Weaponized My Work: The Organizational Costs of Patent Litigation*

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Abstract

We study the indirect organizational costs of legal enforcement, focusing on patent litigation from an insider perspective. Linking U.S. patent lawsuits to employee reviews and workforce mobility data, we examine how legal enforcement shocks reshape workforce sentiment and human capital dynamics. We find that employee satisfaction with the CEO declines significantly when firms initiate patent litigation, especially among R&D personnel and in strategic, rather than innovation-protective, lawsuits. Two channels drive this decline: a values-based channel, as employees perceive resources being diverted from innovation toward legal confrontation, and an extrinsic channel, reflecting heavier workloads and heightened job insecurity without increased compensation. These sentiment effects translate into tangible workforce consequences, increasing inventor departures and reducing inflows of inventive talent. In contrast, firms acting as defendants experience a modest increase in internal cohesion. Overall, our findings highlight a hidden toll of patent litigation: aggressive legal enforcement can alienate employees, erode morale, and generate real human capital costs.

Keywords: patent litigation, innovation strategy, corporate culture, implicit contracts, employee satisfaction, human capital, labor mobility

JEL Classification: G30, O34, K41, J53, J63

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"I thought I was giving them a shield, but turns out I gave them a missile with my name permanently engraved on it... Yahoo's lawsuit against Facebook is an insult to the talented engineers who filed patents with the understanding they wouldn't be used for evil. Betraying that trust won't be forgotten... Nobody I know wants to work for a company like that."

— Andy Baio, former Yahoo engineer (WIRED, March 13, 2012)[1]

1 Introduction

Legal institutions play a central role in enforcing property rights and resolving corporate disputes. For innovative firms, patent litigation is the primary mechanism to protect intellectual assets and deter market infringement. While a rich literature documents the direct economic consequences of patent disputes on firm innovation, financing, and product market outcomes (e.g., Galasso and Schankerman 2015; Appel, Farre-Mensa, and Simintzi 2019; Cohen, Gurun, and Kominers 2019; Mezzanotti 2021; Acikalin et al. 2025), the indirect organizational costs of legal enforcement remain largely unexplored. In this paper, we bridge this gap by investigating how employees perceive and respond to patent litigation, demonstrating how legal shocks reshape a firm's internal organization and broader human capital dynamics.

Patent litigation offers an ideal setting to study the organizational frictions generated by legal risk. First, the value of technological assets hinges on enforcement. Consequently, patent disputes are frequent and economically material, fueling intense debate over whether strategic litigation distorts competitive dynamics and imposes unintended costs on innovative firms (Antill et al. 2025).[2] Second, engaging in patent litigation is inherently a top-down strategic decision. While executives may initiate lawsuits to legitimately defend intellectual property, they also frequently deploy litigation aggressively to deter competitors and extract rents. Top management views litigation through the lens of market strategy and value appropriation. In contrast, R&D personnel and rank-and-file employees may view high-stakes litigation as an operational disruption, a diversion of productive

[1] See this WIRED article, accessed August 8, 2025.

[2] According to the U.S. Patent Litigation Report (Lex Machina 2024; Lex Machina 2025), U.S. federal district courts handled more than 44,000 patent litigation cases in the past decade and over 100,000 patent litigation cases since the 1960s, with damages awarded in patent cases exceeding 4 billion dollars in recent years.

resources away from innovation, and a threat to job security. Therefore, we hypothesize that aggressive legal actions may trigger internal disagreement, exposing a latent value misalignment between corporate leadership and the broader workforce.

Anecdotal evidence supports the existence of such internal friction. For example, Yahoo's 2012 patent lawsuit against Facebook triggered public backlash from its own engineering team, with one engineer condemning the lawsuit as a "*deplorable move*" against innovation. Such reactions suggest employees may interpret aggressive litigation as a signal that management prioritizes legal confrontation over technological progress. To mitigate this tension, firms like Twitter introduced the "Innovator's Patent Agreement" in 2012, restricting the use of employee-generated patents in offensive litigation without the inventor's consent.[3]

Despite such tensions, employees' internal reactions to patent litigation remain largely unobservable to external stakeholders such as investors, analysts, or courts. Yet, unpacking these internal responses is crucial for evaluating the broader organizational costs of legal enforcement. Because employees experience litigation firsthand, their perceptions provide unique insights into how legal disputes are interpreted inside organizations. These perceptions may shape employee morale, retention, and the allocation of human capital, ultimately affecting firm performance in ways that are not captured by traditional financial metrics.

To overcome this observability challenge, we leverage employee reviews from Glassdoor to capture a critical, hard-to-measure intangible: employee satisfaction with CEO leadership and senior management. We construct a novel dataset spanning the 2008–2023 period, linking U.S. patent litigation events (USPTO) with employee sentiment (Glassdoor), workforce mobility (LinkedIn), and hiring activity (Lightcast). Based on a final sample of 8,234 firm-year observations across 1,374 U.S. public firms, we provide the first systematic evidence on how legal enforcement shocks shape employee sentiment, workforce dynamics, and organizational capital.

We begin by studying the effect of patent litigations on employee sentiments. Our baseline specification compares changes in employee satisfaction around patent litigation events for firms that initiate lawsuits relative to firms that never engage in patent litigation during the sample

[3]Details can be found in Appendix IB.

period. The empirical design follows a staggered difference-in-differences framework that exploits variation in the timing of litigation events across firms. We include firm fixed effects to absorb time-invariant firm characteristics, industry-by-year fixed effects to control for industry-level shocks, and state-by-year fixed effects to account for local economic conditions and regulatory environment changes.

Our main finding is that employee perceptions of leadership deteriorate following patent litigation. In particular, employee satisfaction with CEO leadership declines significantly after a firm initiates a patent lawsuit. The estimated effect corresponds to a decline of 0.27 points in CEO approval ratings relative to firms that do not initiate litigation, which represents approximately 31% of the cross-sectional difference in average CEO satisfaction between employees at the highest and lowest seniority levels. We observe similar declines in employee satisfaction with senior management, as well as broader workplace dimensions such as compensation and benefits, and career opportunities.

A key concern for the difference-in-differences design is that firms that initiate litigation may already be experiencing declining employee sentiment prior to the lawsuit. Such patterns could arise if unobserved shocks simultaneously affect both firms' litigation decisions and workplace perceptions. To address this concern, we estimate an event-study specification that traces employee sentiment before and after litigation events. The results show no evidence of differential pre-trends in employee satisfaction between treated and control firms prior to litigation. The decline in employee sentiment emerges only after the initiation of a patent lawsuit, supporting the validity of the parallel-trends assumption.

Despite these tests, a remaining concern is that firms may endogenously choose to initiate litigation in response to internal developments or firm characteristics that also affect employee sentiment. For example, firms facing competitive pressure or strategic shifts may both pursue litigation and experience changes in internal morale. To mitigate this concern, we exploit the staggered introduction of U.S. state anti–troll laws between 2013 and 2017 as a source of plausibly exogenous variation in firms' exposure to patent litigation. These laws were enacted to curb opportunistic patent enforcement by increasing the legal and operational costs associated with filing infringement claims.

By raising expected litigation costs, the laws significantly reduce the likelihood that firms initiate patent lawsuits. The staggered adoption of these laws therefore generates variation in litigation propensity that is plausibly unrelated to firms' internal workplace sentiment.

