Involuntary Disclosures Through Climate Litigations: Impact on Investors and Corporate Policies

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Motivation

▶ Climate change risks represent a new type of risk drivers that investors have to learn about
  ▶ Transition risks, due to changes in the regulatory environment and shifting expectations
    ▶ Include Regulatory/Legal/Reputation/Market risks
  ▶ Physical risks, i.e. risks posed by the changing climate
    ▶ Example: PG&E declared bankruptcy after being hit with $30 billion in liabilities tied to wildfires
  → Both types are becoming increasingly material
▶ Climate-related information is becoming critical, as it allows investors to:
  1. form beliefs and manage their exposure to climate risks (Ilhan et al., 2023)
  2. make informed decisions (Bolton and Kacperczyk, 2021)

The Different Types of Climate Disclosures:

1. Voluntary Disclosures: result from voluntary releases of information by a firm
   - Associated with benefits (e.g. a lower cost of capital, Bolton and Kacperczyk, 2021), and costs (e.g. revealing its long-term strategy, Ilhan et al., 2023)
   - A limited fraction of the economy has voluntarily disclosed (CDP, 2022)
2. Mandatory Disclosures: mandated by the regulator (e.g. the SEC)
   - Covers more firms and entails more comparable information
   - Degree of ambition (e.g. in the # of items disclosed) varies greatly
3. ESG Ratings:
   - Low alignment on definitions and types of information used to assign a rating
   - Limited clarity (Berg et al., 2022)
4. **Third-party/Involuntary Disclosures**

Do Involuntary Disclosures Represent An Important Source of Information?

- ▶ In contrast to:
    1. Voluntary Disclosures, they do not directly result from a firm's strategic behavior
        - ▶ Instead, they are brought by a third party whose incentives differ from the firm's
    2. Mandatory Disclosures, they can be tailored to a specific company/sector
        - ▶ Admati and Pfleiderer (2000)
    3. ESG ratings, they are provided in a more transparent way and less prone to conflicts of interests

- ▶ This paper: I examine whether involuntary disclosures represent a valuable source of information to investors, and whether they are relevant enough to impact corporate policies.

Involuntary Disclosures Through Climate Litigations

- ▶ Focus on one type of involuntary disclosures: Climate Litigations
  - ▶ Broadly defined as legal action to foster climate change mitigation (in few cases adaptation) efforts from public institutions and companies
  - ▶ Number of climate-related litigations has more than 2x since 2015 (Setzer and Higham, 2022)
- ▶ While the number of cases is still relatively limited (about 50 cases filed in the U.S. since 2012), this is important because:
  1. Defendant firms are high carbon emitters (and so are their neighbors)
  2. Formal part of broader civil society efforts to further climate action (Daubanes and Rochet, 2019)
  3. In contrast to other involuntary disclosures (e.g. short-sellers), partly based on public action, and US courts play an important role in shaping climate regulation (Novak, 2020)

This Paper

1. Do Involuntary Disclosure Shed New Light on Firms' Climate Risks?
   - ▶ Source of new information? Or is it only about stigmatizing a firm? (Becht et al., 2023)
   - ▶ Evaluate the information content of involuntary disclosures
     - ▶ Focus on impact on: Cumulative Abnormal Returns and Volume, and Institutional Investors' Holdings

2. Are they a waste of resources/efforts, or do they lead to some actual changes in firm policies?
   - ▶ "Pressure" v. "Disciplining" hypotheses (Arena and Julio, 2015)
     - ▶ Focus on impact on defendants' emissions and disclosures
   - ▶ Self-regulation (Maxwell et al., 2000)
     - ▶ Focus on impact on closely resembling neighbors

Data Sources

- ▶ Sabin Center Climate Litigations Database
    - ▶ Climate change law, policy, or science must be a "material issue" of law or fact in the case (not only a passing reference)
    - ▶ Lawsuit may be filed against more than one company $\rightarrow$ 117 firm-level filing events
    - ▶ Heterogeneous set of lawsuits
- ▶ Trucost (Emissions data)
- ▶ Compustat and CRSP (Accounting and Securities data)
- ▶ CDP (Disclosure data)

A Vastly Heterogeneous Set of Lawsuits (1)

