

# The Spillover Effects of Environmental Lawsuits on Industry Peers by Chen, Cheng, Peng, and Zhan

Discussed by Kelvin Law

Nanyang Technological University

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# Wave of Tobacco Litigations in 1990s



# The Effect of Master Settlement Agreement

## BiG



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# What Is the Research Question?

- The paper investigates the spillover effects of environmental lawsuits on industry peers
- Specifically, it asks: Do lawsuits against **industry leaders** for environmental violations change the behavior of other firms in the same industry?
- The paper examines effects on both **pollution levels** and **environmental disclosures**
- Key question with important implications for the effectiveness and design of **environmental regulation and enforcement**

# What Are the Main Findings?

- ① Industry peers significantly **decrease** chemical releases by 14% after lawsuits against industry leaders (Table 4)
- ② Peers also significantly **increase** pollution-related disclosures by 24% of a standard deviation (Table 5)
- ③ These changes are accompanied by a significant **decrease** in ROA of 1.5 percentage points, suggesting costly abatement efforts (Table 7, Panel A)
- ④ Peers also experience an increase in **negative** media coverage of their environmental practices, suggesting heightened scrutiny and pressure (Table 9)

# What Are the Key Strengths of the Paper?

- Addresses an **important and understudied** question about the spillover effects of environmental enforcement
- Uses **novel** and comprehensive datasets on environmental lawsuits and firm-level pollution (e.g., Climate Change Litigation Database)
- Employs a **stacked** difference-in-differences (DiD) design with a plausible control group to estimate **causal effects**
- Finds economically meaningful and statistically significant effects on both **chemical releases** and **disclosures**
- Provides suggestive evidence on the **mechanisms** (e.g., abatement costs, reputation pressure) driving the spillover effects

# What Is the Identification Strategy?

- The paper uses a stacked DiD design to estimate the effects of lawsuits on industry peers
- **Treatment group**: Firms in the same 4-digit SIC code as the sued firms (i.e., close competitors), but non-top 5 firms in the industry in terms of sales with an abnormal return of -5% or lower around the lawsuits),
- **Control group**: Firms in the same Fama-French 48 industry but different 4-digit SIC code (i.e., more distant peers)
- The DiD design compares the change in outcomes for **treated firms** before and after the lawsuits to the change for **control firms**
- Key assumption: Absent the lawsuits, **treated** and **control** firms would have followed parallel trends in outcomes



## Comment #1: Are the Treatment and Control Groups Defined Consistently?

- The treatment and control groups are defined using different levels of industry classification
  - **Treatment group:** 4-digit SIC code (narrow)
  - **Control group:** Fama-French 48 industry (broad)
- This asymmetry may reduce the comparability of the two groups
- The Fama-French industries may be too broad, including firms that might **not really comparable** to the treated firms, which may not serve as a good counterfactual for the treated firms
  - Each Fama-French 48 industry includes 9.25 4-digit SIC industries (median 8).
- Ideally, the groups should be defined using the same industry classification system to ensure consistency, either SIC or Fama-French

## Comment #1 *continued*: How Do Those Alternative Definitions of Treated/Control Firms Help?

- The paper presents a robustness check using an alternative definition of **treated** firms based on 10-K text similarity (TNIC)
  - TNIC peers are more likely to be true economic competitors facing similar environmental risks, even if they are not in the same SIC code
- However, the asymmetry issue persists as the **control firms** are still defined based on Fama-French industries
- The paper also presents a robustness check using 2-digit SIC codes to define the **control group**, rather than Fama-French industries
- This approach helps address the concern that the Fama-French industries are too broad by narrowing the **control group** to firms in more similar lines of business

## Comment #1 *continued*: How Do Those Alternative Definitions of Treated/Control Firms Help?

- A more compelling approach would be to define:
  - the **treatment group** as firms in the same 4-digit SIC industry as the sued firms
  - the **control group** as firms in 4-digit SIC industries that are **economically similar** to the treatment industries, but do not contain any sued firms
  - based on industry similarity such as input-output flows, technological proximity, or product market similarity
- A second best approach would be to use 4-digit SIC for **treatment group** and 3-digit SIC for **control group**.
- Ideally, the manuscript could show a “matrix” of results using different permutations of **treatment** and **control** group industries

