

CORPORATE CLIMATE LITIGATION AS STRATEGIC RISK: STOCK-MARKET EVIDENCE FROM FILINGS AND COURT DECISIONS AGAINST LISTED FIRMS (2005–2021)

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Climate litigation has become a material governance mechanism that can affect strategy, disclosure, and long-horizon planning. This article examines whether equity markets price climate litigation as value-relevant information for publicly listed defendants. We assemble a cross-regional sample of corporate climate lawsuits against listed North American and European firms over 2005–2021 using the Sabin Center climate litigation databases (with contributions from the London School of Economics), yielding 279 filing firm-events and 78 decision firm-events. Using a standard event-study design, we estimate cumulative average abnormal returns around litigation filings and judicial decisions. The estimates indicate a negative market response at filing (a 3-day cumulative average abnormal return of -0.35%) and a larger negative response after unfavourable decisions (-0.99%). Effects are stronger among “Carbon Major” defendants and for novel or first-in-jurisdiction filings, although narrower subsample results are interpreted cautiously. Taken together, the evidence supports climate litigation as a managerial and planning-relevant risk channel with implications for enterprise risk management, transition planning, governance, and investor communication.

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INTRODUCTION

Climate governance increasingly operates through organizational decision systems that sit at the intersection of regulation, markets, and stakeholder pressure. Among the most consequential developments is the rapid growth of climate litigation: claims that use courts and quasi-judicial bodies to contest emissions trajectories, disclosure practices, product strategies, and the distribution of climate harms [12, 10, 11]. For firms, climate litigation is not simply a legal expense line. It is a governance instrument that can alter reputational standing, financing conditions, regulatory expectations, and strategic choice—including divestment decisions, asset impairment expectations, and transition-planning commitments [1, 14].

Management and planning scholarship therefore has clear reasons to care about climate litigation. First, litigation is a form of *strategic stakeholder engagement*: it can raise issue salience, mobilize coalitions, and reshape what external audiences deem legitimate or acceptable [4, 13]. Second, litigation can operate as a *risk revelation device*. Even when ultimate liability remains uncertain, the initiation of formal proceedings and the validation (or rejection) of claims by courts can shift beliefs about long-run cash flows, risk premia, and the credibility of firm narratives about climate performance [6]. Third, litigation is linked to planning under uncertainty because firms must allocate resources, adjust disclosures, and manage portfolios while climate policy, technology, and stakeholder expectations remain unstable.

Against this backdrop, the central empirical question is straightforward: *Do financial markets treat corporate climate litigation as value-relevant information?* If the answer is yes, litigation risk becomes a measurable channel through which governance pressure translates into firm valuation, with direct implications for corporate planning, risk governance, and sustainability strategy.

This article provides evidence using a systematic event-study analysis of corporate climate litigation filings and court decisions against listed firms in North America and Europe between 2005 and 2021. The study contributes to management and planning research in three ways. First, it quantifies the average valuation impact of litigation filings and decisions while clarifying the firm-event structure of the sample. Second, it tests whether valuation impacts concentrate among the largest historical emitters (“Carbon Majors”) [5]. Third, it evaluates whether *legal novelty*—novel arguments or first-in-jurisdiction claims—is associated with larger market responses, consistent with uncertainty and precedent-setting risk.

THEORY AND HYPOTHESES

Climate litigation as stakeholder pressure and risk signal

From a management perspective, climate litigation can be interpreted as a high-intensity stakeholder tactic that affects firms through multiple mechanisms: reputational consequences, increased scrutiny by investors and regulators, and constraints on strategic options (including project approvals, product strategies, and disclosure positioning) [4, 13, 12]. Importantly, the initiation of litigation and key court decisions are discrete, time-stamped information events. In capital markets, such events can shift expectations about future cash flows, compliance costs, and risk premia, and thus should appear in abnormal returns around announcement windows [3, 7].

Two broad stages are particularly relevant for market pricing. The **filing** stage signals that a claim has entered a formal institutional pathway and may attract sustained attention. The **decision** stage, by contrast, often provides sharper information about legal viability and potential constraints. Unfavourable decisions can raise perceived liability and precedential risk; favourable decisions can reduce these perceived risks but may not fully eliminate reputational or strategic consequences.

Heterogeneity: Carbon Majors and legal novelty

Not all defendants face symmetric exposure. Firms with historically high emissions and carbon-intensive portfolios are likely to be viewed as more exposed to transition risk and policy tightening [5, 1]. For such firms, litigation may be interpreted as more directly threatening to the durability of the business model, producing larger valuation penalties.

