Silencing Pollution:

The Environmental Consequences of Anti-SLAPP Laws

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ABSTRACT

We examine whether free-speech protections influence corporate environmental performance. Using the staggered enactment of U.S. anti-SLAPP statutes in a stacked difference-in-differences design from 1990 to 2019, we find that these laws significantly reduce firms' toxic emissions without curbing economic activity. Anti-SLAPP enactments also promote environmental investment, through green innovation, abatement spending, and waste reduction, and strengthen governance via improved sustainability oversight, ESG-linked executive pay, employee training, and supply chain management. The effects are stronger when stakeholder monitoring is stronger and when managerial incentives embed sustainability goals. Overall, free-speech protections generate powerful environmental benefits.

1. INTRODUCTION

What if laws designed to protect freedom of speech could also help protect the environment? Environmental performance, which ranges from reducing toxic emissions to enhancing green investment and strengthening governance measures for sustainability, has become a defining challenge for firms worldwide (Hsu et al. 2025; Li et al. 2025a; Li et al. 2025b). According to the the U.S. Environmental Protection Agency's (EPA) Toxic Release Inventory (TRI), U.S. companies manage a total of 28.33 billion pounds of production-related toxic waste in 2020. Furthermore, between 2011 and 2021, EPA investigates about 200,000 non-compliance cases, imposing over US$78 billion in fines for environmental violations.[1] These figures underscore both the urgency and opportunity of corporate environmental action. Prior research has examined the effects of various environmental regulations in shaping corporate sustainability (Aghion et al. 2016; Brown et al. 2022; Porter and Van der Linde 1995), yet a relatively less explored theme relates to how non-environmental legal reforms affect corporate environmental performance. Responding to calls for a broader understanding of how regulatory reforms influence firms' green strategies (Calel and Dechezleprêtre 2016; Gans 2012), we focus on anti-Strategic Lawsuit Against Public Participation (anti-SLAPP) statutes—laws originally designed to protect citizens and organizations from retaliatory lawsuits that seek to censor, intimidate, or silence public criticism. We ask whether and how these free-speech protections, though not environmental in intent, significantly affect corporate environmental outcomes.

In 1992, California enacted the nation's first anti-SLAPP statute in response to what lawmakers described as a "disturbing increase" in lawsuits brought not to win on the merits, but to intimidate citizens who spoke out on matters of public concern. A well-known early example is *Averill v. Superior Court* (42 Cal. App. 4th 1170 [1996]), where a local resident who

[1] See https://www.epa.gov/enforcement/environmental-enforcement-and-compliance-significant-cases/.

publicly opposed a proposed community project and urged their employer to withdraw support was sued for defamation and interference by the project's sponsor, Eli Home, Inc. Although the claims by Eli Home had little chance of succeeding on the merits, the litigation itself threatened to consume the defendant's time and resources and discouraged others from speaking out. Invoking the newly enacted anti-SLAPP statute, the court struck down Eli Home's claims at an early stage, required the plaintiff to pay the defendant's attorney's fees, and reaffirmed that open debate on community projects is a form of protected public participation.[2] Starting with California, the adoption of anti-SLAPP statutes spreads widely across the United States, and by 2019, more than 30 states have enacted such laws (see OA Appendix A), though their scope and strength vary considerably (Chen et al. 2025b; Lee et al. 2025). As Norman (2010) notes, the indirect impacts of anti-SLAPP protections are often more consequential than the direct resolution of SLAPP cases themselves. At its core, anti-SLAPP legislation operationalizes First Amendment principles in the modern legal landscape. By enabling courts to dismiss meritless claims at an early stage and awarding attorney's fees to prevailing defendants, these statutes ensure that the constitutional right to petition and speak freely on issues of public interest, even when opposed by resourceful corporate actors.

While anti-SLAPP statutes are not environmental in nature, our study focuses on corporate environmental performance, as environmental challenges are among the most salient and publicly scrutinized aspects of firms' social responsibility (Bolton and Kacperczyk 2021; Flammer 2013; Li et al. 2025a; Li et al. 2025b). Because these consequences are so salient, firms face heightened reputational risk once their deficiencies in fulfilling environmental responsibility become public. We argue that anti-SLAPP statutes create an institutional setting that amplifies stakeholder voices and magnifies these reputational costs of environmental negligence and misconduct. By shielding non-governmental organizations (NGOs) from

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[2] See https://law.justia.com/cases/california/court-of-appeal/4th/42/1170.html.

retaliatory suits, these laws allow advocacy groups to more aggressively monitor firms and publicize environmental risks (Reid and Toffel 2009). By protecting journalists and media outlets, they foster investigative reporting that exposes harmful practices to broader audiences (Dyck et al. 2008). By safeguarding employees and community members, they encourage whistleblowing against local environmental harms (Böke et al. 2025). Collectively, these protections broaden the set of stakeholders who can speak without fear of reprisal (Chen et al. 2025b; Lee et al. 2025). As firms seek to avert reputational losses from public exposure of environmental issues, the enactment of anti-SLAPP laws pressures them to adopt more substantive and credible environmental practices. Hence, even in the absence of direct environmental regulation, we expect anti-SLAPP statutes to improve firms' environmental performance.

We further explore potential intermediary mechanisms through which firms address heightened scrutiny under anti-SLAPP laws. Specifically, we investigate environmental investment and environmental governance, two complementary mechanisms whereby the former reflects firms' strategic resource allocation, while the latter captures the governance and incentive structures that embed sustainability considerations into corporate decision-making. We posit that through environmental investment, firms not only signal their commitment to sustainability but also achieve tangible improvements in environmental performance by reducing emissions, lowering waste, and enhancing recourse efficiency (Aghion et al. 2016; Delmas and Toffel 2008; Li et al. 2025a). In comparison, environmental governance captures organizational responses that institutionalize sustainability within corporate structures and incentive systems. Firms may strengthen governance systems by appointing sustainability directors, embedding environmental criteria in executive pay and operational partner selection, and training employees on environmental practices (Flammer 2013; Hsu et al. 2025; Li et al. 2025b). These internal governance adjustments complement firms' operational and strategic investment efforts, jointly mitigating reputational risks magnified under anti-SLAPP protections and helping to explain the observed improvements in corporate environmental performance.

To empirically test our predictions, we apply a stacked difference-in-differences (DiD) design using a comprehensive panel dataset consisting of 118,287 firm-year observations spanning 1990 to 2019. We employ toxic emissions as an objective, standardized, and quantifiable measure of corporate environmental performance (Li et al. 2025b). Our findings show that anti-SLAPP enactments relate to a significant reduction in corporate toxic emissions, suggesting that strong legal protections for free speech and stakeholder voice motivate firms to improve their environmental practices. We perform a series of tests to examine the robustness of our findings. To address potential endogeneity and examine the timing of the effect, we employ a dynamic DiD specification that estimates event-time coefficients relative to the anti-SLAPP enactment. We also employ alternative measures to capture toxic releases and the strength of anti-SLAPP adoptions. We further source environmental performance data from different databases, conduct falsification tests using "fake adoption treatments," use propensity score matching (PSM), and perform entropy balancing. In all cases, we obtain consistent results.

We further examine the mechanisms through which anti-SLAPP statutes enhance corporate environmental performance. Consistent with our predictions, the results indicate that firms enhance environmental investment and strengthen environmental governance to improve their environmental outcomes following anti-SLAPP enactments. Under the investment channel, firms demonstrate greater environmental improvement through green innovation, as reflected in higher numbers of green patents, larger environmental capital spending, and stronger adoption of pollution abatement and prevention practices, including source reduction and post-production waste management. Under the governance channel, firms implement stronger internal and external oversight by appointing sustainability directors, linking executive compensation to ESG performance, providing environmental training to employees, and integrating sustainability considerations to supply-chain partner selection. Taken together, these findings suggest that firms respond to anti-SLAPP laws by implementing operational and organizational changes that institutionalize environmental responsibility within corporate practices and governance structures.

We also conduct cross-sectional analyses to understand how firms' characteristics shape responses to anti-SLAPP enactments. We find that the decline in toxic releases is more pronounced when firms face stronger external stakeholder pressure, such as from government clients or active environmental NGOs, and among firms whose executive compensation and investor preferences are more closely aligned with long-term sustainability objectives. These findings are in line with our propositions that enhanced legal protection for free speech strengthens stakeholder monitoring, and that firms with greater exposure or stronger internal alignment are more responsive to such scrutiny. We also rule out the alternative explanation that the decline in toxic releases results from reduced economic activity.

Our study makes several contributions to the literature. First, we advance understanding of the drivers of corporate environmental performance by providing the first empirical evidence that the enactment of anti-SLAPP statutes improves outcomes such as reduced toxic releases, increased sustainability investment, and strengthened environmental governance. While prior studies have focused primarily on explicit environmental interventions, such as carbon taxes, cap-and-trade systems, or environmental disclosure mandates, in affecting firm behavior (e.g., Aghion et al. 2016; Brown et al. 2022; Calel and Dechezleprêtre 2016), we show that regulatory reforms not explicitly designed with environmental objectives in mind can nevertheless exert powerful indirect effects. In this way, our study extends sustainability research beyond compliance-based models (Delmas and Toffel 2008; Porter and Van der Linde 1995), and our findings on how regulatory spillovers can generate unexpected but beneficial consequences for corporate behavior bridge legal and sustainability research in a novel way. Importantly, we further show that these environmental improvements do not arise from a contraction in firms' economic activities, indicating anti-SLAPP laws promote genuine environmental progress through greater accountability and strategic adaptation rather than operational downsizing.

Second, we shed light on the mechanisms through which heightened stakeholder scrutiny translates into substantive corporate responses. We show that firms adapt both strategically, by increasing green investments, and organizationally, by strengthening governance structures for sustainability. Our findings thus clarify the channels through which anti-SLAPP protections promote corporate sustainability. We also show that the impact of anti-SLAPP statutes is stronger among firms subject to greater stakeholder scrutiny from government clients and NGOs, but weaker when executives receive more compensation with short-term targets attached or when the firm is less exposed to ESG-oriented investors. These findings contribute to debates about the conditional effectiveness of legal reforms and suggest that the ability of civil rights-based legal protections to advance corporate sustainability depends on the surrounding stakeholder environment and firms' internal governance.

Third, we add to the emerging empirical work on the corporate consequences of anti-SLAPP statutes. Recent studies show that anti-SLAPP adoption leads firms to expand CSR disclosure (Griffin et al. 2024) and disclose bad news more promptly (Chen et al. 2025b; Lee et al. 2025). Relatedly, stronger speech protections promote more candid employee disclosures on workplace issues (Böke et al. 2025), and the improved transparency helps lower firms' cost of equity (Guernsey et al. 2025) and enhance investment efficiency in both labor (Jung et al. 2025) and capital allocation (Guernsey et al. 2025). By linking anti-SLAPP statutes to environmental performance, we extend this growing line of research to a domain where stakeholder scrutiny and reputational accountability are particularly pronounced (Bolton and Kacperczyk 2021; Flammer 2013; Li et al. 2025b). Our evidence shows how firms respond to heightened stakeholder scrutiny by implementing operational and structural adaptions that have concrete environmental performance consequences. Although the reputational mechanism we study may also influence firms' broader social performance (Li et al. 2025a), our focus on environmental outcomes is conceptually salient and empirically distinct, given their high visibility, regulatory verification, and close connection to firms' operations and investments. Our findings therefore offer a complementary perspective to emerging work on the social dimension of corporate responsibility.

Finally, we contribute to the law and political economy literature by showing how legal institutions designed to protect civil liberties can shape corporate behavior in areas beyond their original intent. We provide empirical evidence relevant to ongoing debates surrounding speech-related reforms, such as the U.S. Executive Order 14149 and the proposed Free Speech Protection Act (Chen et al., 2025b; Heese and Pérez-Cavazos, 2021). While enhanced free-speech protections are typically evaluated in terms of civic or political disclosure, our findings reveal a previously underexplored channel through which acts aiming for promoting civil right may also advance corporate sustainability (Norman 2010). This insight complements traditional environmental policy research and is particularly relevant in settings where direct environmental regulation is weak, stalled, or politically contested (Xu and Kim, 2022).

2. INSTITUTIONAL BACKGROUND AND THEORETICAL PREDICTIONS

2.1 Stakeholder Pressure and Reputational costs

A large body of research highlights that firms face powerful incentives to respond to stakeholder pressure because of the substantial reputational costs associated with failing to meet societal expectations (Delmas and Toffel 2008; Fombrun 1996). Evidence shows that sanctions through market and non-market channels may be initiated by diverse stakeholders, such as investors, journalists, NGOs, employees, and communities (Dyck et al. 2008; Klassen and McLaughlin 1996; Krüger 2015). When corporate practices are exposed as socially or environmentally irresponsible, firms tend to suffer a loss of legitimacy and trust in the eyes of key stakeholders, evidenced by declines in market value (Bolton and Kacperczyk 2021; Klassen and McLaughlin 1996) and heightened vulnerability to regulatory scrutiny or activist campaigns (Christensen et al. 2021; King and Lenox 2000). Firms are therefore motivated to undertake measures, such as enhancing transparency, adopting governance reforms, or investing in sustainability initiatives to address these reputational concerns (Delmas and Toffel 2008; Flammer 2013).

Reputational pressures are particularly salient when the issues involve environmental consequences. Studies show that activist groups and NGOs play an important role in uncovering harmful corporate environmental practices and mobilizing pressure that compels firms to adjust their policies and strategies (Reid and Toffel 2009). Journalists and media coverage further magnify these effects by broadcasting environmental controversies to wider audiences (Dyck et al. 2008). Employees may also act as whistleblowers when internal practices conflict with sustainability commitments (Böke et al. 2025). In addition, firms tend to be penalized in capital markets when controversies arise (Bolton and Kacperczyk 2021; Krueger et al. 2020; Krüger 2015), while rewarded when they proactively adopt environmental initiatives (Flammer 2013). Recent studies demonstrate that stakeholder monitoring helps enhance firm social performance (Li et al. 2025a) and that individual characteristics of CEOs and board directors significantly affect corporate environmental outcomes (Hsu et al. 2025; Li et al. 2025b). Taken together, this literature suggests that reputational concerns amplified by diverse stakeholders have significant implications for corporate environmental practices and outcomes.

2.2 Institutional Background

The adoption of anti-SLAPP statutes empowers stakeholders to voice their concerns more freely (Norman 2010; Pring and Canan 1996). What distinguishes these laws is their procedural design, which directly reduces the legal and financial burdens of public participation. First, anti-SLAPP statutes typically authorize the early dismissal of meritless lawsuits via special motions to strike, preventing drawn-out legal battles that might otherwise drain defendants' time and resources. This safeguard directly addresses the kind of protracted litigation faced by organizations such as Greenpeace International, which has repeatedly been targeted by energy firms seeking to silence environmental campaigns—cases later dismissed as baseless but costly to defend.[3] Second, anti-SLAPP laws deter frivolous litigation by requiring losing plaintiffs to cover defendants' legal fees upon a successful motion (e.g., California's CCP §425.16(c)). Third, they generally pause discovery proceedings while a motion is pending, preventing plaintiffs from strategically inflating litigation expenses to pressure a settlement. This measure strikes at the core coercive tactics of SLAPP suits, where plaintiffs exploit procedural costs, financially and emotionally, to punish critics.[4] Finally, anti-SLAPP protections are intentionally broad, covering a wide range of public expression, including traditional speech, online commentary, activism, and other civic discourse, thereby reinforcing their continued relevance in today's communication landscape.