We implement this strategy using an instrumental variable difference-in-differences framework. In the first stage, we examine whether the adoption of anti-troll laws affects firms' propensity to initiate patent litigation. Consistent with the intended policy effect, the passage of these laws reduces the probability that firms initiate lawsuits by approximately 5%. In the second stage, we estimate the effect of litigation on employee sentiment using the predicted litigation exposure generated by the policy shock. The instrumented estimates confirm our baseline results: the predicted litigation exposure leads to a significant decline in employee satisfaction with firm leadership. These findings reinforce the interpretation that the deterioration in employee sentiment reflects the organizational costs of engaging in patent disputes rather than pre-existing differences between litigation and non-litigation firms.

We next explore the mechanisms underlying our baseline findings. The first potential mechanism is that patent litigation may create perceived value misalignment between employees and firm leadership. When firms devote substantial resources to legal disputes rather than research and development, employees—particularly those engaged in R&D activities—may view litigation as a diversion from the firm's innovation mission. While litigation can serve as a legitimate defense of intellectual property, firms may also use it strategically to extract rents, deter competitors, or strengthen bargaining power in technology markets afterwards(e.g., Cohen, Gurun, and Kominers 2019; Michaely, Xie, and Zhang 2025). In such cases, employees may perceive that litigation is motivated less by protecting innovation than by strategic legal confrontation, which may weaken their confidence in the firm's innovation-oriented strategy and reduce satisfaction with leadership. To examine this mechanism, we conduct heterogeneous tests based on the nature of patent litigation, in terms of which patents are at stake, why firms litigate, and whom they litigate against. Consistent with the value-misalignment explanations, the negative effects on employee sentiment are significantly stronger when litigation is strategic rather than innovation-protective. We further find that the decline in employee satisfaction is concentrated among R&D staff and more educated,

highly skilled employees, whose human capital and career prospects are more closely tied to the firm's innovation activities. Complementing these results, textual analysis of employee reviews using a BERT-based large language model reveals that employees express increasingly negative views about the firm's innovation activities following litigation events.

The second mechanism relates to the perceived mismatch between employees' effort and compensation, as well as their expectations about future pay. Patent litigation is often prolonged and resource-intensive, requiring significant managerial attention and coordination across departments. These processes can increase employees' workloads and workplace stress. If compensation does not adjust accordingly, employees may perceive an imbalance between the effort they exert and the rewards they receive, which may further reduce satisfaction with firm leadership. To evaluate this channel, we examine employees' satisfaction with work–life balance as a proxy for work pressure. We find that work–life balance satisfaction declines significantly after a firm initiates patent litigation, suggesting that employees experience increased work demands during litigation periods. At the same time, we find little evidence that compensation adjusts proportionally in response to these increased demands. Further, litigation is costly and may lower employees' expectations about future compensation. Consistent with this mechanism, we observe a significant decline in employee satisfaction with compensation and benefits. The perceived effort–pay mismatch and lower expectations about future compensation together help explain the decline in employee satisfaction with leadership.

The third mechanism relates to the legal and business uncertainty associated with patent litigation. By initiating a lawsuit, firms expose their technological assets to judicial scrutiny, including challenges to the validity and scope of their patents. Prior research shows that such legal uncertainty can also disrupt firms' operations (Lemley and Melamed 2013; Tucker 2014; Cohen, Gurun, and Kominers 2019; Acikalin et al. 2025;). From employees' perspective, heightened firm-level uncertainty may translate into concerns about their own career security. These concerns may in turn reduce employee satisfaction with firm leadership. To evaluate this mechanism, we exploit variation in litigation characteristics that capture the degree of legal uncertainty faced by the firm. Consistent with this interpretation, we find that the decline in employee satisfaction is more pro-

nounced in cases involving role-switching disputes and in lawsuits that persist for longer periods, both of which are likely to entail greater legal uncertainty and risks.

An alternative explanation is that the decline in employee satisfaction only reflects changes in top leadership rather than the litigation itself. Patent disputes may coincide with CEO turnover, which can affect employee sentiment by introducing uncertainty about strategic direction or organizational restructuring. However, we find little evidence supporting this explanation. The negative effects of litigation on employee satisfaction remain largely unchanged after controlling for leadership turnover.

So far, our evidence highlights largely ignored but important intangible organizational costs of patent litigation, reflected in employee sentiment changes. An important question, however, is whether the decline in intangible employee sentiment will translate into tangible human capital costs. Such outcomes are particularly relevant for innovation-driven firms, where human capital—especially inventive talent—plays a central role in sustaining technological progress and competitive advantage.

To examine this question, we study employee mobility from both the outflow and inflow perspectives and distinguish between inventors and non-R&D workers. This approach allows us to assess whether patent litigation affects firms' ability to retain existing talent and attract new innovative workers. We find that patent litigation significantly weakens firms' ability to retain and recruit inventive talent. On the outflow margin, the likelihood that inventors leave the firm increases following litigation events, particularly among inventors who have prior exposure to litigation or whose patents are directly involved in the dispute. In contrast, we find little evidence that litigation affects the turnover of non-R&D workers. On the inflow margin, firms that initiate patent litigation face greater difficulty attracting new inventors, given no observable decline in firms' hiring demand. Taken together, these findings suggest that patent litigation can affect firms' innovation capacity by weakening their position in the labor market, especially for innovative human capital.

Because firms can be involved in patent litigation either as plaintiffs or as defendants, we also examine employee responses when firms are sued in the patent litigation. This analysis allows us to assess whether the organizational consequences of patent disputes depend on the firm's role in the

litigation. In contrast to the plaintiff-side results, we find that firms acting as defendants exhibit modest and generally weak increases in employee satisfaction with CEO leadership. This pattern is consistent with employees interpreting litigation in this setting as a defensive response to external threats rather than a proactive strategic decision by management.

Our paper makes three contributions to the literature at the intersection of finance, organizational economics, and patent litigation. First, we advance the growing literature examining the economic consequences of patent disputes. While prior studies primarily focus on direct, firm-level observable outcomes such as innovation, financing, and product-market performance (e.g., Appel, Farre-Mensa, and Simintzi 2019; Cohen, Gurun, and Kominers 2019; Mezzanotti 2021; Acikalin et al. 2025; Antill et al. 2025), we address this gap by examining the broader, indirect organizational costs of legal enforcement. Specifically, we show how patent litigation generates internal frictions and negatively shocks employee sentiment and human capital dynamics, highlighting a hidden toll on the firm's most valuable assets. Second, our paper contributes to the literature linking labor economics with corporate finance by highlighting how legal disputes affect rank-and-file employees within firms. Existing literature focuses on top management or corporate governance when analyzing litigation or legal risk (e.g., Haslem 2005; Fich and Shivdasani 2007; Cheng et al. 2010). Other studies employee-initiated lawsuits or labor disputes and their implications for firm performance and employment outcomes (e.g., Oyer and Schaefer 2000; Oyer and Schaefer 2002; Chen 2024). Our paper provides a rank-and-file insider perspective on patent litigation and shows that employees react asymmetrically depending on whether the firm acts as a plaintiff or a defendant. Third, we contribute to the emerging literature on corporate culture. Existing literature highlights the importance of corporate culture in shaping innovation, productivity, and firm value (e.g., Graham et al. 2022). Our paper complements this stream of literature by showing that external legal shocks—such as patent litigation—can reshape a firm's internal value system by affecting the alignment between employers and employees.