Similarly, legal novelty may raise the perceived distribution of outcomes. When claims involve novel legal theories or represent the first case of a given type in a jurisdiction, investors may assign greater uncertainty and higher downside risk due to the possibility of precedent-setting effects and follow-on lawsuits [11, 10].

Hypotheses

We therefore assess the following hypotheses:

- H1: Filings are priced negatively.** Climate litigation filings against listed defendants are associated with negative cumulative abnormal returns around the filing window.
- H2: Unfavourable decisions are priced more negatively than filings.** Court decisions anticipated to be unfavourable to defendants generate larger negative cumulative abnormal returns than filings.
- H3: Carbon Major effects are larger.** The negative abnormal returns associated with filings and unfavourable decisions are larger for Carbon Major defendants.
- H4: Novel claims elicit larger penalties.** Filings involving novel arguments or first-in-jurisdiction characteristics generate larger negative abnormal returns than other filings.

DATA AND CASE CONSTRUCTION

Case identification and inclusion criteria

We collect climate litigation cases in which climate change is a material issue against corporate defendants, drawing primarily on the Sabin Center for Climate Change Law litigation databases (US and global), with contributions from the London School of Economics and Political Science (data extracted in March 2022). We identify relevant cases against firms by combining the Sabin classification with prior case classification work in the United States and by reviewing US cases filed between 2016 and March 2022 for corporate defendants [8]. We then restrict attention to publicly listed firms in North America and Europe, excluding non-traded firms and cases lacking the information required to implement the event-study design (for example, missing return data, missing key dates, or unavailability of risk factors for specific jurisdictions).

The resulting litigation database contains 108 cases for which a filing date can be precisely defined. Because a single lawsuit can name multiple listed defendants, these cases expand to 279 filing firm-event observations in the filing analysis. The decision sample contains 59 cases with identifiable “important” court decisions, corresponding to 78 decision firm-events, of which 51 are classified as favourable and 27 as unfavourable to the targeted firm(s).¹

¹Decision outcome classification is performed *ex ante* (without reference to market reactions), based on whether the decision would plausibly be interpreted as beneficial or harmful to the defendant(s) given the immediate procedural and substantive posture of the case.

Litigation characteristics and managerial salience

To support heterogeneity analysis and managerial interpretation, filing events are coded at the firm-filing level along several dimensions: whether the filing involves a novel argument or is the first case of a kind in a jurisdiction (coded for 120 filing observations), whether the case is in a court of law rather than administrative or quasi-judicial settings (235), whether it is part of a broader group of similar cases (135), whether a government entity is the plaintiff (170), and whether the filing seeks monetary damages rather than civil penalties (210). Coding is based on case descriptions and filing context before return inspection, with ambiguous cases handled conservatively. These characteristics align with managerial expectations about salience, escalation potential, and the likelihood of broader diffusion through precedent and replication.

Table 1: Corporate climate litigation sample structure and coded characteristics

Panel A. Sample structure	Count	Notes
Lawsuits with precise filing date	108	Case-level
Defendant firms (listed)	98	Firm-level
Cases with identifiable important decisions	59	Case-level
Decision firm-event observations	78	Firm-event level
Favourable decisions	51	Firm-event level
Unfavourable decisions	27	Firm-event level

Panel B. Filing-event characteristics (coded)	N	Share of filings (%)
Novel argument / first-in-jurisdiction filing	120	43.0
Court of law (vs administrative/quasi-judicial)	235	84.2
Part of a group of similar cases	135	48.4
Government plaintiff	170	60.9
Claims monetary damages (vs civil penalties)	210	75.3

Notes: Panel B shares are computed using the 279 filing firm-event observations used in the event-study analysis of filings, with one observation per listed defendant. Litigation cases are sourced from the Sabin Center databases with contributions from LSE; publicly listed North American and European defendants are retained following financial data and event-date availability screening.

EMPIRICAL STRATEGY

Event-study framework

We estimate abnormal stock returns around litigation events using a standard market-model event-study design [7, 2]. The unit of analysis is the firm-event: each listed defendant contributes one observation for each dated filing or coded decision in which it is named. Abnormal returns are calculated as the difference between actual excess returns and expected excess returns predicted by a regional market model. Expected returns are estimated over a 3-year pre-event estimation period (from trading day -770 to -20), requiring at least 125 trading days of observations.