Panel A: Type of Lawsuit
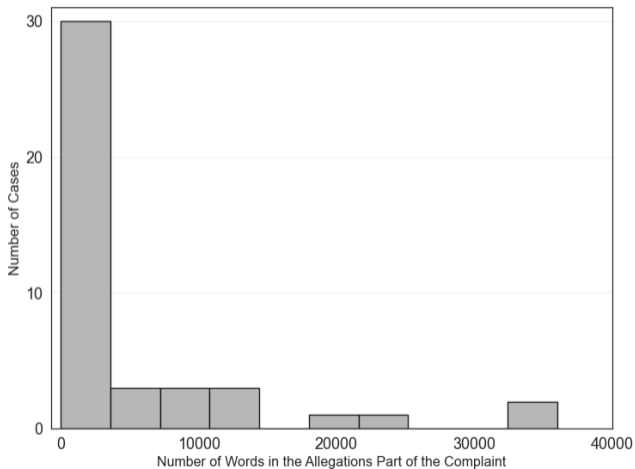
"Polluter-Pay"	Climate Washing	Other	Total
30	8	10	48

Panel B: Type of Action

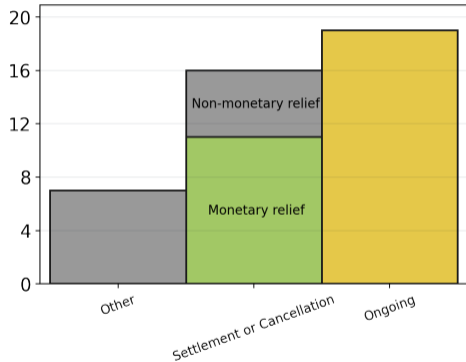| Civil Lawsuit	Criminal Lawsuit	Regulatory Action	Total
40	2	6	48

A Vastly Heterogeneous Set of Lawsuits (2)

► They also vary in terms of how much substance/evidence litigants bring up in the allegations part of the complaint.
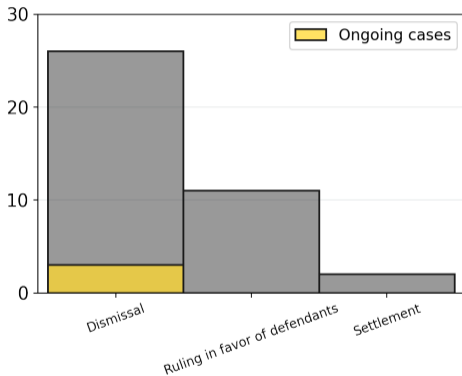
A Vastly Heterogeneous Set of Lawsuits (3)

▶ Most cases are still pending
▶ Last important decision by the U.S. Supreme Court on January 8, 2024

((a)) Last Decision in Favor of Claimant

((b)) Last Decision in Favor of Defendant

⟫ Some Lawsuit Examples

1(a) Climate Litigations Have Highly Heteregeneous Impact...

▶ I use a 3-factor model and estimate the Cumulative Abnormal Returns in the [-2, +2] days around the litigation filing date:

$$R_{ft} = \alpha_f + \beta_{1f} R_m + \beta_{2f} R_{SMB} + \beta_{3f} R_{HML} + \epsilon_{ft}$$

▶ I also compute Cumulative Abnormal Volume following Chae (2005)

	N	Mean	Sd	Minimum	p5	Median	p95	Maximum
CAR[-2,+2]	117	0.35 (0.45)	0.42	-20.81	-9.40	0.36	8.61	10.54
CAV[-2,+2]	117	-0.05 (-0.17)	1.62	-4.11	-2.21	-0.19	2.18	6.94

Note: T-statistics are in parentheses. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$. Standard errors are clustered at the lawsuit level.

1(b) The Magnitude of the Reaction Depends on some Key Characteristics

	Returns				Volume			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Length Factual Background (in 1000s of words)	-0.18**	-0.18**	-0.22**	-0.15**	0.01	0.01	0.02	0.01
	(-2.14)	(-2.05)	(-2.31)	(-2.09)	(0.41)	(0.61)	(0.69)	(0.41)
ASVI	-0.05	-0.05	-0.05	-0.09**	-0.01	-0.01	-0.01	-0.02
	(-1.16)	(-1.16)	(-1.33)	(-2.43)	(-0.49)	(-0.53)	(-0.44)	(-0.69)
Firm Size (in million \$)	0.92	1.11	0.05	3.45*	-0.42	-0.30	-0.06	-0.09
	(0.58)	(0.84)	(0.06)	(1.76)	(-1.09)	(-0.83)	(-0.23)	(-0.20)
Non-missing Scope 1 Emissions (0/1)		-0.94				-0.55		
		(-0.38)				(-0.96)		
Scope 1 Emissions (in million tons CO2e)			0.02	0.00			-0.00	-0.01
			(1.22)	(0.24)			(-1.09)	(-1.27)
Disclosed Regulatory Risk (0/1)				7.48				0.95
				(1.64)				(0.84)
Disclosed Physical Risk (0/1)				2.23**				-1.18***
				(2.42)				(-4.38)
Disclosed Legal Risk (0/1)				-1.21				4.85***
				(-1.07)				(6.26)
Disclosed Other Transition Risk (0/1)				-8.70*				-5.21***
				(-1.78)				(-3.96)
Republican Administration (0/1)				9.67**				0.13
				(2.22)				(0.13)
First-time Defendant (0/1)				2.27***				-0.47
				(2.78)				(-0.76)
Observations	109	109	99	99	109	109	99	99
Adj. R-squared	0.083	0.077	0.110	0.286	0.065	0.064	0.061	0.092