2 Data and Sample

2.1 Data

Our sample covers the period 2008 to 2023 and integrates several data sources at the firm, patent, and labor-market levels. The core of our analysis relies on patent litigation records, which we merge with firm-level financial data from CRSP–Compustat, patenting information from the United States Patent and Trademark Office (USPTO), employee reviews from Glassdoor, labor transition data constructed from LinkedIn, and job postings from Lightcast. We use GVKEY identifiers and standardized firm names to combine these datasets.

Patent Litigation Data. Our patent litigation data are drawn from the USPTO *Patent Litigation Docket Reports Data*, which provide comprehensive coverage of patent litigation from 1963 to 2020 at the district-court level. The database consists of six components: (i) case-level information (*cases file*), (ii) patents involved in each case (*patents file*), (iii) party and attorney information (*names file* and *attorneys file*), (iv) detailed docket entries (*documents file*), and (v) PACER case-level metadata (*Pacer cases file*).

To construct our firm-level litigation sample, we first match litigating parties to CRSP–Compustat firms. We combine patent-level linkages with fuzzy name-matching procedures to ensure accurate identification of publicly listed firms. Using the USPTO *names file*, we determine each firm's role at the initiation of the case—whether as plaintiff or defendant. This distinction allows us to distinguish between firms that proactively initiate litigation as plaintiffs and those that respond to litigation as defendants. Such litigation generates substantial uncertainty regarding firms' ability to use or commercialize the disputed technologies. Even plaintiff firms may face elevated technology risk, as counterclaims are common and may expose them to reciprocal legal challenges.

To measure the technological exposure associated with each dispute, we link identified litigating firms to all patents involved in the corresponding litigation cases using the *patents file*. Because the *patents file* begins in 2003, our litigation-based sample is restricted to the 2003–2020 period.

Employee Review Data. We begin with comprehensive employee review data from Glassdoor.com spanning 2008 through 2023. The data provide firm-level measures of employee sat-

isfaction and include reviewer characteristics such as job title, tenure, employment status, and location.

Glassdoor is a leading online platform that collects anonymous employee reviews of firms. Founded in 2007, the platform allows current and former employees to evaluate their employers along multiple dimensions. It is widely used by both employees and job seekers and has become an economically relevant component of firms' internal environments and labor-market reputation.[4]

Glassdoor employee reviews data are increasingly used in academic research and have been shown to be informative about firm outcomes and broadly representative of labor-market conditions. Pinto (2019) shows that the wage distribution of Glassdoor reviewers closely matches external data from the U.S. Census Bureau. Sockin and Sockin (2025) documents pay representativeness at the industry level, Gibson (2025) at the occupation level, and Martellini, Schoellman, and Sockin (2024) at the university level. Sockin (2022) finds a correlation of approximately 0.5 between average job satisfaction and measures from the National Longitudinal Survey of Youth 1997 across industries and occupations. Moreover, employee reviews predict stock returns (Green et al. 2019; Sheng 2025), operating performance (Huang, Li, and Markov 2020), and firm financing (Chemmanur, Rajaiya, and Sheng 2019), respond to major corporate events (Gadgil and Sockin 2025; Lee et al. 2021), and reflect changes in ownership structure (Gornall et al. 2025). Together, this evidence suggests that Glassdoor ratings contain economically meaningful information about firms' internal environments.

A natural concern with online review data is that contributors are not randomly drawn from the employee population. Consistent with the existing literature, we assume that any selection into reviewing is comparable across treated and control firms, such that differential review behavior does not mechanically drive our results. To mitigate potential selection bias, we take several steps. First, we restrict the sample to current employees, excluding former employees who may be more likely to leave reviews following adverse events. Second, we aggregate reviews to firm-year averages, which addresses potential litigation-induced changes in the number of reviewers. Third, we conduct a range of heterogeneity analyses that yield consistent results, alleviating concerns that our findings

[4] According to public reports, Glassdoor hosts more than 100 million reviews and salary reports and covers over 2.5 million employers worldwide. The platform attracts about 55 million unique visitors per month and operates in multiple countries.

are driven by selective bias.

In our analysis, we focus on reviews written by U.S.-based current employees of publicly listed U.S. firms. The final sample consists of approximately 1.4 million reviews covering 12,865 firms. We concentrate on employee satisfaction on six specific dimensions: satisfaction with the CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook.[5] Each dimension is reported on a one-to-five scale, where one indicates the lowest rating and five the highest. Reviews also contain qualitative comments, which we analyze using large language models. We aggregate review-level information to the firm-year level by taking the mean rating within each firm-year. Although users may submit multiple reviews, repeat submissions are rare, and we abstract from reviewer identity in constructing firm-level measures.

2.2 Sample Formation

We begin with the universe of U.S. publicly listed firms in Compustat over the period 2008–2023. We merge these data with patent records from the USPTO to construct a firm-level measure of innovative activity. We restrict the sample to firms that applied for at least one patent during the sample period. Approximately 16.2% of public firms engage in patenting over this horizon. Next, we merge the innovation sample with employee review data. About 67% of innovative firms have at least one employee review during the sample period. Firms with both patenting activity and employee review coverage account for approximately 40% of total market capitalization of firms covered by Compustat. We exclude firms in the financial and utility industries due to their distinct regulatory environments and accounting structures. In addition, to ensure a clean pre-event window for identifying firms' first patent litigation event, we exclude firms involved in patent litigation during the five years preceding 2008.

After requiring that the necessary data be available for control variables, our final sample comprises 8,234 firm-year observations representing 1,374 unique firms. A detailed description of the sample construction procedure is provided in Table IA.1.

[5] For brevity, we refer to these dimensions as CEO, Senior, Compensation, Culture, Career, and Outlook.

2.3 Distribution of Litigation Events Over Time

To examine how litigation activity evolves over time, we identify firms that are involved in patent litigation for the first time in each year and compute both the annual count and the share relative to all sample firms. Figure 1 Panel A describes the annual distribution of first-time patent litigation involvement. Figure 1 Panel B reports the distribution of first-time litigation events in which the firm acts as a plaintiff. Panel C presents the analogous distribution for firms that are sued for the first time. This breakdown allows us to separately capture firms' active enforcement behavior and their exposure to being targeted in patent disputes.

Two empirical patterns emerge from Figure 1. First, defendant-side involvement substantially exceeds plaintiff-side participation throughout the sample period. This asymmetry reflects an institutional feature of patent litigation: a single complaint frequently names multiple defendants, mechanically inflating the number of defendant firms relative to plaintiffs. Second, the percentage of firms involved in first-time litigation declines over time on both the plaintiff and defendant sides and stabilizes at a persistently low level after 2013. This shift coincides with the introduction of state-level anti–troll legislation, beginning with Vermont's 2013 statute. These laws were designed to deter opportunistic enforcement practices by increasing the expected cost of pursuing weak or strategic infringement claims. To the extent that such reforms raised filing thresholds or reduced the expected payoff from marginal cases, one would anticipate a moderation in litigation activity following their adoption. The sustained low litigation rates observed after 2013 are broadly consistent with this institutional change. Importantly, our evidence is descriptive and does not establish causality. Nevertheless, the timing suggests that changes in the legal environment may have altered firms' litigation incentives and strategic behavior.

Admittedly, part of the post-2013 decline in first-time litigation percentages may reflect a mechanical depletion effect: as more firms experience their first lawsuit, the pool of firms at risk of a first event shrinks over time. However, this explanation is incomplete. The total number of public firms does not decline monotonically during our sample period, and both the level and percentage of first-time litigation exhibit non-monotonic fluctuations. These patterns suggest that time-varying changes in the legal enforcement environment, rather than pure mechanical attrition,

play an important role in shaping the observed dynamics.