Let r_{it} denote the excess return of firm i at day t , and let r_{mt} denote the corresponding regional market excess return. The market-model specification is:

$$r_{it} = \alpha_i + \beta_i r_{mt} + \varepsilon_{it}. \tag{1}$$

Abnormal returns are $\widehat{AR}_{it} = r_{it} - (\widehat{\alpha}_i + \widehat{\beta}_i r_{mt})$. Cumulative abnormal returns (CARs) are computed over the

canonical 3-day event window $(\tau_1, \tau_2) = (-1, +1)$, so the estimates capture average repricing in litigation-centered news windows.

Because the research question concerns aggregate market-wide impacts rather than equal-weighted averaging that would overweight small stocks, we compute value-weighted cumulative average abnormal returns (CAARs) by weighting each firm-event with the log of the firm's market capitalization (mean over the estimation window), which limits the influence of the very largest observations. Statistical inference is based on the Patell test, which incorporates forecast-error adjustments and accommodates unequal return variances [9]; estimates for narrow subsamples are interpreted as directional evidence when cell sizes are small.

Robustness and alternative windows

To evaluate sensitivity to alternative modelling choices, we also consider (i) an approach treating multi-defendant cases as equal-weighted portfolios, which collapses firms named in the same case-date into a single signal and addresses same-case cross-sectional correlation, and (ii) a longer 7-day event window $(-5, +1)$, motivated by the possibility of modest anticipation effects and short-run delayed adjustment.

Implementation pseudocode

Algorithm 1 Event-study estimation for climate litigation filings and decisions

Require: Litigation-event list with dates and firm identifiers; daily stock returns; regional market returns; firm market capitalizations

Ensure: Weighted CAAR estimates for filings and decision events

- 1: Filter to listed North American and European defendant firms with required return and factor data
 - 2: **for** each firm-event (i, e) with event date t_0 **do**
 - 3: Define estimation window $[t_0 - 770, t_0 - 20]$ and require ≥ 125 trading days
 - 4: Estimate market model $r_{it} = \alpha_i + \beta_i r_{mt} + \varepsilon_{it}$
 - 5: Compute abnormal returns \widehat{AR}_{it} in event window $[t_0 - 1, t_0 + 1]$
 - 6: Compute $\widehat{CAR}_{i,e} = \sum_{t=t_0-1}^{t_0+1} \widehat{AR}_{it}$
 - 7: **end for**
 - 8: Compute weights $w_{i,e} = \log(\overline{MCAP}_{i,e})$ using mean market cap over the estimation window
 - 9: Compute weighted CAAR: $\widehat{CAAR} = \left(\sum w_{i,e} \widehat{CAR}_{i,e} \right) / \left(\sum w_{i,e} \right)$
 - 10: Conduct inference using Patell-type standardized abnormal returns and forecast-error correction
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RESULTS

Baseline market response to filings and decisions

Table 2 reports the primary 3-day event-window results using 279 filing firm-events and 78 decision firm-events. Climate litigation filings are associated with a negative CAAR of -0.35% . Unfavourable decisions, based on 27 firm-events, are associated with a substantially larger negative CAAR of -0.99% . When filings and unfavourable decisions are pooled, the estimated CAAR is -0.41% . Favourable decisions (51 firm-events) generate a small positive CAAR (approximately $+0.29\%$) that is not statistically distinguishable from zero.

Table 2: Cumulative average abnormal returns (CAARs) around climate litigation events (3-day window)

Event category	3-day CAAR (%)	Interpretation
Filings	-0.35	Market penalty at initiation of climate lawsuit
Unfavourable decisions	-0.99	Larger penalty when adverse judicial signal occurs
Favourable decisions	+0.29	Small rebound; not statistically robust
Filings + unfavourable decisions (pooled)	-0.41	Average effect of negative litigation information

Notes: Event window is $(-1, +1)$. CAARs are value-weighted using the log of market capitalization; inference is summarized using a Patell-type test with forecast-error correction. The pooled estimate combines filing events and unfavourable decisions to capture negative litigation information in a single benchmark.

Figure 1 visualizes the magnitude differences between filings, decision outcomes, and the pooled negative-information benchmark.