Note: T-statistics are in parentheses. Significance levels are indicated by $* < .1$, $** < .05$, $*** < .01$.

1(c) Do Sophisticated Investors Learn about Climate Risks?

Focus on Institutional Investors:

- ▶ Represent a powerful mechanism in incentivizing companies to increase disclosures and reduce climate risks exposure (Krueger et al., 2019; Stroebel and Wurgler, 2021)

- ▶ A subset shows growing concerns for climate risks → high potential to learn and act upon new information

- ▶ More sophisticated → better overall view of the universe of information available prior to involuntary disclosure

→ Use Institutional Investor Ownership data (S34)

- ▶ Follow Pastor, Stambaugh, and Taylor (2023), and classify Institutional Investors according to:
    - ▶ Active Share of Assets Under Management
    - ▶ E Tilt, an estimate of how "E" characteristic relates to the stock weight in the investor portfolio, controlling for other stock characteristics

1(c) Do Sophisticated Investors Learn about Climate Risks?

Use an empirical strategy based on:

- ▶ For each defendant firm, finding a matched firm which:
  - ▶ Has never been litigated, operates in the same sector, and has the same physical climate risk exposure status as the defendant
  - ▶ Has the lowest distance in terms of (1) emissions (2) size
- ▶ The following staggered diff-in-diff:

$$y_{ft} = \alpha_f + \beta_1 \mathbb{1}\Big[\text{Defendant in post-filing period}\Big]_{ft}$$
$$+ \beta_2 \mathbb{1}\Big[\text{Defendant in post-filing period of a case with CAR[-2,2]}{<}0\Big]_{ft} +$$
$$+ \beta_3 \mathbb{1}\Big[\text{Case with CAR[-2,2]}{<}0\Big]_{ft} + \alpha_c * \alpha_t + \alpha_s * \alpha_t + \epsilon_{ft}$$

1(c) Do Sophisticated Investors Learn about Climate Risks?

	UNPRI Signatories		Top Half(**Positive** E-tilt x AS)	
	(1)	(2)	(7)	(8)
Case with CAR[-2,2]<0 (0/1)	0.110	-0.513***	0.029	-0.053
	(0.63)	(-3.06)	(0.22)	(-0.21)
Defendant in 1 quarter pre-filing period	0.341		0.130	
	(1.49)		(0.58)	
Defendant in 1 quarter post-filing period	0.079	-0.050	-0.390	-0.420
	(0.27)	(-0.17)	(-0.99)	(-1.16)
Defendant in 2+ quarters post-filing period	1.407*	-0.121	0.184	-0.029
	(1.72)	(-0.31)	(0.26)	(-0.08)
Defendant in 2+ quarters post-filing of case with CAR[-2,2]<0		3.800**		0.492
		(2.46)		(0.36)
Observations	1334	1334	1334	1334
Adj. R-squared	0.98	0.98	0.94	0.94

Note: Firm, country-quarter, and sector-quarter fixed effects are included. Standard errors are clustered at the firm level.
T-statistics are in parentheses. Significance levels are indicated by *< .1, ** < .05, *** < .01.

▶ Institutional investors act upon these disclosures, as UNPRI signatories increase their ownership after cases with CAR[-2,2]<0

▶ The increase in ownership does not stem from green institutional investors

2(a) Defendant Firms

Using a similar estimation strategy, I examine the impact on **defendant** firms:

