | | 12076 | 12068 | 12076 | 12068 |
| Adj. R-Squared | | 0.513 | 0.515 | 0.515 | 0.520 |

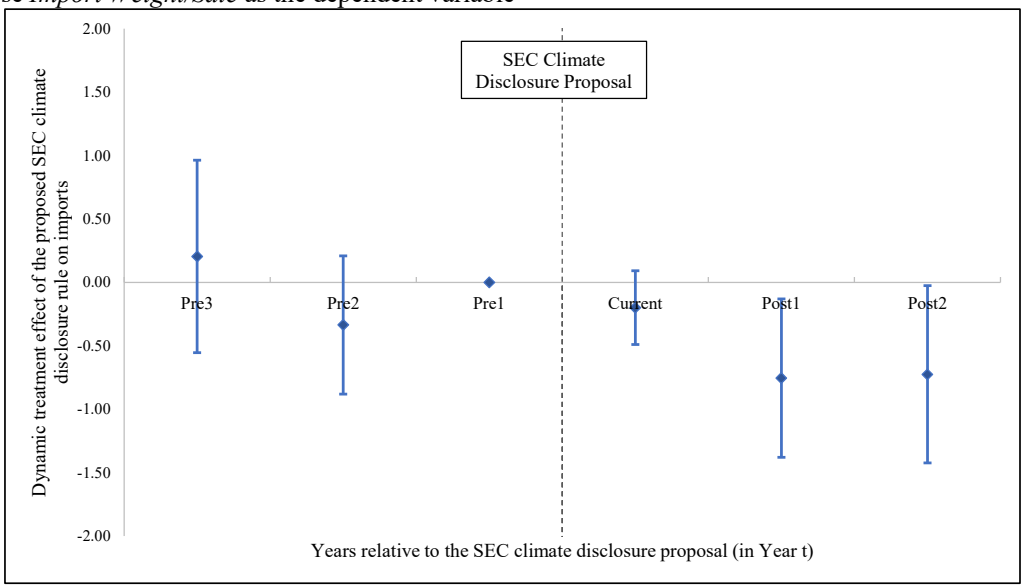
**Figure OA1: Parallel trends analysis using large private firms as control**

This figure presents the dynamic treatment effect of the proposed SEC climate disclosure rule on imports using large private firms as a control sample (Table OA5 Panel A). The figure in Panel A (B) below reports the coefficients of an ordinary least squares regression using *Import Volume/Sale* (*Import Weight/Sale*) as the dependent variable. Formally, we estimate $Import_{i,t} = \alpha + \beta_1\ Treat_i \times Pre3_t + \beta_2\ Treat_i \times Pre2_t + \beta_3\ Treat_i \times Current_t + \beta_4\ Treat_i \times Post1_t + \beta_5\ Treat_i \times Post2_t + \beta_k Controls\ + \delta_i + \gamma_t + \epsilon_{i,t}$, where $\delta_i$ and $\gamma_t$ represent firm and fiscal year fixed effects, respectively. In each panel, *Pre3* (*Pre2*, *Current*, *Post1*, *Post2*) is an indicator variable equal to one for fiscal year 2018 (2019, 2021, 2022, 2023), and zero otherwise. Each point estimate is accompanied by a 90% confidence interval calculated based on standard errors clustered by industry. Note that *Pre1* has a coefficient of zero and no confidence interval as it serves as the benchmark period. All variables are defined in Appendix A in the manuscript.

Panel A: Use *Import Volume/Sale* as the dependent variable




Panel B: Use *Import Weight/Sale* as the dependent variable



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