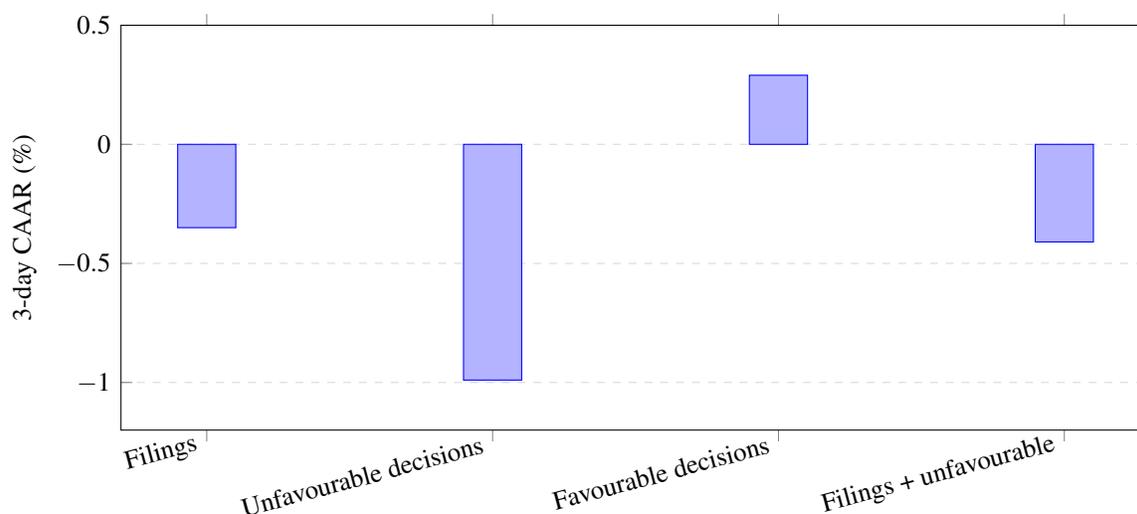


Figure 1: Market response to corporate climate litigation events (3-day window).

Carbon Majors

Valuation impacts are concentrated among Carbon Major defendants. When filings and unfavourable decisions are pooled, Carbon Majors exhibit a larger negative CAAR of approximately -0.57% , whereas non-Carbon Major defendants do not show a comparable aggregate penalty. The impact of *unfavourable* decisions is particularly large for Carbon Majors, approximately -1.50% . Given the smaller subgroup cells, these magnitudes are best read as directional. Even so, the pattern is consistent with the interpretation that litigation is priced most strongly when it targets firms widely perceived to face the largest transition exposures and reputational liabilities [5, 1].

Table 3: Heterogeneity by Carbon Major status

Subsample / event category	3-day CAAR (%)	Summary
Carbon Majors: filings + unfavourable decisions (pooled)	-0.57	Larger penalty among largest historical e
Carbon Majors: unfavourable decisions	-1.50	Strong adverse-decision repricing

Notes: Carbon Major classification follows established producer-based emissions attribution [5]. Reported effects summarize the directional concern negative litigation pricing among Carbon Major defendants.

Novel claims and first-in-jurisdiction filings

Market penalties are also stronger for legally novel claims. Filings involving a novel argument or representing the first climate lawsuit of a given kind in a jurisdiction are associated with a negative CAAR of approximately -0.52% for the full sample and -0.66% among Carbon Majors. Because novelty classifications rely on case descriptions and jurisdictional context, these results are best interpreted as evidence that precedent-setting risk amplifies market reactions. The pattern is consistent with investors assigning additional downside risk when claims have the potential to set precedent or catalyze copycat litigation in other jurisdictions and sectors.

Table 4: Novel litigation and market response at filing

Filing category	3-day CAAR (%)	Interpretation
Novel / first-in-jurisdiction filings (all defendants)	-0.52	Higher uncertainty and precedent-setting risk
Novel / first-in-jurisdiction filings (Carbon Majors)	-0.66	Stronger penalty for high-emitting defendants

Notes: “Novel” indicates novel arguments or first-in-jurisdiction case types, coded ex ante from case descriptions and filing context, with conservative treatment of ambiguous cases.

Temporal concentration of effects

The market response is not uniform over time. In the later period, when corporate climate litigation became more frequent and salient, effects strengthen. After 2019, filings produce a negative CAAR of approximately -0.34% (and -0.55% for filings against Carbon Majors), while unfavourable decisions produce a larger negative CAAR of approximately -1.55% . Earlier in the sample period, effects are not statistically distinguishable from zero. Because later-period splits rely on smaller cells, they reinforce the baseline estimates.

Table 5: Later-period effects (post-2019)

Event category (post-2019)	3-day CAAR (%)	Summary
Filings (all defendants)	-0.34	Persistent filing penalty in high-salience period
Filings against Carbon Majors	-0.55	Larger penalty for high-emitting defendants
Unfavourable decisions	-1.55	Strong adverse-decision penalty in later period

Notes: Post-2019 results highlight the temporal concentration of market responses in the later phase of corporate climate litigation; the later-period cells are smaller than the full sample.