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[3] See https://www.greenpeace.org.au/news/greenpeace-international-begins-groundbreaking-anti-slapp-case-to-protect-freedom-of-speech/.

[4] "I spent a couple of bucks on legal fees, and they spent a whole lot more. I did it to make his life miserable, which I'm happy about," said a well-known developer about his defamation lawsuit against Tim O'Brien, author of *TrumpNation: The Art of Being the Donald*, in *Trump v. O'Brien*, 29 A.3d 1090 (N.J. Super. Ct. App. Div. 2011) (https://anti-slapp.org/trump-and-the-first-amendment/).

The contemporary legal framework addressing SLAPP lawsuits originates from California's pioneering anti-SLAPP statute, codified as California Code of Civil Procedure §425.16 in 1992. Since then, similar anti-SLAPP provisions have been enacted across various jurisdictions, including Texas (Texas Civil Practice & Remedies Code §27.001 et seq.), New York (N.Y. Civ. Rights Law §70-a), and Washington (RCW 4.24.510). As of 2019, over 30 states in the U.S. have adopted such statutes. However, the scope of these laws varies widely: some protect only speech directed at government entities, while others extend coverage to any expression concerning matters of public interest. This variation has prompted considerable legal debate, with courts frequently testing the boundaries of what qualifies as protected speech (Chen et al. 2025b). The controversy has become especially pronounced in environmental context. Major oil and agribusiness firms, for instance, file defamation and racketeering claims against environmental NGOs and media outlets reporting on climate concerns.[5] Parallel developments in Europe, such as litigation between Energy Transfer and Greenpeace, highlight the global resonance of these disputes and the growing international discussions on anti-SLAPP protections.[6]

From an institutional perspective, the common thread of these anti-SLAPP efforts is clear. That is, anti-SLAPP statutes recalibrate the legal balance of power, reducing the ability of well-resourced plaintiffs to suppress criticism through litigation tactics. The widespread adoption of anti-SLAPP statutes reflects their institutional significance in safeguarding constitutionally protected speech from coercive litigation practices. By embedding free-speech protections into civil procedure, anti-SLAPP laws fundamentally reduce the real and perceived costs of public criticism. These protections are particularly relevant in environmental contexts, where stakeholders, such as NGOs and journalists, often rely on legal protections for free speech to

[5] See https://www.nytimes.com/2025/06/22/climate/oil-industry-anti-slapp-climate-lawsuits.html/.
[6] See https://verfassungsblog.de/greenpeace-slapp-energy-transfer/.

investigate and publicize issues such as corporate pollution and greenwashing (Pring and Canan 1996). A direct implication is that, as discussed in Norman (2010), these statutes encourage more open dialogue and create a durable infrastructure for stakeholder oversight. Recent empirical evidence confirms these effects by showing that anti-SLAPP laws significantly amplify stakeholder voice in the corporate domain and elicit meaningful corporate responses in disclosure (Chen et al. 2025b; Lee et al. 2025), allocating resources at the workforce and capital markets (Jung et al. 2025; Griffin et al. 2022), and improving transparency (Griffin et al. 2024; Guernsey et al. 2025).

2.3 Theoretical Predictions

We contend that the institutional design of anti-SLAPP statutes carries significant implications for corporate environmental performance. By reducing the legal and financial risks associated with public participation and strengthening the voices of stakeholders, these laws raise the reputational costs of environmental negligence. Environmental issues differ from other areas of corporate responsibility in their visibility, long-term social impact, and often irreversible consequences for affected communities and ecosystems (Bolton and Kacperczyk 2021; Flammer 2013; Li et al. 2025a; Li et al. 2025b). Events such as pollution incidents, toxic releases, and climate-related harms frequently trigger intensive attention from stakeholders (Dyck et al. 2010; Krueger et al. 2020; Krüger 2015). Under anti-SLAPP protections, these concerns can be raised with less fear of retaliation (Norman 2010; Pring and Canan 1996), thereby increasing the likelihood that harmful practices will be publicly exposed. Anticipating this scrutiny and the reputational damage it may entail, firms are more likely to proactively improvew their environmental practices. We therefore expect that the enactment of anti-SLAPP statutes is associated with improvements in corporate environmental performance.

We further argue that two complementary channels help explain how firms adapt to amplified stakeholder voice under anti-SLAPP laws. First, they may increase investment in environmental initiatives within operations as a forward-looking strategy. By allocating more financial and technological resources to green innovation, pollution abatement, and waste management, firms can credibly signal their long-term commitment to sustainability in alignment with stakeholders' expectations (Aghion et al. 2016). Although such investments typically involve significant cost and uncertain returns (Xu and Kim 2022), they often deliver substantive improvements in corporate environmental outcomes (Berrone and Gomez-Mejia 2009; King and Lenox 2000). In this sense, green investments represent both a signal of commitment and an operational shift toward more robust environmental risk mitigation strategies in response to greater transparency and stakeholder monitoring.

Second, firms may reinforce environmental governance to institutionalize and sustain their sustainability efforts. As the foundation for lasting change, governance embeds environmental accountability into decision-making processes and aligns managerial incentives and organizational routines with long-term sustainability objectives (Berrone and Gomez-Mejia 2009; Delmas and Toffel 2008). In response to intensified stakeholder scrutiny under anti-SLAPP statues, firms may adopt governance mechanisms that support more disciplined and forward-looking environmental strategies. Such mechanisms include improving board oversight of sustainability issues, embedding ESG criteria in executive compensation and supply-chain partner selection, and enhancing employee environmental training (Berrone and Gomez-Mejia 2009; Li et al. 2025a; Li et al. 2025b). We contend that these governance measures help integrate environmental considerations into corporate decision-making and establish accountability systems that sustain the firm's environmental effort. Together, environmental investment and governance represent strategic and structural adaptations for firms to respond effectively to heightened stakeholder scrutiny arising from anti-SLAPP protections (Porter and Van der Linde 1995).

3. RESEARCH DESIGN

3.1 Toxic Release Data

We measure corporate environmental performance using toxic chemicals release, a direct and objective indicator for firms' environmental footprint (Akey and Appel 2021; Duchin et al. 2025; Delmas and Toffel 2008; Hsu et al. 2023; Xu and Kim 2022). Facility-level toxic release data is acquired from the EPA's TRI, established under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA).[7] The TRI covers chemicals that meet at least one of the following criteria: (a) linked to cancer or other chronic human health effects, (b) associated with significant adverse acute human health effects, or (c) expected to cause significant adverse environmental effects. The covered list currently includes around 799 individually listed chemicals and 33 chemical categories.[8] Facilities that emit such chemicals are required to report their annual release quantities to the TRI. Since its inception in 1987, this reporting obligation has applied to facilities that (a) employ at least 10 workers, (b) operate in specific 6-digit NAICS sectors, and (c) handle listed chemicals above defined threshold levels.[9] From the TRI dataset, we acquire comprehensive information on reporting facilities, including facility and parent company identifiers (e.g., names and DUNS number), reporting year, and the quantity of each listed chemical released into air, water, or land.

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[7] Section 313 is available at: https://www.epa.gov/sites/default/files/documents/2001hg.pdf/.

[8] See https://www.epa.gov/toxics-release-inventory-tri-program/tri-listed-chemicals.

[9] Although TRI data is self-reported, the EPA implements multiple safeguards to ensure data reliability. Under Section 1101 of Title 18 of the U.S. Code, knowingly submitting false information to the federal government constitutes a criminal offense. In addition, Section 325(c) authorizes civil and administrative penalties for violations of TRI reporting rules. The EPA's Office of Enforcement and Compliance Assurance (OECA) conducts systematic quality reviews to detect potential errors. Facilities flagged for discrepancies are contacted and required to submit corrected reports if inaccuracies are confirmed. Prior research (e.g., Bui and Mayer 2003) finds no evidence of systematic misreporting in the TRI dataset.

We next merge the TRI data with financial information on U.S. public firms from Compustat. Because the two databases lack a common identifier or linking tables, we rely on name-based matching combined with manual verification, following Akey and Appel (2021), Chen et al. (2025a), Jing et al. (2024) and Li et al. (2025b). Our matching procedure proceeds in three steps. First, we standardize firm names by removing common suffixes (e.g., "Corp," "Limited," "Ltd."). We then apply a fuzzy string-matching algorithm based on the Levenshtein distance to link TRI parent names to Compustat firm names.[10] This approach measures the minimum number of single-character edits required to transform one string into another, allowing us to identify matches even when firm names differ slightly due to abbreviations, typographical errors, or formatting inconsistencies. Second, to address time-varying names in both data sources, we incorporate historical names from CRSP and extract historical names and addresses from 10-K, 10-Q, and 8-K filings using the SEC Analytics Suite available through WRDS and Loughran-McDonal database (https://sraf.nd.edu/sec-edgar-data/) (e.g., Loughran and McDonald 2014). Third, we manually check every algorithmic match.[11] As an additional check, we compare headquarters locations, official company websites, and DUNS numbers to confirm each link.[12]

TRI reports emissions at the facility-chemical–year level. We construct a firm-year measure of total toxic release by aggregating facility-level emissions across chemicals and

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[10] The TRI defines an establishment's parent corporation as the entity that owns at least 50% of its voting shares. The Levenshtein distance enables robust fuzzy matching by quantifying character-level edits, making it especially effective for linking firm names with minor spelling variations, abbreviations, or formatting inconsistencies.
[11] To ensure matching precision, we retain fuzzy matches with a similarity score above 70 and manually validate each candidate pair.
[12] The DUNS number, assigned by Dun & Bradstreet (D&B), is a unique identifier used to track business entities. Public firms' DUNS numbers can be accessed at: https://www.dnb.com/duns-number/lookup.html.

facilities owned by the same firm in a given year. Our primary variable is total toxic pollution, defined as the sum of on-site releases (to air, water, and land) and off-site transfers for further treatment, disposal, or release (Jing et al. 2023; Li et al. 2025a; Li et al. 2025b). Following Jing et al. (2023) and Li et al (2025b), we exclude facilities that report zero toxic emissions throughout the 1990–2019 period.[13] This procedure leaves us with 20,150 facilities affiliated with 2,135 distinct publicly listed firms.

3.2 Sample Selection

The primary source for identifying the timing of each state's anti-SLAPP adoption is the Reporters Committee for Freedom of the Press (RCFP) (https://www.rcfp.org/), which tracks the passage and statutory coverage of anti-SLAPP laws nationwide. To ensure accuracy, we cross-validate the enactment years with prior academic literature, including Chen et al. (2025a) and Li et al. (2025b), who provide comprehensive timelines of anti-SLAPP implementation suitable for empirical research.

Our initial sample comprises all U.S. firms included in the merged Compustat and Center for Research in Security Prices (CRSP) database from 1989 to 2019. We merge these firm-level records with the aggregated toxic release data and exclude firms that operate no reporting facilities. Each firm is then linked to the anti-SLAPP statute of its headquarters state (Chen et al. 2025b). We match the statute with firms' headquarters for two main reasons. First, anti-SLAPP laws are enacted and enforced at the state level, and courts typically apply the statute of the state where the plaintiff's principal place of business or domicile is located in defamation

[13] Our sample period ends in 2019 to avoid potential confounding effects introduced by the COVID-19 pandemic.

or related tort actions. According to the *Restatement (Second) of Conflict of Laws* (Sections 145 and 150.1), the state of the plaintiff's principal place of business has the "most significant relationship" in determining the applicable law.[14] Consequently, when a firm faces public, media, and civil criticism, the applicable anti-SLAPP protections are generally determined by the headquarters state, and the headquarters state thus best captures the firm's jurisdictional exposure to speech-related legal protections. Second, from an economic standpoint, a firm's headquarters is the core of strategic decision-making and external communication. It hosts senior management, investor relations, and legal teams, and serves as the primary contact point for analysts, media, and regulators. Local media and residents in the headquarters state often have greater access to firm-specific information and stronger monitoring capacity, making them more responsive to changes in local speech protections. Thus, anti-SLAPP statutes in the headquarters state influence the likelihood that negative environmental information (e.g., pollution events or breaches of environmental regulation) is detected, reported, and disseminated.

To link corporate headquarters to states, we rely on firms' historical headquarters locations. We first identify each firm's headquarters state from the 10-K header files using Loughran-McDonald database (e.g., Loughran and McDonald 2014), which provide information between 1994 and 2019. We then supplement this information with data from Heider and Ljungqvist (2015) and the company header history file in the legacy Compustat/CRSP merged database,

[14] *Restatement (Second) of Conflict of Laws* § 145 (American Law Institute, 1971) provides that "the rights and liabilities of the parties with respect to an issue in tort are determined by the local law of the state which … has the most significant relationship to the occurrence and the parties." The section further lists relevant contacts, including "the domicile, residence, nationality, place of incorporation and place of business of the parties."

as compiled by Bena et al. (2022). Finally, we exclude firms in the financial and utility sectors and remove observations with missing control variables.

Recent finance and econometrics literature indicates that traditional two-way fixed effects Difference-in-Difference (TWFE-DiD) models can produce biased estimates when treatment effects vary across groups or overtime (Goodman-Bacon 2021). In our setting, this bias may arise because firms in early-treated states can serve as controls for those in later-treated states, causing negative weighting and biasing the estimation of dynamic treatment effects (Goodman-Bacon 2021). To mitigate this concern, we employ a stacked event-study design (Barrios 2022; Sun et al. 2021; Wing et al. 2024), which estimates treatment effects relative to adoption cohorts while avoiding comparisons between previously and newly treated units. Specifically, for each treatment year c in which at least one state enacted an anti-SLAPP statute, we form a separate cohort. The treatment sample for cohort c includes firm-year observations within the window $[c - 5, c + 5]$ for firms headquartered in states that enacted anti-SLAPP statutes in year c. The control sample includes firm-year observations within the same window for firms headquartered in states that have not adopted an anti-SLAPP statute by year $c + 5$. We then stack all cohorts into a single panel for estimation, ensuring that identification relies solely on not-yet-treated states as controls.

In this way, after stacking observations of all cohorts, our final regression sample for the main analysis contains 118,287 cohort-firm-year observations from 1,600 unique firms between 1990 and 2019. We winsorize all continuous variables in each cohort at the 1st and 99th percentiles to mitigate the influence of outliers.