## Comment #2: Could Treatment Firms Have Their Own Lawsuits?

- The definition of **treatment firms** includes all firms in the same 4-digit SIC code as the sued firms
- This means that treatment firms **could potentially have their own environmental lawsuits**, as long as they are not among the top 5 most-sued firms in the industry
- The paper does **not explicitly discuss** whether any treatment firms have their own lawsuits
- If a significant number of treatment firms are also being sued, this could **confound** the interpretation of the spillover effects
- It is crucial to **check** for and address any lawsuits among the treatment firms to ensure a clean comparison

# Comment #2: Are Treatment Firms Facing Concurrent Lawsuits?

Sued Firms



Treated Firms



## Comment #2 continued: What Are the Potential Consequences of Treatment Firms Having Lawsuits?

- If some **treatment firms** have their own lawsuits, the treatment group's outcomes would be **contaminated** by their own lawsuit exposure
- The observed changes in pollution and disclosures among treatment firms would reflect a **mix of responses** to their own lawsuits and responses to the focal lawsuits
- The more treatment firms with lawsuits, the greater the **upward bias** in the estimated spillover effects, **overestimating** the true effect
- It is important to **quantify** the extent of this issue and assess its impact on the results

## Comment #2 *continued*: What Are the Potential Consequences of Treatment Firms Having Lawsuits?

- It's true that **control firms** may also have ongoing lawsuits, which could bias the estimates toward finding no effect
- However, the key issue is the **differential likelihood and timing** of lawsuits between treatment and control firms
  - If treatment firms might be more likely to have lawsuits, or their lawsuits are more likely to coincide with the focal lawsuits, this could still bias the estimates **upward**
- A more conservative robustness check would be to **exclude any firm** (treatment and control) **with a lawsuit** during the entire sample period
- Alternatively, the paper could directly compare lawsuit **frequency and timing** between treatment and control firms to assess the potential for bias (not recommended though)

## Comment #3: Unexpected Result: Increase in Carbon Emissions?

- The study finds that peers significantly **increase their carbon emissions** in the post-chemical-release lawsuit period (Table 10)
  - This is **unexpected** given their reductions in chemical releases
- The paper suggests this may reflect peers **strategically substituting** into other forms of pollution to minimize total abatement costs
  - While the lawsuits raised the cost of chemical pollution, they may not have affected the **costs** of other environmental harms
- This finding highlights the risk of **narrow** regulatory or legal interventions inducing **substitution** across different types of harmful activities, potentially undermining the total environmental benefits.



## Comment #4: Who Sued?

- Environmental lawsuits can be brought by **different parties** (e.g., government, consumers, NGOs)
  - The **identity** of the plaintiff may affect the salience and impact of the lawsuit
- Comparing spillover effects across different types of lawsuits could shed light on which stakeholders are most **influential** in driving firm behavior
  - Lawsuits by regulators may carry **more weight** than those by private parties
  - Lawsuits by consumers or local communities may generate **more reputation pressure**
- Recommend to explore further and connect to the broader literature on **stakeholder governance**

# What Are the Overall Takeaways?

- ① This paper provides **extremely valuable evidence** on the spillover effects of environmental lawsuits on industry peers, a relatively understudied topic
  - ② The results highlight the potential for liability risk and reputational spillovers to motivate **self-regulation** and **preemptive action** by firms that would induce meaningful **improvements** in environmental practices and disclosures among close competitors
  - ③ The main methodological challenges are the **non-random** assignment of lawsuits and the potential for hard-to-observe confounds
- Overall, this study takes **an important step** in enhancing our understanding of the broader impacts of environmental enforcement actions, with key implications for both managers and policymakers
  - **I strongly recommend to read it! All the best for the journal submission!**