Beyond first-time events, we also examine the overall frequency of litigation. For each firm-year, we count the number of firms involved in patent litigations and then aggregate these counts to the annual level. Figure IA1 Panel A presents the time-series pattern of total litigation events in our sample. We further decompose these counts by firms' roles in each case. Figure IA1 Panel B reports the annual number of event firms acting as plaintiffs in patent litigations, whereas Figure IA1 Panel C shows the number of event firms acting as defendants.

2.4 Summary Statistics

Table 1 reports summary statistics for the main variables used in our empirical analyses. Panel A presents firm-year averages of employee satisfaction across six dimensions described in Section 2.1. Satisfaction scores are measured on a five-point scale and exhibit substantial cross-sectional variation. Among the six dimensions, satisfaction with the CEO and business outlook displays the highest mean values of 3.9, whereas satisfaction with senior management and career opportunities is comparatively lower. The dispersion in these measures is economically meaningful: CEO satisfaction ranges from 3.1 at the 25th percentile to 4.8 at the 75th percentile, while senior management satisfaction ranges from 2.7 to 4.0 across the same percentiles, suggesting substantial heterogeneity in leadership satisfaction across firms.

The remaining control variables follow standard definitions in the literature. Specifically, $Ln(Asset)$ is the natural logarithm of total assets; ROA is income before extraordinary items divided by total assets; $SaleGRW$ is the annual growth rate of total revenue; $Cash$ is cash holdings scaled by total assets; B/M is book equity divided by market equity, where book equity is constructed following Hou, Xue, and Zhang (2015); LEV is total liabilities divided by total assets; PPE is property, plant, and equipment scaled by total assets; $R\&D$ is research and development expenses scaled by total assets; and $IssueNum$ measures patent grants over the prior three years. For reference, Table IA.2 provides summary information of all the empirical variables we use throughout the study.

Panel B reports summary statistics for these firm characteristics. We observe that firm size $Ln(Asset)$ has a mean of 7.2, corresponding to approximately \$1.3 billion in total assets for the

average firm in our sample. Profitability, proxied by ROA, has a mean of -0.05 and a median of 0.02, indicating a left-skewed distribution in which the median firm remains profitable. The average book-to-market ratio (B/M) and leverage (LEV) are both 0.5. The average sales growth rate is 0.18, indicating that firms in our sample experience positive revenue expansion on average. For innovation activities, firms are granted 54.5 patents over the preceding three years on average, although the distribution is highly skewed, consistent with a small subset of firms accounting for a disproportionate share of innovation output. Overall, the summary statistics are broadly comparable to those reported in prior studies.

3 Empirical Strategy and Results

3.1 Overall Litigation Intensity and Employee Job Satisfaction

We begin by presenting a more general set of results based on firms' litigation intensity. In particular, firms may experience multiple litigation events over time, and the cumulative exposure to technology legal disputes may shape organizational outcomes constantly. Examining litigation intensity therefore provides a informative descriptive benchmark that captures the overall association between repeated litigation involvement and employee satisfaction.

To capture this broader exposure, we define $LitiIntensity$ as a cumulative measure of litigation intensity, capturing the total number of patent litigation cases in which a firm has been involved as a plaintiff up to a given year. We define the variable analogously for firms acting as defendants, and examine the effects of litigation intensity separately for plaintiff and defendant roles. Table 2 reports the estimation results. The dependent variables are employee satisfaction across six dimensions, and the key explanatory variable is $LitiIntensity$. All regressions include firm-level control variables described in Section 2.4. To account for common shocks at the industry and regional levels, we include industry-by-year and state-by-year fixed effects. In addition, firm fixed effects are incorporated to absorb time-invariant firm characteristics that may be correlated with both litigation activity and employee satisfaction.

Panel A focuses on firms acting as plaintiffs. The estimates indicate that greater plaintiff-side

litigation intensity is associated with lower employee satisfaction in several dimensions. In particular, the coefficients on *LitiIntensity* are negative and statistically significant for satisfaction with the CEO, senior management, and career opportunities. The magnitudes suggest that each additional litigation case initiated by the firm is associated with a decline of roughly 0.05 to 0.07 points in employee ratings of leadership and career prospects. In contrast, the estimated effects on other dimensions—such as wages, corporate culture, and overall outlook—are smaller and statistically insignificant. Panel B reports the results for litigation intensity on the defendant side. In contrast to Panel A, the coefficients are economically smaller and statistically insignificant across all satisfaction dimensions. This pattern suggests that the negative association observed in Panel A is specific to firms that actively initiate patent litigation, rather than firms that are passively involved in disputes as defendants.

One potential limitation of the cumulative measure is that it implicitly assigns equal weight to litigation events regardless of when they occur. However, more recent litigation may have stronger effects on organizational dynamics and employees' perceptions. To address this concern, we supplement with two alternative measures: (i) the cumulative number of cases over the past five years, and (ii) the weighted sum of past litigation cases, with weights declining geometrically with the time elapsed since each litigation event. We report the results in Table IA.3, which are qualitatively similar with those in Table 2.

3.2 Empirical Design

To examine how patent litigation affects firms' labor outcomes, we estimate a staggered difference-in-differences (DiD) model that compares employee satisfaction before and after litigation events for litigating firms relative to firms that never been involved in patent litigation.

We first exclude litigation events in which a firm simultaneously acts as both a plaintiff and a defendant within the same year. This restriction avoids mixing the effects of initiating litigation with those of being sued. We then define the treatment group as firms that initiate at least one patent litigation as a plaintiff during the sample period. The control group consists of firms that

never initiate patent litigation. We estimate the baseline DiD specification as follows:

$$Y_{i,t} = \beta_1 \times 1(Litigation_i) \times Post_t + \beta_2 \times 1(Litigation_i) + \beta_3 \times Post_t + Controls_{i,t} + \gamma_{n(i),t} + \delta_{s(i),t} + \alpha_i + \varepsilon_{i,t} \quad (1)$$

The dependent variable $Y_{i,t}$ measures the average employee satisfaction with leadership in firm i in year t. $1(Litigation_i)$ is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. $Post_t$ equals one for years following the litigation event for treated firms and zero otherwise. $1(Litigation_i) \times Post_t$ equals one if a treated firm i has been involved in patent litigation by year t. We include industry-by-year fixed effects ($\gamma_{n(i),t}$) to account for time-varying shocks at the industry level, state-by-year fixed effects ($\delta_{s(i),t}$) to absorb state-specific time trends, and firm fixed effects (α_i) to control for time-invariant firm characteristics. Standard errors are clustered at the firm level to account for serial correlation within firms. The coefficient of interest, β_1, captures the differential change in employee satisfaction for treated firms following the litigation event relative to that never initiate litigation.

We construct an analogous specification for firms involved in patent litigation as defendants. Specifically, we redefine the treatment and control groups and corresponding variables in Equation 1 based on firms' defendant status, allowing us to separately estimate the labor-related consequences of initiating versus being sued in patent litigation.

3.3 Baseline Results

Our baseline results are reported in Table 3. Panel A examines how a firm's decision to initiate a patent litigation affects employee sentiment toward the firm's leadership. We focus on two related measures of employee satisfaction: satisfaction with the CEO and with senior management. These two outcomes capture employee perceptions of leadership at different hierarchical levels—the CEO representing the highest level of strategic leadership and senior management capturing the broader executive team responsible for operational decisions. Examining both measures allows us to assess whether litigation affects employee perceptions of leadership more broadly within the firm's

managerial hierarchy. Columns (1)–(4) report results for CEO satisfaction and Columns (5)–(8) report results for senior management satisfaction. We sequentially introduce increasingly stringent fixed effects. The basic specification includes industry-by-year and state-by-year fixed effects, and subsequent specifications add firm-level controls and firm fixed effects.