3.3 Empirical Design

We estimate the following cohort DiD regression using the stacked cohort sample constructed above to test the effect of the anti-SLAPP statutes on corporate toxic release:

$$RELEASE_{c,i,t} = \beta_0 + \beta_1 ANTI\_SLAPP_{c,s,t} + \sum \beta_k controls_{c,i,t} + \gamma_{c,i} + \rho_{c,s} + \delta_{c,j,t} + \varepsilon_{c,i,t} \tag{1}$$

where *c* denotes the cohort, *i* the firm, *t* the year, *s* the firm's headquarters state at year *t*, and *j* the 48-Fama French code for firm *i* at year *t*. In addition, $\gamma_{c,i}$, $\rho_{c,s}$, and $\delta_{c,j,t}$ represent cohort–firm, cohort–state, and cohort–industry–year fixed effects, respectively. These fixed effects control for unobserved heterogeneity at the firm, state, and industry–year levels within each anti-SLAPP cohort. Specifically, cohort–firm fixed effects ($\gamma_{c,i}$) absorb time-invariant firm-level characteristics such as baseline environmental practices, managerial culture, and strategic orientation; cohort–state fixed effects ($\rho_{c,s}$) account for persistent differences across states, including civil litigation norms, political climates, and economic conditions that may influence both the adoption and impact of anti-SLAPP laws; cohort–industry–year fixed effects ($\delta_{c,j,t}$) capture common shocks or trends affecting firms within the same industry and year, such as sector-wide technological changes or macroeconomic fluctuations. Since the treatment in our setting varies by state, we cluster standard errors at the headquarters-state level, allowing for within-state correlation in the error terms and ensuring valid statistical inference (Imbens and Wooldridge 2009).

Following Akey and Appel (2021), Chen et al. (2025a), Duchin et al. (2025), Jing et al. (2024) and Li et al. (2025b), the dependent variable in Equation (1), $RELEASE$, captures corporate environmental policies, proxied by total toxic pollution, including *LOG(RELEASE)* and sale-adjusted toxic emissions *LOG(RELEASE/SALE)*, where *LOG(RELEASE)* is the natural logarithm of the amounts of total toxic pollution, and *LOG(RELEASE/SALE)* is the natural logarithm of sales-adjusted toxic pollution. $ANTI\_SLAPP$ is an indicator that equals to one if firm i is headquartered in state s that enacts an anti-SLAPP law in year t, and in all subsequent years. That said, zero values of $ANTI\_SLAPP$ indicate non-adopters or adopters' pre-adoption years. A significantly negative coefficient on β_1 would indicate that the adoption of anti-SLAPP laws is associated with a reduction in corporate toxic emissions, consistent with our prediction that amplified stakeholder voice under anti-SLAPP motivates firms to improve their environmental performance.

The inclusion of control variables follows prior literature (Akey and Appel 2021; Chen et al. 2025a; Jing et al. 2024; Li et al. 2025b). Specifically, we include the logarithm of total assets (*SIZE*), return on assets (*ROA*), leverage ratio (*LEV*), firm age (*AGE*), cash holdings (*CASH*), cost of goods sold (*COG*), selling, general and administrative expense (*SG&A*), asset tangibility (*PPE*), research and development expenditure intensity (*R&D/AT*), an indicator for missing R&D data (*MISSINGR&D*), dividend payments (*DIVIDEND*), analysts coverage (*ANALYST*), and institutional ownership (*INS*). The definitions of all variables and data sources are summarized in Appendix A.

3.4 Descriptive Statistics

Panel A of Table 1 summarizes the descriptive statistics of the variables used in Equation (1), derived from the cohort-matched sample.[15] Firms report an average pollution level of 889.6 thousand pounds with a standard deviation of 3,127 thousand pounds. The log-transformed, sales-scaled measure of pollution (*LOG(RELEASE/SALE)*) has a mean of 2.997 and a standard deviation of 2.853. The mean value of *ANTI_SLAPP* is 0.035, comparable to Lee et al. (2025). Panel B presents the distribution of pollution by year. Average firm-level emissions, measured in thousands of pounds, decline steadily from the early 1990s to the late 2010s. Specifically, mean releases fall from about 1,130 thousand pounds in 1990 to 750 thousand pounds in 2019, indicating marked improvements in environmental efficacy. The log-transformed measures, both unscaled and sales-scaled exhibit a similar downward trend.

Panel C presents the breakdown of pollution by industry (Fama-French 48 industry groups). The data reveals substantial cross-industry heterogeneity. Toxic emissions are highly concentrated in a few resource- and energy-intensive sectors, such as Precious Metals, Steel Works, Petroleum and Natural Gas, Chemicals, and Business Supplies, where average emissions exceed 2,400 thousand pounds. In contrast, sectors such as Agriculture, Construction, and Candy & Soda record relatively lower emissions. The log-scaled measures (*LOG(RELEASE/SALE)*) further confirm that heavy manufacturing and extraction industries as well as material-intensive sectors dominate total reported releases.

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[15] As such, control states can be chosen in multiple cohorts (i.e., matching with replacement), which explains the large number of control observations relative to treatment observations.

4. MAIN RESULTS AND DISCUSSIONS

4.1 Does the Adoption of Anti-SLAPP Laws Relate to Decreases in Toxic Releases?

We predict firms to improve environmental performance by engaging in lower toxic releases following the enactment of anti-SLAPP laws. Table 2 reports the estimation results of Equation (1), which examines the association between anti-SLAPP enactments and firms' toxic emissions.

Across all specifications, the coefficients on *ANTI_SLAPP* are significant and negative, suggesting that firms significantly reduce toxic pollution after the enactment of anti-SLAPP laws. This finding is consistent with our conjecture that stronger free-speech protection amplifies stakeholder voice related to environmental issues and firms are motivated to improve corporate environmental performance. We find that the effect is also economically significant. In Column (2), the coefficient on *ANTI_SLAPP* (i.e., −0.5308) implies that for an average firm in our sample, total toxic releases decrease by approximately 41% following anti-SLAPP adoption; in Column (4), the corresponding coefficient (i.e., −0.2017) suggests that the firm's sales-adjusted pollution intensity declines by about 18%.[16] Therefore, the implementation of anti-SLAPP statutes leads to a significant and economically meaningful improvement in corporate environmental performance, reducing both the absolute and relative levels of toxic emissions.[17]

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[16] The percentage change associated with a coefficient β is computed as $\%\Delta Y=100\times(e^{\beta}-1)$. For Column (2), $e^{-0.5308}$-1=41.2%. For Column (4), $e^{-0.2017}-1=18.3\%$.

[17] Following Heath et al. (2023b), we address potential multiple-testing concerns associated with reusing established natural experiments in several ways. First, our setting extends the anti-SLAPP identification framework in a distinct direction. Prior studies focus on capital-market or disclosure outcomes (e.g., Lee et al. 2025; Guernsey et al. 2025), whereas we examine real environmental consequences, specifically firms' toxic emissions and pollution-prevention behaviors, through the lens of stakeholder voice and environmental accountability. This approach highlights a new economic channel and extends the external validity of anti-SLAPP

4.2 Dynamic Treatment Effects of Anti-SLAPP on Toxic Releases

To satisfy the DiD identification requirement, we assume that, in the absence of anti-SLAPP laws, firms in the treatment and control groups would have followed parallel trends in toxic emissions over time. To assess this assumption, we estimate dynamic treatment effects by replacing the anti-SLAPP indicator in Equation (1) with a set of event-year dummies for treatment firms, spanning five years before to five years after adoption (*t* = –5 to *t* = 5), excluding year *t* = -1 as the reference period. The event-study specification, as shown in Equation (2), provides both a visual and statistical test of the parallel-trend assumption and allows us to examine the timing of anti-SLAPP law effects on toxic emissions.

$$RELEASE_{c,i,t} = \beta_0 + \sum_{j=-5, j\neq -1}^{j=5} \beta_j \times Treat_{i,c} \times Year_j + \sum \beta_k controls_{c,i,t} + \gamma_{c,i} + \rho_{c,s} + \delta_{c,j,t} + \varepsilon_{c,i,t} \quad (2)$$

Figures 1(A) and 1(B) present the dynamic treatment effects of anti-SLAPP enactments on *LOG(RELEASE)* and *LOG(RELEASE/SALE)* with 95% confidence intervals for a [*c* - 5, *c* + 5] window. The results suggest that trends for the treatment and control firms remain fairly parallel during the pre-event period, consistent with the parallel-trend assumption, while in the post-event period following anti-SLAPP enactment, firm toxic release decreases visibly.

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laws as a quasi-natural experiment. Furthermore, we check the robustness of our findings following Heath et al. (2023b). We pre-specify a family of 20 outcomes covering total toxic releases and intensity measures, avoiding "researcher degrees of freedom" in post-hoc family construction. Heath et al. (2023) provide simulation-based 5 % FWER t-cutoffs for staggered-shock designs that rise with the number of outcomes; around 20 outcomes, the benchmark cutoff is approximately $|t| \approx 3.0$. Our baseline stacked-DiD estimates have $|t| = 4.03$ and 3.25, both exceeding this benchmark and therefore robust to the Heath-style adjustment. In addition, our estimates comfortably pass the corresponding Romano–Wolf and Benjamini–Yekutieli thresholds, confirming that the results are robust to these adjustments.

4.3 Robustness Checks

4.3.1 Alternative measurements

To mitigate potential measurement errors of our key constructs, we examine the robustness of our findings using alternatively defined measurements for toxic emissions and anti-SLAPP enactments.

Specifically, we follow Chen et al. (2025a) and Naaraayanan et al. (2021) and employ two alternative output-adjusted measures of toxic emissions, namely *LOG(REVENUE_ADJ)* and *LOG(ASSET_ADJ)*. Furthermore, following Li et al. (2025b), we construct another four alternative measures of this construct: (i) on-site releases only, *LOG(ONSITE)*; (ii) releases covered by the Clean Air Act (air pollutants), *LOG(CAA)*; (iii) persistent bioaccumulative toxic (PBT) chemicals release, *LOG(PBT)*; and (iv) total releases weighted by the EPA's Risk-Screening Environmental Indicators (RSEI) hazard score, *LOG(RSEI)*.[18] We use each of these measures as the dependent variable in Equation (1). Panel B of Table 2 presents the regression results. The coefficients on *ANTI_SLAPP* are significantly negative across all columns, indicating that the documented reduction in toxic emissions under anti-SLAPP laws is robust to alternative measures of environmental performance.

Next, we test the robustness of our findings using alternative data sources to measure firms' environmental performance. First, following Li et al. (2025a), we draw on Refinitiv's ESG database (formerly Thomson Reuters ASSET4) and use *E_SCORE* and *E_GRADE* as alternative dependent variables for corporate environmental performance. Second, following Sautner et al. (2023) and Li et al. (2025a), we source carbon emissions from S&P Global Trucost. Because pollution may reflect unavoidable by-product of production, such as carbon dioxide (CO_2) emissions in cement manufacturing (Jaffe et al. 2003), we interpret emissions

[18] PBT Chemicals at https://www.epa.gov/toxics-release-inventory-tri-program/persistent-bioaccumulative-toxic-pbt-chemicals-rules-under-tri; and RSEI Score is available at https://www.epa.gov/sites/default/files/2015-08/documents/rsei_methodology_v2_3_3_0.pdf.

measures with this nuance in mind. We use *LOG(CO2)*, the natural logarithm of direct (Scope 1) and indirect (Scope 2) emissions, and *LOG(CO2/SALE)*, sales-adjusted carbon emissions.[19] Third, consistent with Li et al. (2025a), we use environmental scores from RiskMetrics KLD database (*ENV_KLD*). We re-estimate Equation (1) using each alternative dependent variable. Panel C shows that the main results on anti-SLAPP enactment remain consistent.

We further test the robustness of our findings using alternative measures of anti-SLAPP law strength. Based on information available on the Institute for Free Speech website (https://www.ifs.org/anti-slapp-states/), we use *COVERED SPEECH SCORE*, which reflects the extent of protected speech under each state's law; *PROCEDURES SCORE*, which measures the comprehensiveness of procedural protections for defendants; and *ANTI_SLAPP SCORE*, a composite measure derived from *COVERED SPEECH SCORE* and *PROCEDURES SCORE*. These scores capture the breadth of protection, procedural rigor in filing and adjudicating motions to dismiss, and the evidentiary burden required for dismissal. For pre-enactment years and states where the law has not been enacted, we assign a score of zero. Each score is divided by 100 and used to re-estimate Equation (1). Panel D in Table 2 presents the regression results. In all columns, the alternative anti-SLAPP measurements remain negative and statistically significant, suggesting that stronger legal protections for speech are consistently associated with lower levels of toxic emissions, which confirms our main results and indicates that greater free-speech protections strengthen stakeholder monitoring and corporate environmental accountability.

[19] Scope 1 emissions are direct emissions from a company's owned or controlled sources, such as company vehicles, on-site fuel combustion, and process emissions. Scope 2 emissions are indirect emissions from the purchase of electricity, steam, heat, or cooling used by the company.

4.3.2 Other robustness checks

We conduct several additional robustness tests. First, we validate our setting by examining whether strengthened protection of free speech encourages the media to report more extensively on corporate environmental issues. We obtain data from RavenPack to measure the number of environmentally related news articles, i.e., *LOG(ENV_NEWS)*, and their sentiment, i.e., *ENV_NEWS_SENTI*. We also follow Li et al. (2025a) and use RepRisk incident-level data, where we retain only environmental- and social-related incidents to capture the number of negative environmental news items in a given year, i.e., *LOG(ENV_INCIDENTS)*. We re-estimate Equation (1) using each of these variables as the dependent variable. OA Table 1 reports the results. The coefficients on *ANTI_SLAPP* are significantly positive in Columns (1) and (3), and significantly negative in Column (2), which indicates that consistent with our proposition, the enactment of anti-SLAPP laws significantly increases the media coverage of corporate environmental performance, especially negative news.

Next, following Li et al. (2025b), we rerun Equation (1) using *RELEASE* as the dependent variable in a Poisson model within the cohort DiD framework. Column (1) of OA Table 2 reports the results, showing that the coefficient on *ANTI_SLAPP* remains significantly negative. We also obtain consistent findings when applying alternative event windows, i.e., [-3, +3] and [-7, +7], before and after the law's enactment, as shown in Columns (2) to (5).

To address potential non-random selection into the treatment group, we implement a PSM approach. Specifically, we construct matched samples using 1:1 nearest neighbor matching and radius caliper matching, respectively.[20] In addition, we create weighted samples based on

[20] We estimate the propensity scores within each cohort by regressing the treatment indicator (*ANTI_SLAPP*) on the same firm-level characteristics included in Equation (1). The resulting fitted values from this first-stage logit model represent each firm's likelihood of being subject to anti-SLAPP laws. These estimated scores are then used to construct matched samples (1:1 nearest-neighbor and radius caliper) and to generate weights for the inverse probability weighting (IPW). All matching and weighting are implemented within cohort-year groups to ensure comparability among firms exposed to similar regulatory and temporal conditions.

inverse probability weighting (IPW) and entropy balancing to further ensure covariate balance between treated and control firms. OA Table 3 reports the results. Across all specifications, the coefficients on *ANTI_SLAPP* remain negative and statistically significant, which suggests that the positive association between anti-SLAPP laws and corporate toxic release is robust after controlling for potential sample selection bias.