Economic magnitude: indicative valuation effects

Although CAAR estimates are modest in percentage terms, valuation effects can be large in absolute dollars for large firms. Back-of-the-envelope calculations indicate that the average economic benefit associated with a favourable decision is approximately US\$197 million, while the average economic cost associated with an unfavourable decision is approximately US\$360 million. These magnitudes should be interpreted cautiously, as they are influenced by the largest defendants and reflect market valuation changes rather than direct legal payments or accounting charges.

Robustness

Two robustness checks reinforce the interpretation that litigation is priced as economically relevant information. First, modelling multi-defendant cases as equal-weighted portfolios yields a similar pooled

estimate for filings and unfavourable decisions (approximately -0.40%), statistically significant at the 90% level, indicating that same-case clustering does not drive the main result. Second, expanding the event window to seven trading days ($-5, +1$) produces qualitatively consistent estimates: filing effects remain similar (approximately -0.35%), while the estimated penalty for unfavourable decisions increases (approximately -1.36%), consistent with modest drift or delayed adjustment.

DISCUSSION: IMPLICATIONS FOR MANAGEMENT AND PLANNING RESEARCH

The evidence supports a measured but important conclusion: climate litigation is not merely a symbolic governance practice; it is a priced risk channel that becomes materially stronger when (i) courts deliver unfavourable signals and (ii) defendants are Carbon Majors or face legally novel claims.

Managerial implications

Three managerial implications follow.

Litigation belongs in enterprise risk management (ERM) and transition planning. Firms commonly treat climate risk as a blend of operational, regulatory, and reputational components. The results indicate that litigation should be treated as a distinct and measurable risk pathway with identifiable trigger points (filings and adverse decisions). ERM frameworks and board risk committees should explicitly integrate litigation scenario analysis, with special attention to precedent-setting jurisdictions and claim types, while recognizing that the present evidence captures short-window valuation effects rather than direct losses.

Governance and disclosure must anticipate precedent risk. The larger market penalty for novel claims suggests that uncertainty and diffusion potential drive pricing. This is a planning problem: firms should assess not only the case at hand, but also whether a legal theory could migrate across jurisdictions and industry peers. Strengthening disclosure controls, ensuring consistency across sustainability claims, and aligning transition plans with verifiable metrics can plausibly reduce vulnerability to claims framed as misleading or inconsistent.

Carbon-intensive firms face concentrated downside risk from escalation. The strong penalties for Carbon Majors imply that markets interpret litigation as more directly challenging to business-model durability. For these firms, strategic planning should prioritize credible decarbonization pathways, capital allocation consistency, and governance systems that reduce the probability of adverse judicial validation.

Planning under uncertainty and policy relevance

For policymakers and planners, the results underline that litigation can influence firms through capital-market channels. In practice, this means that regulatory design, disclosure standards, and planning frameworks may interact with private litigation ecosystems. Legal decisions can alter market assessments of financing conditions for targeted defendants and may accelerate strategic adjustment where regulatory signals are ambiguous. From a planning research standpoint, climate litigation is best treated as part of the institutional environment shaping organizational adaptation.

Limitations and future research

The analysis focuses on clearly identifiable filings and “important” decisions and does not capture the full docket-level evolution of each case (motions, settlements without clear dates, or informal signalling). Further, the event-study design identifies short-horizon pricing reactions and does not, by itself, establish the long-run operational or investment consequences of litigation. Because event windows may contain other firm news and some legal classifications require judgment, the estimates should be interpreted as responses to litigation-centered information rather than as pure causal effects of litigation alone. Future work in management and

planning research could connect litigation exposure to changes in capital budgeting, transition-plan credibility, insurance costs, and supply-chain contracting, as well as to within-industry spillovers.

CONCLUSION

This article shows that corporate climate litigation is a value-relevant strategic risk for listed defendants. Across North American and European firms over 2005–2021, filings are associated with a negative market response and unfavourable decisions generate substantially larger penalties. Effects concentrate among Carbon Majors and among legally novel filings, and they strengthen in the later period when corporate climate litigation becomes more salient. For management and planning research, the results motivate a practical agenda: integrate litigation explicitly into ERM, governance, and transition planning; treat novelty and precedent risk as first-order planning constraints; and recognize litigation as a mechanism through which climate governance pressure is transmitted into market valuation.

DATA AVAILABILITY

Litigation cases are compiled from the Sabin Center climate litigation databases (US and global) with contributions from the London School of Economics and Political Science. Financial return data and related market inputs are accessed via licensed data providers as described in the Methods and associated data documentation.

CODE AVAILABILITY

Replication code consists of scripts implementing the market-model event study, event-window construction, weighting by market capitalization, and robustness checks with portfolio aggregation and alternative windows. Code can be made available upon request in accordance with data licensing constraints.

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