Across all specifications, we find a consistently negative relationship between patent litigation and employee satisfaction with leadership. In the most stringent specification, reported in Columns (4) and (8), firms that initiate a patent lawsuit experience a decline of 0.27 in CEO satisfaction and 0.26 in senior management satisfaction, relative to firms that never initiate litigation. The economic magnitude is meaningful. The estimated decline corresponds to 31.0% (24.1%) of the cross-sectional difference in average CEO (senior management) satisfaction between the highest and lowest employee seniority levels [6]. Panel B reports the defendant-side results. In contrast to Panel A, the primary coefficients are economically small and statistically insignificant across all specifications. These results suggest that being sued in a patent litigation does not materially affect employee perceptions of the firm's top leadership.

Taken together, the evidence suggests that patent litigation is associated with a decline in employee satisfaction with leadership, and that this effect is primarily driven by cases in which the firm actively initiates litigation as a plaintiff.

We further examine other dimensions of employee satisfaction, with results reported in Table IA.4. Consistent with the baseline findings in Table 3, most satisfaction dimensions in Panel A display negative coefficients. The effects are statistically significant for satisfaction with compensation and career opportunities. These two dimensions are closely tied to employees' personal economic interests and career development prospects. As a result, employees may be particularly sensitive to managerial decisions that potentially redirect firm resources away from innovation activities toward costly legal disputes. In Panel B, the coefficients for most satisfaction dimensions are positive, with compensation-related satisfaction is statistical significance. We discuss more for this pattern in the following section.

[6]The absolute difference in average CEO (senior) satisfaction between the highest and lowest employee seniority levels is 0.87 (1.08).The percentage magnitudes are calculated by scaling the estimated treatment effects relative to these benchmark differences.

Overall, the asymmetric patterns between plaintiff-side and defendant-side litigation suggest that employee reactions depend critically on whether litigation is perceived as a proactive managerial strategy or an external shock. When firms actively initiate patent litigation, employees may interpret the decision as a strategic reallocation of limited organizational resources away from innovation and toward legal confrontation, potentially creating a perceived misalignment between managerial priorities and employee interests. By contrast, when firms are sued, the litigation is more likely to be perceived as an exogenous challenge, which may instead strengthen internal cohesion and align employee expectations with managerial responses.

3.4 Endogeneity and Identification

Dynamic Effects. Our difference-in-differences identification relies on the parallel-trends assumption that, absent patent litigation, employee satisfaction in treated firms would have evolved similarly to that in control firms. To examine the validity of this assumption, we estimate an event-study specification following recent methodological guidance in Baker, Larcker, and Wang (2022) and Roth et al. (2023).

$$Y_{i,t} = \sum_{s \neq -1} \beta_s \times 1(\text{Litigation in } t-s \text{ Year}_{i,t,s}) + \gamma_{n(i),t} + \delta_{s(i),t} + \alpha_i + \varepsilon_{i,t} \tag{2}$$

The indicator variable $1(\text{Litigation in } t-s \text{ Year}_{i,t,s})$ equals one if firm i first becomes involved in a patent litigation in year $t-s$, and zero otherwise. The coefficients β_s therefore trace the evolution of employee satisfaction relative to the year immediately preceding the litigation event, which is omitted as the reference period ($s = -1$). Consistent with the baseline specification, our dynamic model includes industry-by-year, state-by-year, and firm fixed effects. We estimate the model separately for plaintiff-side and defendant-side litigation in order to distinguish between the effects of actively initiating litigation and being sued.

Figure 2 reports the estimated dynamic coefficients. Panel A presents the results for CEO satisfaction and Panel B for satisfaction with senior management. For plaintiff-side litigation, the estimated coefficients in the pre-event periods are economically small and statistically insignificant, providing no evidence of differential pre-trends between treated and control firms. Following the

litigation event, the coefficients become negative and statistically significant, indicating a decline in employee satisfaction with the firm's leadership after the firm initiates a patent lawsuit. The effect emerges shortly after the event year and persists thereafter, suggesting that the deterioration in employee sentiment is not merely transitory. For defendant-side litigation, the estimated coefficients prior to the litigation event are similarly close to zero, supporting the parallel-trends assumption. After the litigation occurs, the coefficients become slightly positive and in some periods statistically significant. This pattern is consistent with the baseline findings in Table 3, which show little evidence that being sued reduces employee morale. We report the results for the remaining four satisfaction dimensions in Figure IA2.

Overall, the event-study evidence supports the identifying assumption underlying our difference-in-differences design and further illustrates the asymmetric effects of patent litigation depending on whether the firm acts as the plaintiff or the defendant.

Matching-based Results. To address potential selection concerns in our baseline analysis, we implement a propensity score matching (PSM) procedure to construct a more comparable sample of litigating and non-litigating firms. Firms that choose to initiate patent litigation may systematically differ from other firms in observable characteristics such as size, financial condition, innovation intensity, or growth opportunities. If such differences also correlate with employee sentiment, the baseline results using the unmatched sample may confound the effect of litigation with underlying differences in firm fundamentals. The PSM approach mitigates this concern by pairing treated firms with observationally similar non-litigating firms, to improve the comparability of treatment and control groups along observable dimensions. Specifically, we identify the filing year of each patent lawsuit as the event year and conduct the matching procedure within each event year. Propensity scores are estimated using firm characteristics measured one year prior to the event year to ensure that matching is based only on pre-treatment information (Angrist and Pischke 2009 and Roberts and Whited 2013. The covariates include $Ln(Asset)$, ROA, $SaleGRW$, $Cash$, B/M, LEV, PPE, $R\&D$, and $IssueNum$. We estimate a logit model to obtain propensity scores and match each treated firm with its five nearest neighbors based on the propensity score.

The results are reported in Table IA.5. Panel A presents differences in pre-treatment covariates

between treated firms and control firms before and after matching, and assess balance using t-tests.The results show that the matching procedure substantially improves covariate balance across the two groups. After matching, the differences in most firm characteristics become statistically insignificant, indicating that the treated and control firms are largely comparable prior to the litigation event. The only variable that remains statistically different is PPE, although the magnitude of the difference is small. Panel B reports the difference-in-differences estimates for the plaintiff-side litigation using the matched sample under the most stringent specification adopted in the baseline analysis. The estimated coefficients across all six dimensions remain negative and statistically significant, and their magnitudes are slightly larger than those reported in Table 3. Panel C reports the defendant-side results. Consistent with the baseline findings, the coefficients remain economically small and statistically insignificant.

Overall, the PSM-DiD analysis yields results that are qualitatively similar to those obtained from the full sample. These findings suggest that our baseline results are unlikely to be driven by differences in observable firm characteristics between litigating and non-litigating firms, alleviating concerns that sample composition or selection on observables explains the documented effects.

A Quasi-Natural Experiment. The baseline specification estimates the effect of litigation by comparing firms that experience litigation with firms that never do. While this design allows us to capture the within-firm change in employee satisfaction following litigation, a natural concern is that firms that experience litigation may differ systematically from firms that never do. For example, firms with stronger patent portfolios or greater technological complexity may be both more likely to engage in litigation and adopt workplace policies negatively affecting employee satisfaction. In this case, the baseline estimates may partly reflect underlying differences between litigation and non-litigation firms rather than the causal effect of litigation itself.