We further conduct a placebo test to check if our findings are driven by spurious correlations. Specifically, we generate a series of placebo events, where we repeatedly draw a random subset of firms 2,000 times without replacement as "fake treated units." Each is assigned a randomly chosen common "fake treated year." We then re-estimate Equation (1) using these simulated placebo treatments. This procedure produces a distribution of placebo effects against which the actual treatment effect can be benchmarked. OA Figure 1 plots the coefficients on *ANTI_SLAPP* using *LOG(RELEASE)* and *LOG(RELEASE/SALE)* as the dependent variable, respectively; both coefficients are not significantly different from zero, consistent with our main findings.

5. MECHANISM ANALYSES

Our findings thus far indicate that the enactment of anti-SLAPP statutes is associated with significant reductions in corporate toxic emissions. In this section, we investigate the underlying mechanisms through which these free-speech protections influence firms' environmental performance.

5.1 Environmental Investment

Under amplified stakeholder voice following the anti-SLAPP laws, firms may increase investment in cleaner technologies, innovation, and pollution control initiatives to mitigate reputational and regulatory risks. We explore this mechanism along four dimensions: green innovation, environmental investment spending, pollution source reduction, and waste management activities.

5.1.1 Green innovation

We begin by examining whether anti-SLAPP statutes promote corporate green innovation. To measure innovation outcomes, we use firm-level patent data compiled by Kogan et al. (2017) (KPSS).[21] Green patents are identified based on classifications provided by Haščič and Migotto (2015), using the International Patent Classification (IPC) system maintained by the World Intellectual Property Organization (WIPO).[22] The dependent variable, *GREEN_PATENT*, measures the number of green patents that firm i applies in year t and are ultimately granted. We estimate Equation (1) using a Poisson model.[23] Column (1) of Table 4 shows that firms affected by anti-SLAPP laws produce significantly more green patents. This result suggests that enhanced stakeholder voice and public accountability foster the development of cleaner technologies and environmental innovation.

5.1.2 Environmental capital spending

Next, we examine whether anti-SLAPP legislation motivates firms to allocate more financial resources toward pollution abatement. Following Fiechter et al. (2022) and Li et al.

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[21] It compiles comprehensive U.S. patent data from Google Patent and matches patents to CRSP-listed firms for the period from 1926 onward. This dataset also offers extensive details such as patent numbers, citation counts, application and grant dates, and technological classifications. Further, CRSP permanent identification numbers are embedded in the dataset, which allows us to accurately link patents to firms included in our sample.
[22] To ensure consistency in classification, we convert IPC codes into Cooperative Patent Classification (CPC) codes using tools provided by the United States Patent and Trademark Office (USPTO).
[23] The results are robust to the log number of green patents using OLS estimates.

(2025a), we use Refinitiv data that captures firms' investment in cleaner technologies designed to reduce future environmental risks. We construct a dummy variable, *ENV_INV*, equal to one if a firm reports such initiatives and zero otherwise.[24] As reported in Column (2) of Table 4, firms subject to anti-SLAPP laws are significantly more likely to engage in pollution abatement and prevention spending. This finding supports the view that stronger public oversight motivates firms to invest in environmental improvements.

5.1.3 Source reduction practices

We further assess whether firms respond to anti-SLAPP laws by adopting more pollution prevention practices. Drawing on the U.S. EPA Pollution Prevention (P2) database (https://www.epa.gov/toxics-release-inventory-tri-program/pollution-prevention-p2-and-tri), we identify initiatives that reduce, eliminate, or prevent pollution at its source, before recycling, treatment, or disposal. The P2 database distinguishes between operations-related and production-related activities. Operations-related practices aim to reduce toxic emissions and waste through improvements in operating processes and procedures. Examples include enhanced maintenance scheduling and record-keeping, improved inventory control through efficient storage and handling of chemicals and materials, and more effective spill and leak prevention through monitoring programs and equipment inspections. Production-related practices focus on improving the techniques, materials, and equipment used in manufacturing.

[24] We estimate binary outcomes using linear probability models (LPMs), consistent with standard practice in fixed-effects settings (Angrist and Pischke 2009; Wooldridge 2010).

Such practices involve process modifications, surface preparation and finishing, cleaning and degreasing methods, product redesign, and adjustments in raw material usage.

Following Li et al. (2025b), we count the total number of newly initiated source reduction activities at the facility level in a given year and aggregate them to the firm level to construct *LOG(SOURCE_REDUC).* We then examine whether the enactment of anti-SLAPP laws leads firms to adopt more pollution source reduction activities. The results are presented in Column (3) of Table 4. Consistent with our expectation, the coefficient on *ANTI_SLAPP* is significantly positive, indicating that firms located in states with stronger free-speech protections are more proactive in implementing pollution prevention practices. This evidence suggests that amplified stakeholder voice encourages firms to take more preventive approaches to environmental management.

5.1.4 Waste management activities

We further examine firms' post-production waste management efforts, which mitigate environmental harms after pollutants are generated and help minimize their ultimate release into the environment. These activities include recycling (the reuse of discarded materials in producing new products) and combustion for energy recovery and treatment processes, such as incineration and oxidation, that destroy or neutralize toxic chemicals. To capture the effectiveness of these practices, we calculate *WASTE_MGNT*, the fraction of waste reduced through post-production waste management approaches relative to total generated waste. The results, reported in Column (4) of Table 4, show that the coefficient on *ANTI_SLAPP* is significantly positive, which suggests that firms in treated states eliminate a larger proportion of toxic chemicals through post-production waste management.

In sum, the collective results indicate that firms respond to anti-SLAPP laws by undertaking a broad spectrum of environmental investments and deploying financial and technological resources to improve environmental performance, thereby driving the significant reduction in toxic emissions documented earlier.

5.2 Environmental Governance

Our second mechanism focuses on environmental governance, which reflects the organizational structures and managerial systems through which firms integrate environmental considerations into corporate decision-making, aimed for improved environmental performance. We examine this mechanism across four dimensions, including the appointment of sustainability-related directors on board, ESG-linked executive compensation, employee environmental training, and environmentally responsible supply chain management.

5.2.1 Sustainability directors

We first examine whether treated firms are more likely to appoint a sustainability director. Appointing a sustainability director embeds accountability and expertise in environmental oversight, helping ensure sustainability goals are integrated into both strategic and operational decisions.

Director information is obtained from BoardEx. Following Chen et al. (2025a) and Fu et al. (2020), we classify a director as sustainability-related if their job title or description includes the terms of *sustainability*, *sustainable*, *responsibility*, *ethics*, or *environment*. We then create an indicator variable, *SUS_DIR*, which equals one for firm-years with at least one such director and zero otherwise. Column (1) of Table 5 shows a positive and statistically significant association between anti-SLAPP enactment and the likelihood of appointing a sustainability director. This result suggests that firms operating under stronger free-speech protection allocate more internal governance resources to environmental and ethical oversight. It also indicates that heightened stakeholder scrutiny encourages firms to formalize sustainability leadership roles, thereby signaling a stronger commitment to responsible management.

5.2.2 Executive compensation linked to ESG

We next examine whether firms incorporate ESG performance metrics into executive compensation to encourage improved environmental performance. Using data from Refinitiv ESG, we construct a firm-year indicator equal to one if a firm's compensation policy explicitly links executive remuneration to ESG or sustainability performance, and zero otherwise.[25] Column (2) of Table 5 reports a positive and statistically significant association between the adoption of anti-SLAPP statutes and the likelihood of implementing ESG-linked compensation, consistent with the view that great public accountability encourages firms to align managerial incentive with environmental goals.

[25] The relevant Refinitiv item asks: "Does the company have an extra-financial performance-oriented compensation policy that includes remuneration for the CEO, executive directors, non-board executives, and other management bodies based on ESG or sustainability factors?"

5.2.3 Environmental training

We then examine whether firms improve environmental performance by strengthening employee environmental training programs in response to anti-SLAPP laws. Using Refinitiv data and following Fiechter et al. (2022), we construct *ENV_TRAINING*, an indicator equal to one if a firm provides employees with training on environmental issues (e.g., resource conservation, emission reduction, or environmental codes of conduct), and zero otherwise.

As shown in Column (3) of Table 5, the coefficient on *ANTI_SLAPP* is positive and statistically significant, suggesting that treated firms are more likely to adopt employee training initiatives. So, our finding indicates that anti-SLAPP legislation fosters greater internal environmental awareness and capability building through workforce education.

5.2.4 Environmental supply chain management

Supply chains represent a substantial portion of a firm's environmental footprint. The governance of up- and down-stream partners is a critical aspect of firms' internal environmental governance. Incorporating environmental criteria into supplier selection and monitoring enables firms to extend sustainability standards beyond their own operations. We next examine whether firms implement environmental management practices within their supply chains.

Sourcing data from Refinitiv, we identify two relevant items: (1) whether the company applies environmental criteria (e.g., ISO 14000 certification, energy consumption standards, etc.) in the selection of suppliers or sourcing partners; and (2) whether it conducts surveys assessing the environmental performance of its suppliers. We construct an indicator variable, *ENV_SUPPLYCHAIN*, which equals one if a firm engages in either of these practices, and zero otherwise. Column (4) of Table 5 shows a significantly positive relationship between anti-SLAPP adoption and the likelihood of implementing green supply chain practices, reflecting broader diffusion of environmental governance throughout the corporate value chain.

Together, these results indicate that anti-SLAPP laws strengthen corporate environmental governance, and that such governance enhancements provide a credible mechanism through which legal protections for free speech translate into improved corporate environmental performance.

6. ADDITIONAL ANALYSES

6.1 Cross-sectional Analyses

In this section, we examine whether the effect of anti-SLAPP statutes on firms' toxic emissions varies across firms with different levels of stakeholder scrutiny and managerial incentive alignment. We argue that while enhanced protection of free speech amplifies public oversight, the extent to which firms respond depends on their external exposure to stakeholder pressure and internal incentive to pursue sustainable practices.

6.1.1 External stakeholder pressure

We first examine whether the effect is more pronounced among firms subject to greater external stakeholder pressure. Firms that rely heavily on government clients or operate in regions with active environmental NGOs arguably face stronger reputational and regulatory monitoring, making them more responsive to public criticism under anti-SLAPP protections.

To test this prediction, we employ two proxies for external stakeholder pressure: *GOV_CUS* is an indicator equal to one if the firm has government customers, and zero otherwise, which captures exposure to government procurement oversight and the reputational constraints associated with serving public clients; *ENV_EGO* measures the average intensity of environmental NGOs in a firm's headquarters state, reflecting the strength of local activist and advocacy monitoring. Both variables are measured before anti-SLAPP law adoption to mitigate endogeneity concerns related to concurrent institutional changes.

We interact these variables with the anti-SLAPP indicator and re-estimate Equation (1) with these interaction terms included. Panel A in Table 6 presents the results. Columns (1) and (2) report regressions interacting *ANTI_SLAPP* with *GOV_CUS*, while Columns (3) and (4) use *ENV_EGO* as the moderating variable. Across all specifications, the coefficients on the interaction terms are significantly negative, suggesting that in line with our prediction, the reduction in firms' toxic emissions following the enactment of anti-SLAPP laws is more pronounced among firms facing greater stakeholder exposure.

6.1.2 Managerial incentive alignment

Next, we explore whether firms' responses to anti-SLAPP laws vary with managerial incentives from compensation design and investors' sustainability preferences. Managerial compensation design guides executives' behavior by aligning rewards with performance objectives (Core et al. 2003; Jensen and Meckling 1976), and investor ownership shapes managerial incentives through monitoring and preference transmission (Fiechter et al. 2022; Heath et al. 2023b). We contend that firms whose managerial incentives are more attuned to long-term environmental goals are more responsive to heightened stakeholder scrutiny under anti-SLAPP laws. However, when executives are rewarded primarily for short-term performance and investors emphasize near-term financial returns over sustainability goals, the effect of anti-SLAPP protections on improving corporate environmental performance is expected to weaken.

We use two variables to capture these dimensions. *SHORT_COMP* is the average ratio of short-term to total executive compensation in the pre-treatment period. A higher value of *SHORT_COMP* indicates a compensation structure that incentivizes a reduced tendency to focus on long-term sustainability outcomes. *ESG_FUND* measures the average pre-treatment ownership by ESG-oriented institutional investors (Heath et al. 2023a; Krueger et al. 2020), reflecting the intensity of monitoring by socially responsible investors who prioritize environmental stewardship.

Panel B in Table 6 presents the results. Columns (1) and (2) examine the moderating role of short-term compensation incentives, while Columns (3) and (4) focus on ESG-oriented institutional ownership. The results show that the effects of anti-SLAPP are weaker for firms with higher *SHORT_COMP* and stronger for those with greater *ESG_FUND*, suggesting that managerial myopia derived from compensation design constrains, whereas ESG-oriented investors enhance, firms' environmental responses to heightened stakeholder scrutiny.

Taken together, these cross-sectional findings suggest that stakeholder pressure and managerial incentive alignment jointly affect firms' responses to enhanced speech protections for stakeholders, as reflected in their environmental performance. Overall, the results highlight that stronger external oversight and closer alignment of managerial incentive to ESG goals enhance the effectiveness of anti-SLAPP statutes in promoting corporate environmental improvement.

6.2 Does Anti-SLAPP Reduce Toxic Releases by Shrinking Firms' Economic Activities?

We have by far documented that anti-SLAPP statutes are associated with lower toxic releases and improved environmental practices. However, a potential concern is that the observed decline in emissions could stem from reduced economic activity rather than genuine environmental improvement. As noted by Akey and Appel (2021), firms may lower reported emissions simply by scaling down productions or operations. To address this concern, we test whether the enactment of anti-SLAPP laws leads to a significant decline in firms' economic activities.

We employ five proxies to capture firm-level economic performance. First, we use the current-year production ratio from the TRI database. We aggregate facility-level ratios to the firm-year level to obtain *PRODUCT_RATIO*.[26] Second, *NIGROWTH* measures a firm's annual growth rate of net income. Third, *TFP* stands for total factor productivity, which captures a firm's efficiency in generating output given its labor and capital inputs. Specifically, we estimate *TFP* as the residual from regressing the natural logarithm of firm sales on the logarithms of the number of employees and net property, plant, and equipment, with regressions conducted separately by two-digit industry and year. Fourth, we measure firm size

[26] Following Akey and Appel (2021), we exclude production ratios below zero or above five to minimize data errors.

by the number of employees, i.e., *LOG(EMP)*, to capture firms' production scale and operational activity. Finally, *FC*, a financial-constraint index (Linn and Weagley 2024), reflects firms' capability to sustain investment and operations—a decline in financial flexibility would indicate economic slowdown.

The results, reported in Columns (1) to (5) of Table 7, consistently show that the coefficients on the anti-SLAPP indicator are statistically insignificant. These findings suggest that the implementation of anti-SLAPP laws does not significantly affect firms' production activities or overall economic operations. Therefore, the observed reduction in toxic emissions likely reflects genuine environmental improvement rather than a contraction in firm scale.