	Scope 1 Emissions		Scope 1 Intensity		EPA Emissions		Residual	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Case with CAR[-2,2]<0 (0/1)	-0.837	-0.406	46.685	49.031	-0.207**	0.070	-1.271	-0.868
	(-1.20)	(-0.67)	(1.49)	(1.46)	(-2.55)	(0.50)	(-1.69)	(-1.30)
Defendant in 1 year pre-filing period	-0.149		31.594		-0.169		0.220	
	(-0.69)		(0.66)		(-0.79)		(0.73)	
Defendant in 1 year post-filing period	-0.177	-0.001	62.930	57.205	0.102	0.200	-0.431	-0.389
	(-0.24)	(-0.00)	(1.12)	(1.10)	(0.20)	(0.38)	(-0.76)	(-0.65)
Defendant in 2+ years post-filing period	0.067	1.501	154.795*	155.742*	0.040	1.091	-0.463	0.409
	(0.08)	(1.21)	(1.86)	(1.97)	(0.07)	(1.20)	(-0.55)	(0.35)
Defendant in 2+ years post-filing of case with CAR[-2,2]<0		-2.709**		-17.342		-1.815**		-1.583
		(-2.12)		(-0.19)		(-2.24)		(-1.43)
Observations	499	499	499	499	507	507	323	323
Adj. R-squared	0.990	0.991	0.978	0.978	0.984	0.985	0.987	0.987

Note: Firm, country-year, and sector-year fixed effects are included. Standard errors are clustered at the firm level.
T-statistics are in parentheses. Significance levels are indicated by $*< .1$, $** < .05$, $*** < .01$.

$\rightarrow$ The subset of litigations that negatively impacted firm value are associated with a decrease in defendant firms' Scope 1 Emissions

2(b) Peer Firms

Finally, I examine the impact on **peer** firms:

- ▶ Claimants' objectives often go beyond the plaintiffs
    - ▶ Do they manage to put pressure on non-defendants firms?
- ▶ Role of self-regulation (Maxwell et al., 2000), including in promoting industrial transparency (Daubanes and Rochet, 2019; Seo, 2020)

	Reported Physical			Reported Regulatory			Reported Legal			Reported Other Transition		
	(1) N= 1	(2) N= 3	(3) N= 5	(4) N= 1	(5) N= 3	(6) N= 5	(7) N= 1	(8) N= 3	(9) N= 5	(10) N= 1	(11) N= 3	(12) N= 5
Neighbor in post-filing period	-0.629***	-0.120	-0.168	-0.383***	-0.122	-0.179	-0.081***	0.050	0.051	-0.086***	0.031	0.037
	(-97.22)	(-0.51)	(-0.93)	(-60.47)	(-0.52)	(-0.99)	(-11.67)	(0.51)	(0.42)	(-12.07)	(0.31)	(0.30)
Neighbor post-filing of case with CAR<0	0.529***	0.218	0.160	0.107	0.109	0.154	0.300**	0.347***	0.409***	0.379***	0.445***	0.469***
	(13.17)	(0.81)	(0.78)	(0.70)	(0.43)	(0.79)	(2.06)	(2.68)	(2.99)	(2.98)	(4.21)	(3.65)
Case with CAR[-2,2]<0	0.597***	0.429***	0.511***	0.630***	0.523***	0.545***	0.154**	-0.152*	-0.173***	-0.060	-0.256***	-0.237***
	(3.26)	(3.67)	(6.18)	(3.78)	(6.04)	(9.24)	(2.32)	(-2.22)	(-3.45)	(-0.26)	(-2.92)	(-3.97)
Observations	73743	73743	73743	73743	73743	73743	73743	73743	73743	73743	73743	73743
Adj. R-squared	0.571	0.572	0.574	0.582	0.583	0.585	0.258	0.259	0.261	0.270	0.272	0.274

Note: Firm, country-year, and sector-year fixed effects are included. Standard errors are clustered at the firm level.
T-statistics are in parentheses. Significance levels are indicated by *< .1, ** < .05, *** < .01.

Conclusion

- ▶ As climate risk becomes increasingly material, demand for climate-related disclosure is on the rise
- ▶ In this context, climate litigations:
  - ▶ provide relevant climate risk information with is new and costly to collect
  - ▶ impact investors and firm policies

The two main results of the paper are that:

- ▶ Negative market reactions to litigations can trigger significant emission cuts by defendant firms, primarily through selling polluting facilities
- ▶ Peer firms increase voluntary disclosures following impactful litigations, enhancing industry-wide transparency

Some Climate Litigations Examples

	Germany	**Netherlands**
Case Name	Lliuya v. RWE AG	Milieudefensie v. Shell plc.
Filing Year	2015 (appeal ongoing)	2017 (judgment in 2021)
Legal Ground	German Civil Code, Art. 1004	Dutch Civil Code; Human Rights

	France	**United States**
Case Name	Friends of the Earth v. TotalEnergies	Conservation Law Fnd. v. Exxon
Filing Year	2019	2017 (facility closed)
Legal Ground	Commercial Code; Vigilance	Clean Water Act