To mitigate this concern, we exploit the staggered adoption of U.S. state anti-troll laws between 2013 and 2017 as a source of plausibly exogenous variation in firms' exposure to patent litigation. These laws were introduced to curb opportunistic patent enforcement by increasing the operational and financial costs associated with filing infringement claims. For example, Vermont's 2013 statute requires plaintiffs to conduct a good-faith pre-suit investigation and provide detailed infringement

allegations in demand letters, while also allowing courts to impose damages and fee-shifting penalties for bad-faith assertions. By raising expected litigation costs, these statutes significantly reduce the likelihood that firms initiate patent lawsuits. Consequently, the adoption of anti-troll laws discourages firms from initiating patent litigation and reduces the overall incidence of patent disputes. This institutional change generates exogenous variation in the likelihood that firms become involved in litigation, while being plausibly unrelated to firms' internal workplace satisfaction.

Our empirical strategy follows the instrumental difference-in-differences framework (Duflo 2001; De Chaisemartin and d'Haultfoeuille 2018; Agarwal et al. 2024). In the first stage, we examine whether the adoption of anti-troll laws affects the likelihood that a firm experiences litigation.

$$1(Litigation_i) \times Post_t = \beta_1 \times 1(Litigation\ Law_{s(i),t}) + Controls_{i,t} + \gamma_{s(i)} + \delta_t + \varepsilon_{i,t} \quad (3)$$

The independent variable $1(Litigation\ Law_{s(i),t})$ equals one if the state s in which a firm i is located has enacted the law by year t. The dependent variable $1(Litigation_i) \times Post_t$ equals one if a firm i has been involved in patent litigation as a plaintiff by year t, as defined in Section 3.2. We include state fixed effects and year fixed effects to control for time-invariant state characteristics and aggregate macroeconomic trends. Standard errors are clustered at the state level because the policy variation occurs at the state level, which may induce correlation in the error terms within states (Bertrand, Duflo, and Mullainathan 2004).

In the second stage, we estimate the effect of initiating a patent litigation on employee satisfaction using the fitted value obtained from the first stage. It captures the predicted probability that a firm initiates litigations based on the adoption of anti-troll laws.

$$Y_{i,t} = \beta_1 1(\widehat{Litigation_i}) \times Post_t + Controls_{i,t} + \gamma_{n(i),t} + \delta_{s(i),t} + \alpha_i + \varepsilon_{i,t} \quad (4)$$

$Y_{i,t}$ denotes employee satisfaction for firm i in year t. Other model specifications follow Equation 1.

Table 4 reports the results. In Panel A, Column (1) presents the first-stage estimates at the plaintiff-side. The coefficient on the anti-troll law indicator is negative and statistically significant, indicating that the adoption of these laws reduces the likelihood that a firm initiates patent litigation

by approximately 5%. This finding is consistent with the institutional design of anti-troll legislation, which raises the procedural and financial costs of filing patent infringement claims and thereby discourages firms from initiating lawsuits.

Columns (2) and (3) report the second-stage results. The coefficient on the instrumented litigation indicator, $1(\widehat{Litigation_i}) \times Post_t$, is negative and statistically significant across specifications. Because the instrument isolates the component of litigation exposure driven by the adoption of anti-troll laws, these estimates capture the causal effect of litigation on employee perceptions. The results indicate that when firms initiate patent litigation, employee satisfaction declines, particularly in dimensions related to perceptions of CEO leadership. Overall, these findings reinforce the baseline results and suggest that the deterioration in employee sentiment is not driven by systematic differences between litigation and non-litigation firms, but rather reflects the organizational consequences of engaging in patent disputes.

4 Mechanisms

Our results so far show that employee satisfaction with the CEO declines following patent litigation, and that this effect is primarily driven by cases in which the firm acts as the plaintiff. We next explore the potential mechanisms underlying this pattern. Initiating patent litigation can be a strategic managerial decision that can affect employees through multiple organizational channels. In particular, litigation may alter employees' perceptions of the firm's strategic priorities, affect the balance between effort and compensation, increase uncertainty about the firm's technological and business prospects, and coincide with changes in top leadership.

Guided by these considerations, we examine four potential mechanisms: value misalignment among employees and top leadership, effort–reward imbalance, legal uncertainty, and leadership dynamics. The first mechanism emphasizes that employees may perceive a misalignment between the firm's innovation orientation and its reliance on litigation as a competitive strategy. The second mechanism focuses on the possibility that litigation increases employees' workload without corresponding compensation adjustments. The third mechanism relates to the legal and technological risks created by litigation, which may increase uncertainty about the firm's future prospects and

worker's job stability. Finally, we consider whether leadership changes associated with litigation, such as CEO turnover, contribute to the observed decline in employee satisfaction.

4.1 Value Misalignment

One potential mechanism through which patent litigation affects employee sentiment is the substantial organizational resources required to pursue legal disputes. Patent litigation is typically costly and time-consuming. Once a firm files a complaint in federal district court, the case often proceeds through multiple stages—including discovery, pre-trial motions, and potentially trial—before reaching resolution. According to the U.S. Patent Litigation Report by Lex Machina (2024), the median time to reach summary judgment exceeds two years. During this period, firms must devote significant financial and managerial resources to legal proceedings, including legal fees, expert testimony, and internal coordination.

Prior research shows that patent litigation can impose meaningful economic costs on firms. For example, litigation has been associated with declines in firm revenue, disruptions to innovative activity, and reduced R&D investment (Cohen, Gurun, and Kominers 2019; Mezzanotti 2021; Acikalin et al. 2025). These costs may affect employees because resources that would otherwise be allocated to innovation and product development are instead diverted toward legal confrontation. Such resource reallocation may be particularly salient for innovative employees whose work is closely tied to the firm's technological development. Therefore, employees may interpret it as evidence of managerial priorities that are misaligned with the firm's long-term innovative mission.

More importantly, employees' reactions may depend on the perceived motivation behind the litigation. In principle, initiating a patent litigation can serve to protect a firm's intellectual property and safeguard the returns to employees' innovative efforts. In such cases, litigation may be viewed as a necessary defense of the firm's technological assets. However, a growing body of evidence suggests that patent litigation is often used strategically to extract rents, deter market entry, or increase bargaining power in licensing negotiations (e.g., Cohen, Gurun, and Kominers 2019; Michaely, Xie, and Zhang 2025). Although such behavior has historically been associated with non-practicing entities—commonly known as "patent trolls"—recent evidence suggests that

operating companies increasingly adopt similar troll-like strategies [7]. When litigation is perceived as part of a rent-seeking strategy rather than the defense of technological assets, employees may view the decision to initiate lawsuits more negatively. As a result, employees may become more dissatisfied with firm leadership. In this section, we provide further evidence on the mechanism by examining whether the effect of litigation on employee sentiment varies with the nature of the lawsuit and with employees' characteristics.

4.1.1 Heterogeneity by Nature of Litigation

We begin by examining whether the effect differs depending on the technological importance of the litigated patent to the plaintiff firm. The underlying idea is that lawsuits involving patents central to the firm's technological capabilities are more likely to represent genuine efforts to defend intellectual property, whereas lawsuits involving peripheral technologies may be more consistent with strategic litigation aimed at deterring competitors or extracting licensing revenues.