7. CONCLUSION

This study documents a theoretical and empirical link between stronger speech protections and corporate environmental performance. Utilizing asynchronous, state-by-state rollout of U.S. anti-SLAPP statutes, we apply a stacked DiD design and analyze 118,287 firm-year observations from 1990 to 2019. We find that the enactment of anti-SLAPP laws relates to a significant reduction in toxic emissions. Further, these effects are not driven by a contraction in firms' economic activities. Instead, firms tend to increase their environmental investment, as evidenced by greater green patenting, higher environmental spending, and more extensive source reduction and waste management efforts. They also strengthen their environmental governance by appointing sustainability directors, linking executive pay to ESG performance, providing employees with environmental training, and incorporating environmental responsibility into supply chain management, following anti-SLAPP adoption. Cross-sectional analyses show that the effect of anti-SLAPP laws is more pronounced among firms exposed to greater stakeholder oversight and those with stronger managerial incentive alignment toward long-term ESG goals.

Taken together, our findings suggest that legal reforms unrelated to the environment can nonetheless steer firms toward substantive sustainability improvements through accountability and stakeholder voice. Our study also yields valuable regulatory implications, as our findings suggest that strengthening speech protections can serve as a cost-effective complement to traditional environmental regulation to ensure that heightened scrutiny translates into improved corporate commitment to sustainable practices.

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Appendix A. Variable Definitions

Variable Names	Definitions	Data Source
Main analysis		
RELEASE	Total quantity of emissions at the firm level.	TRI
LOG(RELEASE)	Natural logarithm of the amounts of total toxic pollution.	TRI
LOG(RELEASE/SALE)	Natural logarithm of sales-adjusted toxic pollution.	TRI
ANTI_SLAPP	Indicator equal to one if firm *i* is headquartered in a state that has enacted an anti-SLAPP law by the given year; zero otherwise.	IFS
SIZE	Natural logarithm of total assets.	Compustat
ROA	Net income scaled by total assets.	Compustat
LEV	(long-term debt + debt in current liabilities) scaled by total assets.	Compustat
AGE	Natural logarithm one plus years since a firm first appears in Compustat.	Compustat
CASH	Cash holding scaled by year-end total assets.	Compustat
COG	Cost of goods sold scaled by year-end total assets.	Compustat
SG&A	Selling, general and administrative expense scaled by year-end total assets.	Compustat
PPE	Property, plant and equipment scaled by year-end total assets.	Compustat
R&D/AT	R&D expense scaled by year-end total asset.	Compustat
MISSINGR&D	Indicator equal to one if R&D expense is missing values, and zero otherwise.	Compustat
DIVIDEND	(Common dividends + preferred dividends) scaled by total assets	Compustat
ANALYST	Natural logarithm of one plus the arithmetic mean of the 12 monthly number of earnings forecasts for a firm.	IBES
INS	Percentage of institutional shareholdings.	LSEG
Robustness tests		
LOG(ONSITE)	Natural logarithm of one plus the amount of firms' onsite release.	TRI
LOG(CAA)	Natural logarithm of one plus the amount of toxic release under the Clean Air Act (CAA).	TRI
LOG(RSEI)	Natural logarithm of one plus the amount of total release weighted by EPA's Risk-Screening Environmental Indicators (RSEI) hazard score	TRI
LOG(REVENUE_ADJ)	Natural logarithm of one plus revenue-adjusted toxic pollution.	TRI
LOG(ASSET_ADJ)	Natural logarithm of one plus asset-adjusted toxic pollution.	TRI
E_SCORE	Environmental score, ranging from 0 to 1.	Refinitiv
E_GRADE	Environmental rating, ranging from D– (assign 1) to A+ (assign 11).	Refinitiv
LOG(CO2)	Natural logarithm of direct emissions from production and indirect emissions (Scope 1 and 2) from energy consumption in a year.	Trucost
LOG(CO2/SALE)	Natural logarithm of sales-adjusted carbon emissions.	Trucost
ENV_KLD	Environmental score calculated as the difference between the number of environmental strengths and the number of environmental concerns identified for each firm.	KLD
ANTI_SLAPP SCORE	Composite of *COVERED SPEECH SCORE* and *PROCEDURES SCORE*.	IFS
COVERED SPEECH SCORE	Extent of speech protected under each jurisdiction's anti-SLAPP law.	IFS

Variable Names	Definitions	Data Source
PROCEDURES SCORE	Comprehensiveness of procedural protections offered to speakers.	IFS
Mechanism tests		
GREEN_PATENT	Number of green patents applied for and ultimately granted to firm *i*. Patent data are sourced from KPSS; green patent classifications under the International Patent Classification (IPC) system from the World Intellectual Property Organization (WIPO). To ensure consistency in patent classification, we utilize conversion tools provided by the United States Patent and Trademark Office (USPTO) to translate IPC codes into the CPC codes used by KPSS.	KPSS IPC WIPO USPTO
ENV_INV	Indicator equal one if a firm reports making environmental investments to reduce future risks or increase opportunities, and zero otherwise.	Refinitiv
LOG(SOURCE_REDUCE)	Natural logarithm of one plus the cumulative number of source reduction activities adopted.	TRI P2
WASTE_MGMT	Percentage of total waste reduced via waste management activities (recycling, recovery, and treatment).	TRI P2
SUS_DIR	Indicator equal to one if a firm has at least one sustainability director; zero otherwise.	BoardEx
ESG_COMP	Indicator equal to one if executive compensation policies explicitly consider ESG performance (Refinitiv item: "Does the company have an extra-financial performance-oriented compensation policy that includes remuneration for the CEO, executive directors, non-board executives, and other management bodies based on ESG or sustainability factors?"); zero otherwise.	Refinitiv
ENV_TRAINING	Indicator equal to one if a firm trains employees on environmental issues (per Refinitiv item: "Does the company train its employees on environmental issues? - employee environmental (resource reduction & emission reduction) related training provided by the company or external trainers?"); zero otherwise.	Refinitiv
ENV_SUPPLYCHAIN	Indicator equal to one if the firm uses environmental criteria in selecting suppliers or sourcing partners (per Refinitiv item: "Does the company use environmental criteria (ISO 14000, energy consumption, etc.) in the selection process of its suppliers or sourcing partners?"); zero otherwise.	Refinitiv
PRODUCT_RATIO	Ratio of the production volume.	TRI
NIGROWTH	Net income growth at the firm level.	Compustat
TFP	Residuals from regressing natural logarithm of the firm's sales against natural logarithm of the number of its employees and natural logarithm of the net property, plant, and equipment, where the regressions are run by the firm's two-digit industry and year.	
LOG(EMP)	Natural logarithm of the firm's number of employees.	Compustat
FC	Average of equity and debt constraint scores (text-based financial constraints measures in Linn and Weagley, 2024).	Linn and Weagley (2024)
Cross-sectional analysis and other variables		
GOV_CUS	Indicator equal to one if the firm has government customers five years before the enactment of anti-SLAPP; zero otherwise.	Factset
ENV_EGO	Average environmental NGO intensity five years before the enactment of anti-SLAPP.	IRS
SHORT_COMP	Average ratio of executive short-term compensation five years before the enactment of anti-SLAPP.	BoardEx
ESG_FUND	Fraction of shares outstanding held by ESG funds.	Heath et al. (2023a)

Variable Names	**Definitions**	**Data Source**
LOG(ENV_NEWS)	Natural logarithm of the one plus the number of environment-related news.	Ravenpack
ENV_NEWS_SENTI	Sentiment of environment-related news.	Ravenpack
LOG(ENV_INCIDENTS)	Natural logarithm of one plus the number of environment-related news items.	RepRisk

Figure 1. Dynamics of the Changes in Toxic Release around the Anti-SLAPP Enactment Years

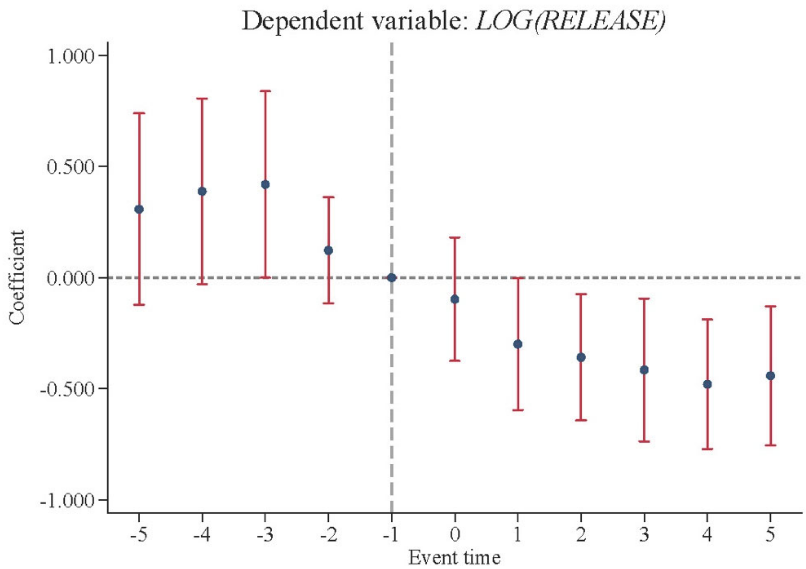


Figure 1(A)

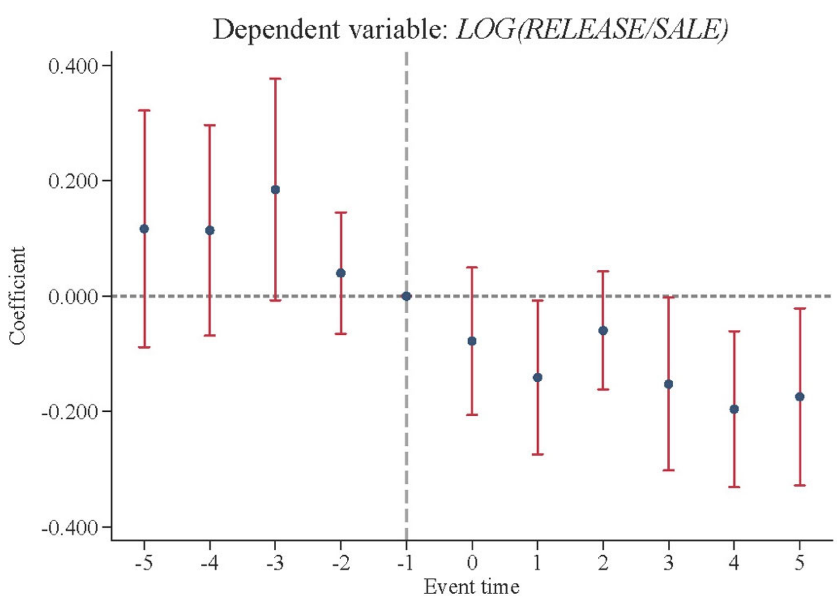


Figure 1(B)

Notes: This figure shows the dynamic treatment effects (five-year lag and five-year lead) of anti-SLAPP and time trends on annual toxic emissions. In Figure 1(A), the dependent variable is *LOG(RELEASE)*, while the dependent variable is *LOG(RELEASE/SALE)* in Figure 1(B). Variables are defined in Appendix A.

Table 1. Descriptive Statistics and Sample Distribution

Panel A: Summary statistics

Variable Name	Observation	Mean	SD	Min	P25	P50	P75	Max
RELEASE (in 1,000)	118,287	889.600	3,127.000	0.000	0.000	14.570	223.800	22,662.000
LOG(RELEASE)	118,287	7.550	5.792	0.000	0.000	9.587	12.320	16.940
LOG(RELEASE/SALE)	118,287	2.997	2.853	0.000	0.000	2.839	5.385	9.823
ANTI_SLAPP	118,287	0.035	0.184	0.000	0.000	0.000	0.000	1.000
SIZE	118,287	20.250	1.914	15.740	18.980	20.290	21.520	24.740
ROA	118,287	0.027	0.113	-0.567	0.006	0.045	0.081	0.259
LEV	118,287	0.284	0.206	0.000	0.137	0.262	0.395	1.035
AGE	118,287	2.931	0.962	0.000	2.303	3.219	3.714	4.159
CASH	118,287	0.063	0.075	0.000	0.012	0.033	0.086	0.387
COG	118,287	0.935	0.593	0.111	0.541	0.820	1.165	3.469
SG&A	118,287	0.220	0.165	0.000	0.100	0.182	0.300	0.822
PPE	118,287	0.319	0.176	0.031	0.185	0.289	0.423	0.825
R&D/AT	118,287	0.018	0.031	0.000	0.000	0.005	0.024	0.169
MISSINGR&D	118,287	0.389	0.488	0.000	0.000	0.000	1.000	1.000
DIVIDEND	118,287	0.014	0.021	0.000	0.000	0.006	0.021	0.122
ANALYST	118,287	0.351	1.040	0.000	0.000	0.000	0.000	4.220
INS	118,287	0.476	0.302	0.000	0.215	0.515	0.722	1.000

Panel B: Breakdown by year

Year	*RELEASE* (*in 1,000*)	*LOG(RELEASE)*	*LOG(RELEASE/SALE)*
1990	1,130.340	8.770	4.139
1991	1,024.369	8.502	3.976
1992	985.232	8.198	3.803
1993	915.925	8.088	3.693
1994	843.421	7.634	3.383
1995	851.303	7.330	3.176
1996	829.965	7.134	3.007
1997	845.275	6.952	2.884
1998	925.373	7.194	2.982
1999	915.553	7.257	2.942
2000	943.033	7.395	2.943
2001	855.042	7.192	2.777
2002	912.182	7.192	2.775
2003	896.157	7.059	2.663
2004	949.632	6.981	2.548
2005	1,033.052	7.154	2.553
2006	1,024.707	7.174	2.514
2007	923.443	7.296	2.482
2008	873.367	7.401	2.467
2009	777.681	7.120	2.387
2010	855.892	7.177	2.328
2011	863.395	7.173	2.260
2012	796.816	7.349	2.277
2013	765.089	7.317	2.252
2014	798.736	7.478	2.295
2015	828.690	7.663	2.388
2016	786.266	7.757	2.407
2017	807.494	7.902	2.361
2018	803.066	7.978	2.343
2019	749.541	7.880	2.261

Panel C: Breakdown by industry (Top 10)

Fama French 48 Industry Name	***RELEASE* (*in 1,000*)**	***LOG(RELEASE)***	***LOG(RELEASE/ SALE)***
Precious Metals	4,678.856	11.530	7.477
Steel Works Etc	3,134.984	11.984	5.749
Petroleum and Natural Gas	2,841.236	12.345	4.367
Business Supplies	2,756.574	11.945	5.090
Chemicals	2,482.986	12.033	5.241
Almost Nothing	2,475.496	11.055	4.900
Non-Metallic and Industrial Metal Mining	2,266.376	9.657	3.593
Shipping Containers	1,649.037	12.239	5.169
Aircraft	1,410.559	11.585	4.299
Pharmaceutical Products	1,294.578	10.099	3.833
Food Products	1,235.684	10.661	3.680
Construction Materials	955.090	10.358	4.339
Automobiles and Trucks	930.801	11.070	4.208
Communication	875.793	9.556	3.762
Beer & Liquor	830.810	11.088	4.410
Tobacco Products	819.471	11.906	3.510
Coal	779.626	10.876	4.447
Business Services	761.522	9.136	3.952
Defense	727.508	11.275	4.807
Consumer Goods	704.477	10.388	4.126
Shipbuilding, Railroad Equipment	636.542	10.589	4.308
Rubber and Plastic Products	553.820	9.749	4.403
Fabricated Products	394.537	9.761	4.964
Wholesale	370.318	9.278	3.243
Machinery	314.926	9.568	3.483
Textiles	274.626	10.429	4.577
Electrical Equipment	258.380	8.928	3.633
Measuring and Control Equipment	199.931	9.099	3.424
Medical Equipment	194.158	8.947	3.241
Electronic Equipment	163.613	8.671	3.295
Recreation	118.982	7.891	3.601
Retail	114.975	8.504	2.230
Apparel	91.585	9.225	4.042
Computers	59.786	7.835	1.999
Entertainment	57.184	5.010	1.923
Healthcare	37.208	6.209	1.111
Transportation	34.942	7.150	2.165
Printing and Publishing	31.295	7.549	2.001
Restaurants, Hotels, Motels	23.886	7.869	2.816
Personal Services	23.351	8.183	1.993
Agriculture	21.707	7.911	1.537
Construction	18.158	5.919	1.129
Candy & Soda	5.968	6.150	0.602

Notes: This table presents summary statistics for variables in the main analyses and sample distribution. Variables are defined in Appendix A. Panel A presents summary statistics. Panel B presents the year-level breakdown of the main sample. Panel C reports the breakdown by industry.