To capture the technological importance of the litigated patent, we identify a firm's core technology class based on its recent patenting activity. Specifically, for each firm we compute the number of granted patents in each three-digit CPC class during the three years preceding the litigation event and define the firm's core technology class as the CPC class with the largest patent count. We then construct the dummy *Group* variable that equals one if the litigated patent belongs to the firm's core CPC class, indicating that the litigated patent is of high technological importance to the firm.

Table 5 Panel A reports the results. The coefficient on the triple interaction term $1(Litigation) \times Post \times Group$ is positive and statistically significant at the CEO satisfaction. Economically, the estimated coefficient implies that when the litigated patent belongs to the firm's core technology class, the decline in employee satisfaction following litigation is substantially mitigated. However, the overall effect of litigation remains negative, indicating that even litigation involving core technologies is associated with some deterioration in employee sentiment. This pattern is consistent with the mechanism that employees view litigation more favorably when it is perceived as defending the firm's innovative output rather than as a purely strategic action.

[7] For example, Apple accused of Nokia to use patent-troll tactics to extort money in 2016.Another example is Yahoo, which the media concerns it would become a patent troll due to its strategic litigation behaviors.

We next examine whether the effect of litigation varies with the intensity of competition between the plaintiff and the defendant(s). The underlying idea is that patent disputes arising between closely competing firms are more likely to reflect strategic motives, such as deterring market entry, disrupting competitors' innovation activities, or strengthening bargaining power in product markets. If employees perceive litigation as an aggressive competitive tactic rather than a necessary effort to protect intellectual property, the negative reaction documented above should become stronger. In order to capture competitive pressure between litigating parties, we consider four dimensions of firm similarity that reflect technological, economic, and innovation-based competition.

First, we examine technological competition, measured by the technological proximity between the plaintiff and the defendant following Jaffe (1986) and Bena and Li (2014). The indicator variable *Group* equals one if the technology proximity between the parties involved is at or above the 90th percentile of all firm pairs in the sample. Second, we examine size comparability, captured by similarity in firm size. We measure this using the squared difference in total assets (alternatively, total revenue) between the plaintiff and the defendant in the year prior to the litigation event. *Group* equals one when the size difference is at or below the 10th percentile of the sample distribution, indicating that the firms are economically comparable. Third, we examine innovation scale similarity, measured by the squared difference in the cumulative number of granted patents (or applications) between the plaintiff and the defendant up to the year preceding the litigation event. *Group* equals one when the difference in patent stock falls within the bottom 10th percentile of the sample distribution, indicating similar levels of innovative activity. Last, we consider innovation asymmetry, which captures the relative technological strength of the plaintiff. We compute the difference in cumulative patent counts between the plaintiff and the defendant prior to the litigation event. *Group* equals one when this difference is negative and lies within the bottom decile of the negative distribution, indicating the plaintiff has substantially fewer patents than the defendant.

Table 5 Panels B–E report the corresponding results. In Panel B, the triple interaction term is negative and statistically significant, indicating that the decline in employee satisfaction is stronger when the litigating firms are technologically similar. This pattern suggests that litigation between technologically proximate firms is more likely perceived as an aggressive attempt to impede a direct

competitor operating along a similar technological trajectory. Panel C reports results based on firm size comparability. The coefficient on the interaction term is negative and significant, suggesting that when firms are economically comparable, litigation tends to generate a stronger negative response among employees. One possible interpretation is that lawsuits between economically comparable rivals are more likely to be perceived as strategic competition for market position. Besides, litigation in this context is likely to be more protracted and resource-intensive. Panel D examines similarity in innovation scale. The positive coefficient on the triple interaction term indicates that the negative impact of litigation becomes weaker when the litigating firms have similar levels of innovative activity. In such cases, employees may view the dispute as a "fair" technological contest or as a necessary defensive action, rather than as an overly aggressive move. Finally, Panel E considers cases in which the plaintiff is technologically weaker than the defendant. The coefficient is negative, suggesting that litigation initiated by technologically weaker firms is associated with a stronger decline in employee satisfaction. One possible explanation is that employees perceive such lawsuits as particularly costly or risky, as firms with relatively limited innovative resources may face lower chances of success while diverting scarce resources away from research and development.

4.1.2 Heterogeneity by Employee Characteristics

Employees may react differently to patent litigation depending on their role within the firm and their exposure to innovation-related activities. If litigation diverts resources away from research and development or signals a strategic shift toward rent extraction, employees whose work is closely tied to the firm's innovative activities are likely to perceive a greater misalignment with managerial strategies. In contrast, employees who are closer to senior leadership or have greater access to strategic information may better understand the rationale behind litigation decisions and therefore respond less negatively.

To examine this heterogeneity, we classify employees along five dimensions that capture their proximity to innovation activities, their human capital, and their organizational position within the firm. First, we identify employees directly involved in innovative work based on job categories. The indicator *Group* equals one if the employee's occupation falls into the "Scientist" or "Engineer" categories and zero otherwise. Second, we measure the skill intensity of the occupation as the

Group variable using the average skill requirement associated with each O*NET–SOC occupation code reported by the Bureau of Labor Statistics (BLS), where higher values indicate occupations requiring more specialized skills or longer training periods. Third, we measure educational requirements as the *Group* variable using the average education level associated with each occupation code in the O*NET data. Fourth, we capture organizational hierarchy using employee seniority levels as the *Group* variable, distinguishing between entry-level employees, middle management, and executive-level positions. Finally, we measure employees' geographic proximity to the firm's headquarters, with *Group* equal to one if the employee works in the same city as the firm's headquarters and zero otherwise. The first three measures rely on the review-level dataset. The last two measures are constructed by aggregating review-level observations to the firm–seniority–year and firm–city–year levels.

Table 6 reports the heterogeneous effects across employee characteristics. We report results for all six satisfaction dimensions to provide a more comprehensive view of how litigation affects different aspects of employees' workplace perceptions. Panel A shows that the negative effect of litigation on employee satisfaction is significantly stronger among employees in scientific and engineering roles. These employees are typically more directly involved in the firm's innovation activities and may therefore be particularly sensitive to managerial actions that appear to divert resources away from technological development toward legal disputes. Panels B and C show that the negative effect becomes stronger among employees in occupations requiring higher levels of skill and education. Highly skilled and highly educated employees often possess stronger professional identities tied to innovation and technical achievement. As a result, they may be more likely to interpret patent litigation as a departure from the firm's innovation-oriented mission. Panels D and E present results by organizational hierarchy and geographic proximity to headquarters. The positive coefficients indicate that employees who are closer to senior leadership—either through higher organizational rank or physical proximity to headquarters—exhibit a weaker negative response to litigation. One possible explanation is that these employees have greater access to internal information regarding the firm's legal and innovation strategies and therefore better understand the strategic rationale behind litigation decisions.

Overall, these findings suggest that employees' reactions to patent litigation depend largely on their position within the organization and their connection to the firm's innovative activities. The decline in employee satisfaction is stronger among employees whose work is closely related to the firm's innovative activities.

We also examine heterogeneous effects for litigation in which firms are sued as defendants. The results are reported in Table IA.6. In contrast to the patterns documented for plaintiff-initiated litigation in Table 6, the heterogeneous effects across employee groups are considerably weaker and, in some cases, differ in direction. These findings reinforce our earlier interpretation that the decline in employee satisfaction is primarily driven by litigation decisions initiated by the firm, rather than by litigation exposure more broadly.

4.1.3 Evidence of Employee Perceptions of Innovation Strategy from Review Texts

To provide additional evidence on this mechanism, we examine how employees discuss the firm's innovation strategy and performance following the initiation of patent litigation. If employees view litigation as a diversion of organizational resources away from innovation or as evidence of rent-seeking behavior, we expect them to express more negative views about the firm's innovation activities and leadership.