Table 2. The Effect of anti-SLAPP Laws on Corporate Toxic Emissions

Panel A: Baseline analysis

Dependent Variable:	***LOG(RELEASE)***		***LOG(RELEASE/SALE)***	
	(1)	(2)	(3)	(4)
ANTI_SLAPP	-0.4942***	-0.5308***	-0.1995***	-0.2017***
	(-3.492)	(-4.033)	(-3.055)	(-3.253)
SIZE		0.8493***		-0.0123
		(9.429)		(-0.172)
ROA		0.7371*		0.3989*
		(1.803)		(1.794)
LEV		-0.4771		-0.2674
		(-1.323)		(-1.329)
AGE		0.6316**		0.3182**
		(2.509)		(2.310)
CASH		0.3259		0.2246
		(0.583)		(0.614)
COG		0.2183*		-0.1289**
		(1.727)		(-2.149)
SG&A		0.9697*		-0.1339
		(1.849)		(-0.516)
PPE		0.6336		0.2523
		(1.142)		(0.794)
R&D/AT		2.5970		-0.4169
		(1.083)		(-0.249)
MISSINGR&D		0.1505		0.0280
		(0.845)		(0.359)
DIVIDEND		-1.5019		-1.1413
		(-0.483)		(-0.791)
ANALYST		0.0303		0.0096
		(1.164)		(0.651)
INS		1.3725***		0.4328***
		(6.710)		(3.290)
Cohort-Firm Fe	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES
Adj. R^2	0.828	0.834	0.821	0.823
N	118,287	118,287	118,287	118,287

Panel B: Alternative measurements for toxic emissions

Dependent Variable:	*LOG(REVENUE_ADJ)*	*LOG(ASSET_ADJ)*	*LOG(ONSITE)*	*LOG(CAA)*	*LOG(PBT)*	*LOG(RSEI)*
	(1)	(2)	(3)	(4)	(5)	(6)
ANTI_SLAPP	-0.2020***	-0.2039***	-0.5329***	-0.2123**	-0.2020**	-0.9468***
	(-3.250)	(-3.152)	(-3.893)	(-2.246)	(-2.021)	(-4.640)
SIZE	-0.0162	-0.0297	0.8644***	0.7706***	0.3067***	1.6918***
	(-0.213)	(-0.389)	(9.419)	(8.474)	(5.542)	(8.521)
ROA	0.3529	0.5543**	0.6672	0.7082**	-0.0497	1.2536
	(1.516)	(2.416)	(1.560)	(2.086)	(-0.191)	(1.412)
LEV	-0.2444	-0.3294	-0.5689	-0.4626	0.1665	-0.4085
	(-1.206)	(-1.639)	(-1.656)	(-1.339)	(0.758)	(-0.597)
AGE	0.3108**	0.3542**	0.6509***	0.6176***	-0.3252***	1.2029***
	(2.246)	(2.530)	(2.790)	(2.957)	(-3.509)	(3.141)
CASH	0.2852	0.2730	0.5014	0.0056	0.5019*	1.3840
	(0.743)	(0.772)	(1.121)	(0.010)	(1.882)	(1.248)
COG	-0.1362**	0.2127***	0.2743**	0.2724**	0.2115***	0.4426*
	(-2.129)	(2.981)	(2.366)	(2.254)	(2.962)	(1.798)
SG&A	-0.1505	0.2700	0.8612*	1.4373**	0.4625	2.0013
	(-0.573)	(1.156)	(1.806)	(2.309)	(1.155)	(1.414)
PPE	0.2143	0.4492	0.7425	0.3966	0.0871	1.1668
	(0.627)	(1.426)	(1.564)	(1.201)	(0.332)	(1.346)
R&D/AT	-0.4712	0.0054	4.7717**	-0.5259	-1.3535	10.4645**
	(-0.279)	(0.003)	(2.302)	(-0.181)	(-1.529)	(2.252)
MISSINGR&D	0.0333	0.0571	0.2022	0.1526	0.0848	0.4615
	(0.405)	(0.634)	(1.349)	(0.946)	(0.589)	(1.493)
DIVIDEND	-1.1132	-0.5743	-1.0472	-1.1226	-1.1727	-6.8326
	(-0.763)	(-0.362)	(-0.318)	(-0.380)	(-1.059)	(-1.166)
ANALYST	0.0109	0.0097	0.0367	0.0545	0.0050	0.0719
	(0.716)	(0.640)	(1.420)	(1.675)	(0.187)	(1.131)
INS	0.4418***	0.4775***	1.2203***	1.1508***	0.6630***	3.1693***
	(3.267)	(3.663)	(5.631)	(5.120)	(4.738)	(7.357)

Dependent Variable:	***LOG(REVENUE_ADJ)***	***LOG(ASSET_ADJ)***	***LOG(ONSITE)***	***LOG(CAA)***	***LOG(PBT)***	***LOG(RSEI)***
	(1)	(2)	(3)	(4)	(5)	(6)
Cohort-Firm Fe	YES	YES	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES	YES	YES
Adj. R^2	0.822	0.822	0.834	0.834	0.829	0.847
N	118,287	118,287	118,287	118,287	118,287	118,287

Panel C: Alternative data sources

Data Source:	**Refinitiv**		**Trucost**		***KLD***
Dependent Variable:	***E_SCORE***	***E_GRADE***	***LOG(CO₂)***	***LOG(CO₂/SALE)***	***ENV_KLD***
	(1)	(2)	(3)	(4)	(5)
ANTI_SLAPP	0.0725***	0.8738***	-0.1368***	-0.1494***	0.0431**
	(2.790)	(2.812)	(-3.054)	(-3.581)	(2.020)
SIZE	-0.0089	-0.1708	0.7022***	-0.2410***	-0.0046
	(-0.356)	(-0.510)	(9.748)	(-3.156)	(-0.221)
ROA	-0.1067	-1.3238*	0.3866*	0.4279*	0.0845
	(-1.666)	(-1.841)	(1.945)	(1.956)	(1.062)
LEV	0.0093	0.0033	0.1421	0.1533	-0.0315
	(0.106)	(0.003)	(0.922)	(0.973)	(-0.345)
AGE	0.0448	0.5873	0.0730	0.0993	0.0942
	(0.420)	(0.485)	(0.597)	(0.780)	(1.455)
CASH	-0.1570	-2.1567	-0.2052	-0.0592	-0.0545
	(-1.372)	(-1.531)	(-1.131)	(-0.339)	(-0.373)
COG	-0.0145	-0.1916	0.4267***	0.4730***	0.0302
	(-0.394)	(-0.463)	(4.593)	(4.490)	(0.947)
SG&A	-0.1946	-2.3954	0.6317	0.6110	-0.0975
	(-1.051)	(-1.156)	(1.277)	(1.333)	(-0.616)
PPE	-0.2393	-2.7753	0.4176	0.6217*	-0.0387
	(-1.488)	(-1.456)	(1.004)	(1.722)	(-0.483)
R&D/AT	1.7483	19.3454*	1.5576	2.9766***	0.2919
	(1.677)	(1.695)	(0.893)	(3.767)	(0.439)
MISSINGR&D	0.0753	0.7245	-0.1017	-0.0737	0.0238
	(0.773)	(0.623)	(-1.266)	(-0.778)	(0.683)
DIVIDEND	-0.2283	-3.1029	-1.0413	-0.9724	-0.0169
	(-0.830)	(-0.955)	(-1.355)	(-1.285)	(-0.023)
ANALYST	-0.0050	-0.0657*	0.0036	0.0005	-0.0044
	(-1.514)	(-1.835)	(0.732)	(0.087)	(-0.556)
INS	0.0014	-0.2317	-0.0857	-0.1344**	0.0166
	(0.028)	(-0.363)	(-1.155)	(-2.087)	(0.299)
Cohort-Firm Fe	YES	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES	YES
Adj. R^2	0.819	0.813	0.978	0.956	0.835
N	13,184	13,184	16,226	16,226	47,549

Panel D: Alternative measurements for the strength of anti-SLAPP laws

Dependent Variable:		***LOG(RELEASE)***			***LOG(RELEASE/SALE)***	
	(1)	(2)	(3)	(4)	(5)	(6)
ANTI_SLAPP SCORE	-0.0073***			-0.1995***	-0.2017***	
	(-4.667)			(-3.055)	(-3.253)	
COVERED SPEECH SCORE		-0.0066***			-0.0028***	
		(-4.487)			(-4.663)	
PROCEDURES SCORE			-0.0071***			-0.0026***
			(-4.200)			(-3.318)
SIZE	0.8496***	0.8493***	0.8498***	-0.0122	-0.0123	-0.0122
	(9.439)	(9.441)	(9.434)	(-0.170)	(-0.171)	(-0.170)
ROA	0.7351*	0.7348*	0.7366*	0.3982*	0.3979*	0.3988*
	(1.796)	(1.795)	(1.801)	(1.790)	(1.788)	(1.793)
LEV	-0.4784	-0.4790	-0.4768	-0.2679	-0.2682	-0.2673
	(-1.326)	(-1.327)	(-1.322)	(-1.332)	(-1.332)	(-1.329)
AGE	0.6325**	0.6322**	0.6325**	0.3186**	0.3185**	0.3185**
	(2.511)	(2.507)	(2.512)	(2.312)	(2.310)	(2.312)
CASH	0.3243	0.3235	0.3271	0.2239	0.2234	0.2250
	(0.580)	(0.578)	(0.584)	(0.612)	(0.611)	(0.615)
COG	0.2180*	0.2176*	0.2186*	-0.1290**	-0.1291**	-0.1288**
	(1.723)	(1.721)	(1.728)	(-2.151)	(-2.154)	(-2.147)
SG&A	0.9727*	0.9730*	0.9710*	-0.1326	-0.1324	-0.1334
	(1.855)	(1.855)	(1.852)	(-0.511)	(-0.510)	(-0.515)
PPE	0.6397	0.6407	0.6361	0.2547	0.2552	0.2532
	(1.153)	(1.155)	(1.146)	(0.801)	(0.803)	(0.796)
R&D/AT	2.5921	2.5884	2.5980	-0.4186	-0.4200	-0.4167
	(1.082)	(1.081)	(1.083)	(-0.250)	(-0.251)	(-0.249)
MISSINGR&D	0.1499	0.1501	0.1493	0.0277	0.0279	0.0275
	(0.843)	(0.844)	(0.839)	(0.356)	(0.357)	(0.353)
DIVIDEND	-1.4992	-1.4905	-1.5135	-1.1408	-1.1375	-1.1453
	(-0.483)	(-0.480)	(-0.487)	(-0.790)	(-0.788)	(-0.793)
ANALYST	0.0303	0.0302	0.0304	0.0096	0.0096	0.0096

Dependent Variable:	*LOG(RELEASE)*			*LOG(RELEASE/SALE)*		
	(1)	(2)	(3)	(4)	(5)	(6)
	(1.162)	(1.159)	(1.167)	(0.650)	(0.649)	(0.654)
INS	1.3722***	1.3725***	1.3721***	0.4327***	0.4327***	0.4327***
	(6.704)	(6.702)	(6.709)	(3.286)	(3.284)	(3.290)
Cohort-Firm Fe	YES	YES	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES	YES	YES
Adj. R^2	0.834	0.834	0.834	0.823	0.823	0.823
N	118,287	118,287	118,287	118,287	118,287	118,287

Notes: This table presents the results on the effect of anti-SLAPP law enactments on corporate toxic emissions. In Panel A, *LOG(RELEASE)* is the natural logarithm of the amounts of total toxic pollution. *LOG(RELEASE/SALE))* is the natural logarithm of sales-adjusted toxic pollution. In Panel B, alternative variables are used to measure corporate toxic emissions, including revenue adjusted releases (*LOG(REV_ADJ)*), total assets adjusted releases (*LOG(AT_ADJ)*), the log amount of firms' onsite release (*LOG(ONSITE)*), toxics release under the Clean Air Act (CAA) (*LOG(CAA)*), the persistent, bioaccumulate, and toxic release (*LOG(PBT)*), and total release weighted by EPA's RSEI hazard score (*LOG(RSEI)*). In Panel C, we use alternative source to measure corporate environmental policies. *E_SCORE* is the firm environmental score, ranging from 0 to 1 from Refinitiv. *E_GRADE* is the firm's environmental rating, ranging from D– (assign 1) to A+ (assign 11) from Refinitiv. *LOG*(CO_2) is the natural logarithm of direct emissions from production and indirect emissions (Scope 1 and 2) from energy consumption in a year. *LOG*(CO_2*/SALE)* is sales-adjusted carbon emissions. Carbon emission data is from Trucost. *ENV_KLD* is the firm's environmental score derived from the KLD database, calculated as the difference between the number of environmental strengths and the number of environmental concerns identified for each firm. In Panel D, we use alternative measures for the strength of anti-SLAPP laws in each state, based on the rankings assigned to a state's anti-SLAPP laws following the implementation of the legislation. We obtain three qualitative measures of anti-SLAPP laws from the Institute for Free Speech: the *ANTI_SLAPP SCORE*, *COVERED SPEECH SCORE*, and *PROCEDURES SCORE*. *ANTI_SLAPP SCORE* is a composite measure derived from the *COVERED SPEECH SCORE* and *PROCEDURES SCORE*; *COVERED SPEECH SCORE* reflects the extent of speech protected under each jurisdiction's anti-SLAPP law, while the *PROCEDURES SCORE* measures the comprehensiveness of procedural protections offered to speakers. For the pre-enactment years and states where the law has not been enacted, we assigned a score of zero. These three measures range from 0 to 79 for each state. We divide each score by 100. All other variables are defined in Appendix A. Standard errors are clustered at the state level. t-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

Table 4. Mechanism Analysis Results: Environmental Investment

Dependent Variable:	*GREEN_PATENT*	*ENV_INV*	*LOG(SOURCE_REDUCE)*	*WASTE_MGMT*
	(1)	(2)	(3)	(4)
ANTI_SLAPP	0.275***	0.042***	0.081***	2.664***
	(3.282)	(2.788)	(2.706)	(2.834)
SIZE	0.908***	0.017*	0.138***	2.770***
	(7.903)	(1.853)	(7.423)	(2.863)
ROA	-0.019	-0.019	0.147	6.536***
	(-0.088)	(-0.872)	(1.461)	(2.739)
LEV	-0.702***	-0.036	-0.095	-1.914
	(-2.706)	(-1.311)	(-0.886)	(-0.714)
AGE	0.080	-0.023	-0.153***	2.084
	(0.599)	(-1.082)	(-3.134)	(1.664)
CASH	-0.215	-0.025	-0.041	-1.449
	(-0.421)	(-0.388)	(-0.324)	(-0.229)
COG	0.465***	0.010	0.015	1.003
	(3.722)	(0.664)	(0.615)	(1.298)
SG&A	0.842*	0.018	0.148	1.899
	(1.943)	(0.378)	(1.521)	(0.574)
PPE	0.776	0.041	0.003	2.474
	(1.288)	(0.810)	(0.033)	(0.891)
R&D/AT	2.940	-0.210	0.215	30.601
	(1.625)	(-0.869)	(0.346)	(1.013)
MISSINGR&D	0.230*	-0.032**	-0.098*	0.038
	(1.740)	(-2.062)	(-1.695)	(0.031)
DIVIDEND	1.278	0.039	0.803*	-19.873
	(0.774)	(0.271)	(1.735)	(-0.911)
ANALYST	0.020	-0.002	0.012	0.426
	(1.303)	(-0.629)	(1.609)	(1.309)
INS	0.394*	0.030	0.300***	6.944***
	(1.815)	(1.009)	(5.882)	(5.291)

Dependent Variable:	***GREEN_PATENT***	***ENV_INV***	***LOG(SOURCE_REDUCE)***	***WASTE_MGMT***
	(1)	(2)	(3)	(4)
Cohort-Firm Fe	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES
Adj. R^2	0.949	0.639	0.931	0.693
N	118,287	43,297	118,287	118,287

Notes: This table presents the results on the effect of anti-SLAPP law enactments on corporate environmental investment. *GREEN_PATENT* is the number of green patents that firm *i* applies for and are ultimately granted. Patent data are sourced from the KPSS database, and green patent classifications under the International Patent Classification (IPC) system are obtained from the World Intellectual Property Organization (WIPO). To ensure consistency in patent classification, we utilize conversion tools provided by the United States Patent and Trademark Office (USPTO) to translate IPC codes into the CPC codes used by KPSS. *ENV_INV* is an indicator variable that equals one if a firm reports making environmental investments to reduce future risks or increase opportunities, and zero otherwise. *LOG(SOURCE_REDUC)* the cumulative number of source reduction activities adopted. *WASTE_MGMT* is the percentage of total waste reduced by waste management activities including recycling, recovery, and treatment. All other variables are defined in Appendix A. Standard errors are clustered at the firm level. t-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

Table 5. Mechanism Analysis Results: Environmental Governance

Dependent Variable:	*SUS_DIR*	*ESG_COMP*	*ENV_TRAINING*	*ENV_SUPPLY CHAIN*
	(1)	(2)	(3)	(4)
ANTI_SLAPP	0.021**	0.053***	0.067***	0.062**
	(2.096)	(3.101)	(3.139)	(2.296)
SIZE	-0.005	-0.008	0.022*	-0.003
	(-0.422)	(-0.671)	(1.747)	(-0.245)
ROA	-0.051**	-0.012	-0.052	-0.062*
	(-2.528)	(-0.423)	(-1.585)	(-1.876)
LEV	0.034	0.015	-0.038	0.015
	(1.343)	(0.421)	(-1.007)	(0.823)
AGE	0.001	0.001	-0.052**	-0.041**
	(0.108)	(0.045)	(-2.215)	(-2.184)
CASH	-0.046	-0.076	-0.070	-0.020
	(-1.439)	(-1.302)	(-0.859)	(-0.310)
COG	-0.005	0.002	0.007	-0.002
	(-0.760)	(0.123)	(0.502)	(-0.167)
SG&A	-0.073	-0.058	-0.007	-0.010
	(-1.324)	(-0.892)	(-0.096)	(-0.155)
PPE	-0.031	0.045	-0.014	-0.064
	(-0.556)	(0.613)	(-0.135)	(-1.041)
R&D/AT	-0.178	-0.169	0.187	0.348
	(-0.869)	(-0.734)	(0.527)	(0.955)
MISSINGR&D	0.018	-0.013	0.029	-0.017
	(1.341)	(-0.565)	(1.376)	(-0.626)
DIVIDEND	0.019	-0.340*	0.139	-0.140
	(0.124)	(-1.728)	(0.710)	(-1.036)
ANALYST	0.002	-0.004	-0.005	-0.005
	(1.518)	(-0.859)	(-1.222)	(-0.664)
INS	0.032***	0.087***	0.049**	0.090***
	(2.766)	(3.569)	(2.478)	(2.779)
Cohort-Firm Fe	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES
Adj. R^2	0.805	0.614	0.657	0.670
N	54,584	42,675	42,675	42,675

Notes: This table presents the results on the effect of anti-SLAPP law enactments on corporate environmental governance. *SUS_DIR* is an indicator variable that equals one if a firm has at least one sustainability director, and zero otherwise. *ENV_TRAINING* is an indicator variable that equals one if a firm trains employees on environmental issues, and zero otherwise. *ENV_SUPPLYCHAIN* is an indicator variable that takes the value of one if use environmental criteria in the selection process of its suppliers or sourcing partners. *ESG_COMP* is an indicator variable that takes the value of one if a firm has an executive compensation policy that takes into account of its ESG performance, and zero otherwise. The data item from Refinitiv is as follows: "Does the company have an extra-financial performance-oriented compensation policy that includes remuneration for the CEO, executive directors, non-board executives, and other management bodies based on ESG or sustainability factors?" All other variables are defined in Appendix A. Standard errors are clustered at the firm level. t-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

Table 6. Cross-Sectional Analysis Results

Panel A: Stakeholder pressures

Dependent Variable:	***LOG(RELEASE)***	***LOG(RELEASE/SALE)***	***LOG(RELEASE)***	***LOG(RELEASE/SALE)***
	(1)	(2)	(3)	(4)
ANTI_SLAPP×GOV_CUS	-0.607***	-0.263***		
	(-2.804)	(-2.923)		
ANTI_SLAPP×ENV_GO			-2.243**	-0.932**
			(-2.390)	(-2.196)
ANTI_SLAPP	-0.384***	-0.138**	-0.483***	-0.182***
	(-3.369)	(-2.163)	(-6.141)	(-4.641)
SIZE	0.848***	-0.013	0.849***	-0.012
	(9.426)	(-0.177)	(11.746)	(-0.302)
ROA	0.737*	0.399*	0.735***	0.398**
	(1.804)	(1.795)	(2.650)	(2.554)
LEV	-0.478	-0.268	-0.476**	-0.267**
	(-1.326)	(-1.332)	(-2.333)	(-2.340)
AGE	0.627**	0.316**	0.631***	0.318***
	(2.491)	(2.296)	(5.927)	(5.534)
CASH	0.318	0.221	0.327	0.225
	(0.569)	(0.605)	(0.749)	(0.945)
COG	0.218*	-0.129**	0.219**	-0.129**
	(1.723)	(-2.154)	(2.113)	(-2.547)
SG&A	0.972*	-0.133	0.969**	-0.134
	(1.851)	(-0.512)	(2.552)	(-0.630)
PPE	0.632	0.252	0.636*	0.253
	(1.139)	(0.791)	(1.773)	(1.261)
R&D/AT	2.605	-0.413	2.590	-0.420
	(1.086)	(-0.246)	(1.308)	(-0.411)
MISSINGR&D	0.151	0.028	0.151	0.028
	(0.852)	(0.364)	(1.246)	(0.422)
DIVIDEND	-1.514	-1.147	-1.505	-1.143

Dependent Variable:	***LOG(RELEASE)***	***LOG(RELEASE/SALE)***	***LOG(RELEASE)***	***LOG(RELEASE/SALE)***
	(1)	(2)	(3)	(4)
	(-0.488)	(-0.795)	(-0.831)	(-1.234)
ANALYST	0.030	0.010	0.030	0.010
	(1.165)	(0.653)	(1.589)	(1.028)
INS	1.374***	0.434***	1.374***	0.434***
	(6.726)	(3.298)	(8.517)	(5.809)
Cohort-Firm Fe	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES
Adj. R^2	0.834	0.823	0.834	0.823
N	118,287	118,287	118,287	118,287

Panel B: CEO incentives

Dependent Variable:	***LOG(RELEASE)***	***LOG(RELEASE/SALE)***	***LOG(RELEASE)***	***LOG(RELEASE/SALE)***
	(1)	(2)	(3)	(4)
ANTI_SLAPP×SHORT_COMP	0.202***	0.079***		
	(3.217)	(3.170)		
ANTI_SLAPP×ESG_FUND			-14.431**	-8.066***
			(-2.220)	(-3.486)
ANTI_SLAPP	-1.323***	-0.467***	-0.216	-0.022
	(-4.221)	(-3.300)	(-1.303)	(-0.304)
SIZE	0.748***	-0.269***	0.927***	0.009
	(4.446)	(-2.920)	(9.557)	(0.112)
ROA	1.450*	0.851**	0.668	0.369
	(1.854)	(2.076)	(1.484)	(1.507)
LEV	-0.049	-0.082	-0.679*	-0.369*
	(-0.100)	(-0.323)	(-1.761)	(-1.726)
AGE	0.800**	0.440***	0.651**	0.315**
	(2.603)	(3.276)	(2.264)	(2.053)
CASH	0.226	0.112	0.326	0.240
	(0.374)	(0.395)	(0.572)	(0.632)
COG	0.337	-0.247**	0.225*	-0.144**
	(1.476)	(-2.145)	(1.685)	(-2.164)
SG&A	0.556	-0.550	0.744	-0.207
	(0.612)	(-1.141)	(1.301)	(-0.673)
PPE	0.657	0.265	0.714	0.299
	(0.695)	(0.564)	(1.252)	(0.916)
R&D/AT	2.251	0.682	4.170	0.227
	(0.591)	(0.250)	(1.497)	(0.124)
MISSINGR&D	0.078	0.001	0.151	0.026
	(0.292)	(0.009)	(0.833)	(0.326)
DIVIDEND	-2.176	-1.466	-3.126	-1.697
	(-0.651)	(-0.895)	(-1.030)	(-1.148)
ANALYST	0.018	0.001	0.037	0.014

Dependent Variable:	*LOG(RELEASE)*	*LOG(RELEASE/SALE)*	*LOG(RELEASE)*	*LOG(RELEASE/SALE)*
	(1)	(2)	(3)	(4)
	(0.705)	(0.107)	(1.213)	(0.839)
INS	0.952***	0.204	1.381***	0.429***
	(3.409)	(1.589)	(6.777)	(3.101)
Cohort-Firm Fe	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES
Adj. R^2	0.837	0.860	0.827	0.818
N	73,776	73,776	109,648	109,648

Notes: This table presents the cross-sectional results on the effect of anti-SLAPP law enactments. Panel A reports the results of stakeholder pressures, where *GOV_CUS* equals one if the firm has government customers before anti-SLAPP adoption, and *ENV_EGO* is the environmental NGOs intensity before anti-SLAPP adoption. Panel B focuses on CEO incentives, where *SHORT_COMP* is the average ratio of executive short-term compensation before anti-SLAPP adoption, and *ESG_FUND* is the average ESG fund ownership before anti-SLAPP adoption. All other variables are defined in Appendix A. Standard errors are clustered at the firm level. t-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

Table 7. Do Anti-SLAPP Laws Shrink Economic Activities?

Dependent Variable:	*PRODUCT_RATIO*	*NIGROWTH*	*TFP*	*LOG(EMP)*	*FC*
	(1)	(2)	(3)	(4)	(5)
ANTI_SLAPP	-0.214	-0.040	0.013	-0.017	-0.019
	(-0.931)	(-0.345)	(1.171)	(-1.359)	(-1.303)
SIZE	0.649***	-0.032	-0.037**	0.862***	0.017
	(5.254)	(-0.196)	(-2.183)	(36.670)	(1.213)
ROA	0.257	1.389*	0.451***	0.062	-0.131***
	(1.100)	(1.730)	(12.308)	(1.332)	(-2.968)
LEV	0.021	-0.122	0.058*	0.008	0.145***
	(0.085)	(-0.464)	(1.938)	(0.308)	(4.137)
AGE	-0.094	-0.230	0.045***	0.061***	-0.127***
	(-0.704)	(-1.343)	(3.065)	(3.188)	(-6.105)
CASH	-0.351	0.245	0.024	-0.367***	-0.077
	(-0.762)	(0.314)	(0.435)	(-4.934)	(-1.326)
COG	0.164	0.409	0.512***	0.301***	-0.003
	(1.544)	(1.571)	(16.893)	(12.436)	(-0.189)
SG&A	0.776	0.226	0.691***	0.617***	0.009
	(1.372)	(0.309)	(6.448)	(9.327)	(0.133)
PPE	-0.724	-0.384	-2.002***	0.647***	-0.019
	(-1.604)	(-0.773)	(-21.754)	(6.589)	(-0.263)
R&D/AT	0.449	-0.005	-0.769**	0.682**	-0.449
	(0.178)	(-0.001)	(-2.231)	(2.628)	(-1.528)
MISSINGR&D	-0.046	0.111	0.001	-0.001	0.012
	(-0.183)	(0.490)	(0.033)	(-0.063)	(0.574)
DIVIDEND	-0.093	-3.795*	0.437**	-0.128	-0.303
	(-0.057)	(-1.888)	(2.033)	(-0.507)	(-1.030)
ANALYST	-0.021	-0.060*	-0.007*	-0.004	0.004
	(-0.471)	(-1.875)	(-1.746)	(-1.147)	(0.765)
INS	1.056***	-0.507**	0.005	0.006	-0.028
	(3.316)	(-2.037)	(0.270)	(0.218)	(-0.652)
Cohort-Firm Fe	YES	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES	YES
Adj. R^2	0.927	0.015	0.878	0.986	0.438
N	118,287	114,971	114,077	114,184	103,528

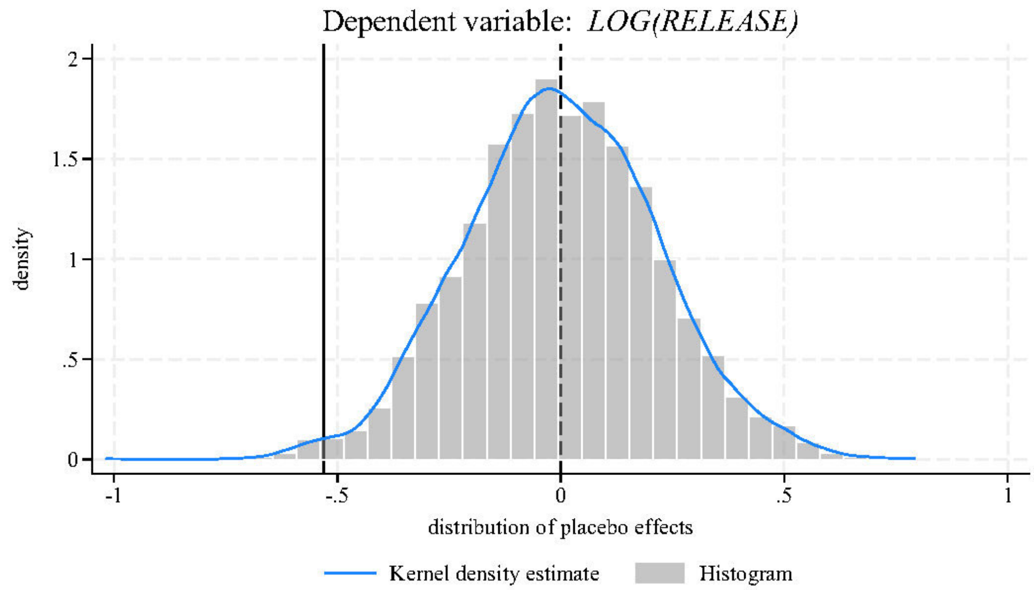
Notes: This table reports the results on the effect of anti-SLAPP on economic activities. *PRODUCT_RATIO* is the ratio of production volume. *NIGROWTH* is the net income growth at the firm level. Total factor productivity (*TFP*) is measured as the residuals from regressing the natural logarithm of the firm's sales against the natural logarithm of the number of its employees and the natural logarithm of the net property, plant, and equipment, where the regressions are run by the firm's two-digit industry and year. *LOG(EMP)* is the natural logarithm of the firm's employee numbers. *FC* is the average of equity and debt constraint, which are two text-based financial constraints measures developed by Linn and Weagley (2024). *ANTI_SLAPP* is a dummy variable assigned a value of one if firm *i* is headquartered in a state that has enacted an anti-SLAPP law by the given year; otherwise, it is set to zero. All other variables are defined in Appendix A. Standard errors are clustered at the firm level. t-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

OA Appendix A. Enactment Years by State

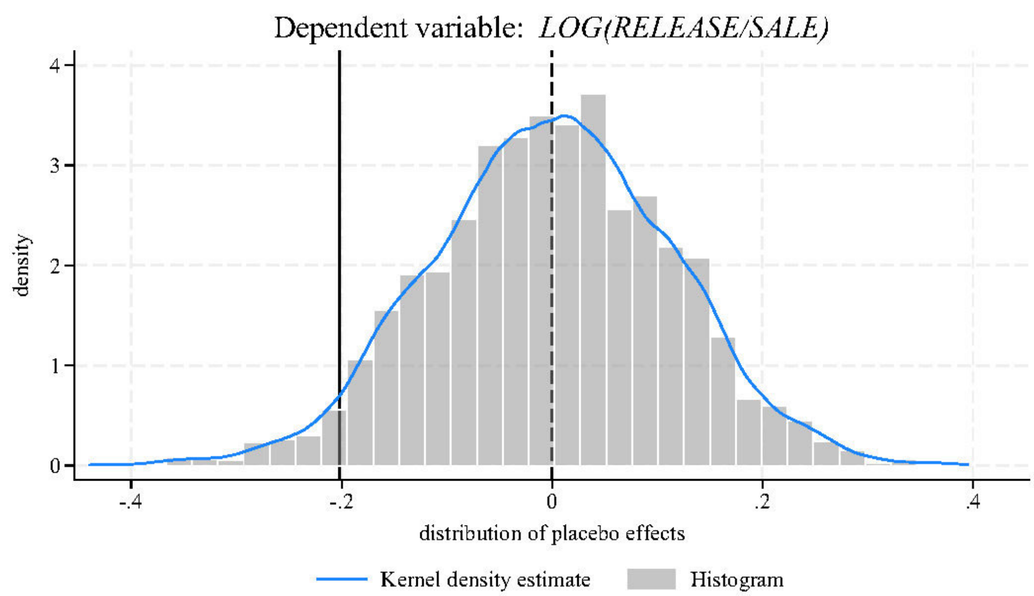
State Abbreviation	State	Enactment year
NY	New York	1992
DE	Delaware	1992
CA	California	1992
NV	Nevada	1993
MA	Massachusetts	1994
NE	Nebraska	1994
RI	Rhode Island	1995
ME	Maine	1995
GA	Georgia	1996
TN	Tennessee	1997
IN	Indiana	1998
LA	Louisiana	1999
PA	Pennsylvania	2000
FL	Florida	2000
UT	Utah	2001
OR	Oregon	2001
NM	New Mexico	2001
HI	Hawaii	2002
MD	Maryland	2004
MO	Missouri	2004
VT	Vermont	2005
AR	Arkansas	2005
AZ	Arizona	2006
IL	Illinois	2007
DC	District of Columbia	2010
WA	Washington	2010
TX	Texas	2011
OK	Oklahoma	2014
KS	Kansas	2016
VA	Virginia	2017
CT	Connecticut	2017
CO	Colorado	2019

Notes: This table presents enactment years by state. There are two adoption waves during our sample period: an early cluster is from 1992 to 2001 and a second, more scattered wave from 2004 to 2019.

OA Figure 1. Placebo Test



OA Figure 1(A)



OA Figure 1(B)

Notes: This figure shows the results of Placebo tests. In Figure 1(A), the dependent variable is *LOG(RELEASE)*, while the dependent variable is *LOG(RELEASE/SALE)* in Figure 1(B). Variables are defined in Appendix A.

OA Table 1. Anti-SLAPP and Media Coverage on Environmental Issues

Data Source:	***RavenPack***		***RepRisk***
Dependent Variable:	***LOG(ENV_NEWS)***	***ENV_NEWS_SENTI***	***LOG(ENV_INCIDENTS)***
	(1)	(2)	(3)
ANTI_SLAPP	0.069***	-0.028***	0.065***
	(2.947)	(-2.884)	(2.818)
SIZE	0.082**	-0.011	-0.006
	(2.426)	(-1.148)	(-0.254)
ROA	-0.389***	0.196***	0.010
	(-4.932)	(6.346)	(0.174)
LEV	-0.035	-0.022	0.002
	(-0.456)	(-1.310)	(0.057)
AGE	0.082*	-0.029**	-0.018
	(1.821)	(-2.138)	(-0.664)
CASH	-0.056	0.024	-0.045
	(-0.339)	(0.527)	(-0.786)
COG	0.026	0.000	-0.022
	(1.026)	(0.040)	(-0.761)
SG&A	-0.001	-0.036	0.089
	(-0.006)	(-1.029)	(1.040)
PPE	0.079	-0.007	-0.050
	(0.670)	(-0.264)	(-0.414)
R&D/AT	0.216	-0.102	-0.320
	(0.215)	(-0.232)	(-1.140)
MISSINGR&D	0.015	0.014	-0.015
	(0.347)	(0.982)	(-0.474)
DIVIDEND	-0.469	0.019	0.082
	(-1.110)	(0.116)	(0.512)
ANALYST	0.010	0.002	-0.004
	(1.050)	(0.613)	(-0.713)
INS	0.060	0.015	-0.024
	(1.253)	(0.883)	(-0.714)
Cohort-Firm Fe	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES
Cohort-State Fe	YES	YES	YES
Adj. R^2	0.595	0.138	0.650
N	55,484	55,484	21,349

Notes: This table reports the results of the effect of anti-SLAPP on environmentally related news. *LOG(ENV_NEWS)* is the natural logarithm of the one plus the number of environmentally related news. *ENV_NEWS_SEBNTI* is the sentiment of environmentally related news. *LOG(ENV_INCIDENTS)* is the natural logarithm of one plus the number of negative environment-related news items. *ANTI_SLAPP* is a dummy variable assigned a value of one if firm i is headquartered in a state that has enacted an anti-SLAPP law by the given year; otherwise, it is set to zero. All other variables are defined in Appendix A. Standard errors are clustered at the state level. t-statistics are in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

OA Table 2. Poisson and Different Cohort Windows

	Poisson	[-3, 3]	[-7, 7]	[-3, 3]	[-7, 7]
Dependent Variable:	***RELEASE***	***LOG(RELEASE)***		***LOG(RELEASE/SALE)***	
	(1)	(2)	(3)	(4)	(5)
ANTI_SLAPP	-0.0878*	-0.3932***	-0.1595**	-0.4128***	-0.1315**
	(-1.741)	(-2.708)	(-2.608)	(-3.277)	(-2.116)
SIZE	0.3072***	0.7943***	-0.0326	0.8505***	-0.0219
	(6.765)	(8.128)	(-0.465)	(8.568)	(-0.274)
ROA	0.1897	0.4640	0.2497	0.9429**	0.4817**
	(1.087)	(1.367)	(1.311)	(2.191)	(2.020)
LEV	-0.0937	-0.5962	-0.3627	-0.3669	-0.1931
	(-0.702)	(-1.548)	(-1.662)	(-1.125)	(-1.132)
AGE	0.1706	0.7892***	0.3741***	0.5378**	0.2872**
	(1.084)	(3.348)	(2.911)	(2.076)	(2.018)
CASH	0.8967	0.1877	0.0958	0.2238	0.1648
	(1.574)	(0.301)	(0.266)	(0.410)	(0.438)
COG	0.1801***	0.1987	-0.1418**	0.2166	-0.1333**
	(5.763)	(1.495)	(-2.086)	(1.656)	(-2.254)
SG&A	0.2360	0.7157	-0.2862	1.1103*	-0.0043
	(0.537)	(1.303)	(-1.126)	(1.908)	(-0.014)
PPE	-0.1081	0.3329	0.0598	0.7003	0.2850
	(-0.561)	(0.526)	(0.157)	(1.253)	(0.905)
R&D/AT	3.1788	3.5280	-0.0627	2.3489	-0.5733
	(1.554)	(1.651)	(-0.042)	(0.774)	(-0.284)
MISSINGR&D	-0.3779***	0.0828	-0.0340	0.1767	0.0527
	(-4.414)	(0.536)	(-0.405)	(1.031)	(0.647)
DIVIDEND	1.2994*	-2.5098	-1.3904	-0.7016	-1.0435
	(1.726)	(-0.883)	(-1.035)	(-0.220)	(-0.684)
ANALYST	0.0021	0.0213	0.0087	0.0326	0.0089
	(0.360)	(0.905)	(0.773)	(1.096)	(0.490)
INS	0.1850*	1.5013***	0.5163***	1.3583***	0.3975**

	Poisson	[-3, 3]	[-7, 7]	[-3, 3]	[-7, 7]
Dependent Variable:	***RELEASE***	***LOG(RELEASE)***		***LOG(RELEASE/SALE)***	
	(1)	(2)	(3)	(4)	(5)
	(1.755)	(7.294)	(4.673)	(5.900)	(2.670)
Cohort-Firm Fe	YES	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES	YES
Pseudo/Adj. R^2	0.965	0.852	0.846	0.819	0.807
N	118,287	82,390	82,390	141,485	141,485

Notes: This table presents the results of using a different estimation model and different cohort windows. In Column (1), we use a Poisson estimation model with *RELEASE* as the dependent variable. In Columns (2) and (4), we alternate the cohort windows to three years before and after the treatment year, i.e., [-3, +3] or [-7, +7]. All other variables are defined in Appendix A. Standard errors are clustered at the state level. t-statistics are provided in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.

OA Table 3. Propensity Score Marching (PSM) and Entropy Balancing

Method:	PSM	Entropy Balancing	PSM	Entropy Balancing
Dependent Variable:	*LOG(RELEASE)*		*LOG(RELEASE/SALE)*	
	(1)	(2)	(3)	(4)
ANTI_SLAPP	-0.531***	-0.202***	-0.534***	-0.177***
	(-4.08)	(-3.29)	(-3.82)	(-2.91)
SIZE	0.848***	-0.012	0.851***	0.005
	(9.54)	(-0.17)	(5.72)	(0.05)
ROA	0.732*	0.399*	0.789	0.329
	(1.81)	(1.82)	(1.47)	(1.25)
LEV	-0.463	-0.270	0.130	-0.000
	(-1.32)	(-1.36)	(0.27)	(-0.00)
AGE	0.631**	0.318**	0.565**	0.223*
	(2.54)	(2.33)	(2.34)	(1.70)
CASH	0.329	0.223	0.318	0.203
	(0.60)	(0.62)	(0.40)	(0.37)
COG	0.213*	-0.130**	0.175	-0.176**
	(1.71)	(-2.18)	(1.30)	(-2.64)
SG&A	1.013*	-0.130	0.883	0.044
	(1.95)	(-0.51)	(1.02)	(0.09)
PPE	0.624	0.254	0.248	-0.059
	(1.14)	(0.81)	(0.33)	(-0.14)
R&D/AT	2.516	-0.395	2.813	0.105
	(1.07)	(-0.24)	(1.27)	(0.05)
MISSINGR&D	0.149	0.028	-0.117	-0.017
	(0.85)	(0.37)	(-0.45)	(-0.19)
DIVIDEND	-1.338	-1.143	-2.784	-1.567
	(-0.44)	(-0.80)	(-0.73)	(-0.82)
ANALYST	0.030	0.010	0.047	0.010
	(1.18)	(0.66)	(1.45)	(0.61)
INS	1.377***	0.433***	1.502***	0.482***
	(6.86)	(3.33)	(7.65)	(3.71)
Cohort-Firm Fe	YES	YES	YES	YES
Cohort-FF48-Year Fe	YES	YES	YES	YES
Cohort-State Fe	YES	YES	YES	YES
Adj. R^2	0.835	0.845	0.825	0.833
N	116,569	118,287	116,531	118,287

Notes: This table presents the results of using PSM and entropy balancing tests. In Columns (1) and (3), we construct matched samples using 1:1 nearest neighbor matching and radius caliper matching, respectively. In Columns (2) and (4), we apply weighted samples based on inverse probability weighting (IPW) and entropy balancing to further ensure covariate balance between treated and control firms. All other variables are defined in Appendix A. Standard errors are clustered by state level. t-statistics are provided in parentheses. ***, **, and * indicate significance at the 1, 5, and 10% level, respectively.