To test this prediction, we conduct a textual analysis based on employee reviews. First, we construct an *Innovation Dictionary* using a Word2Vec approach. Starting from the seed word innovation, we generate a set of 60 semantically related terms that capture discussions related to innovation, technological development, and research activities. This dictionary allows us to filter reviews that directly pertains to the firm's innovative activities. Second, we perform sentiment analysis on these employee reviews by applying a BERT-based language model to classify the sentiment of the relevant text and generate sentiment scores. Our analysis focuses on the sections labeled "review summary" and "review advice", which contain employees' general assessments and recommendations regarding the firm. We exclude the "review pros" and "review cons" sections because these fields are sentiment-labeled by construction and may mechanically bias the sentiment classification. Detailed methodology of the textual analysis is provided in Appendix IC. For each firm-year, we aggregate the sentiment scores of innovation-related reviews and construct two

dependent variables: the average negative sentiment score (*Negative Score*) and the average positive sentiment score (*Positive Score*). We then estimate the empirical specification described in Equation 1 to examine whether the initiation of patent litigation is associated with changes in employees' perceptions of the firm's innovation activities.

The results are reported in Table IA.7. Following the initiation of patent litigation, the average negative sentiment score increases by 0.03, while the positive sentiment score declines by 0.08. These findings indicate that employees express significantly more negative views about the firm's innovation activities after litigation. The pattern is consistent with employees perceiving litigation as diverting organizational resources away from innovation or reflecting managerial priorities that are misaligned with the firm's innovative objectives.

4.2 Compensation Adjustment

A second mechanism relates to a perceived mismatch between employees' effort and compensation, as well as their expectations about future pay.

Patent litigation is typically a prolonged process that requires substantial coordination across organizational units. As a result, once a firm initiates litigation, employees throughout the organization may face increased workloads. This means that the increase in workload is not limited to legal or administrative staff who must devote additional time to litigation-related documentation, evidence preparation, and coordination with external counsel. At the same time, employees engaged in innovation activities may also experience additional work pressure. For instance, engineers and researchers may need to assist in technical documentation, provide prior-art analysis, prepare expert testimony, or modify product designs to avoid counter-infringement risks. These tasks divert attention from regular innovative activities and effectively raise employees' workload.

From an economics perspective, higher effort requirements do not necessarily reduce employee satisfaction if they are accompanied by corresponding compensation. However, when the increase in workload is not matched by higher compensation, employees may perceive the employment relationship as less fair, leading to lower satisfaction with management. Although firms may theoretically compensate employees through both monetary and non-monetary channels, non-monetary rewards

(such as recognition, promotion opportunities) are less likely to offset the short-term burden created by litigation-related tasks. These forms of compensation are typically slow-moving and difficult to adjust during an ongoing legal process, whereas litigation generates immediate and often unpredictable increases in workload. Consequently, insufficient adjustment in monetary compensation is likely to translate into lower employee satisfaction.

Since we cannot directly observe employee workload in our data, we use employees' satisfaction with work–life balance as a proxy for work pressure. We estimate the model specified in Equation 1. The results are reported in Table 7, Panel A. We find that employee satisfaction with work–life balance declines significantly following a firm's initiation of patent litigation. In Column (4), the coefficient indicates a decrease of approximately 0.15 in work–life balance satisfaction after a firm files a patent lawsuit. In contrast, when a firm becomes a defendant in a patent litigation, we do not observe a significant change in work–life balance satisfaction, as shown in Columns (5)–(8).

To further investigate whether compensation adjustments may explain this asymmetry, we next examine firms' labor expenses. Specifically, we consider three firm-level measures: (i) the natural logarithm of total labor expenses (in millions of U.S. dollars), (ii) labor expenses scaled by total assets, and (iii) the natural logarithm of labor expenses per employee. We estimate the same specification as in Equation 1. The results are reported in Table 7, Panels B and C. The results reveal a clear asymmetry between plaintiff-side and defendant-side litigation. For firms initiating patent litigation, we do not observe any significant change in labor expenses across the three measures. In contrast, when firms are sued as defendants, labor expenses increase significantly. The magnitudes are economically meaningful. As shown in Panel C, Columns (2), (4), and (6), being sued in a patent litigation is associated with an 85.9% increase in total labor expenses, a 0.05 increase in labor expenses scaled by assets, and a 41.9% increase in labor expenses per employee relative to non-litigation firms.

Furthermore, patent litigation is not only prolonged but also costly, raising concerns about firms' future financial commitments. The median legal costs associated with patent litigation range from \$2.7 to \$4.0 million (AIPLA, 2019), with indirect costs estimated to be up to ten times larger (Bessen and Meurer 2012; Bessen et al. 2018). Such expenditures may place pressure on firms'

future budgets and raise concerns that resources could be allocated to legal disputes rather than employee compensation, lowering employees' expectations about future pay and benefits. Consistent with this channel, we observe a significant decline in employee satisfaction with compensation and benefits. As shown in Table IA.4, firms that initiate patent lawsuits experience a 0.16 decrease in compensation and benefits satisfaction relative to firms that never initiate litigation.

Taken together, these findings provide a consistent explanation for the earlier satisfaction results. When firms are defendants in patent litigation, they appear to increase employee compensation, which may help stabilize morale and mitigate dissatisfaction arising from increased work demands. In contrast, when firms initiate patent litigation as a strategic managerial decision, employees may perceive an effort–pay mismatch, as compensation remains unchanged while workload or effort requirements increase. At the same time, litigation may lower employees' expectations about future compensation by raising concerns about future financial burdens, further contributing to the decline in employee satisfaction documented in our baseline results.

4.3 Risk Exposure

A third mechanism arises from the legal risks and business uncertainty introduced by patent litigation, which may increase employees' job insecurity. By voluntarily initiating litigation, the firm increases its exposure to legal scrutiny regarding the validity of its own technology. Although the firm initially acts as the plaintiff, defendants frequently respond with counterclaims challenging the validity of the plaintiff's patents or alleging infringement of their own intellectual property. As a result, the original plaintiff may become a defendant during the course of the litigation.

Such legal risks can disrupt business operations and negatively affect firm performance. Prior studies show that patent litigation may disrupt productions, reduce firm's sales revenue, delay product launches, or even force firms to recall products (Cohen, Gurun, and Kominers 2019; Acikalin et al. 2025; Lemley and Melamed 2013; Tucker 2014). These disruptions introduce uncertainty about the firm's future performance, reputation, and long-term competitiveness. From employees' perspective, heightened firm-level uncertainty may translate into concerns about their own career prospects and job security, which may further reduce their satisfaction.

We examine this mechanism by exploiting heterogeneity in litigation characteristics that capture the degree of legal uncertainty faced by the firm. In particular, we focus on cases involving counter-suits. In patent litigation, defendants may file counterclaims against the plaintiff, arguing that the plaintiff's patents are invalid or that the plaintiff itself infringes the defendant's intellectual property. When such counterclaims occur, the roles of plaintiff and defendant can effectively overlap, creating what we refer to as role-switching litigation. In these cases, the firm that initially initiated the lawsuit must simultaneously defend its own technology, thereby facing substantially greater legal risk and uncertainty. The results are reported in Table 8, Panel A. We find that the negative effect of litigation on employee satisfaction is concentrated in role-switching cases, whereas litigation with stable plaintiff–defendant roles exhibits little effect. This pattern is consistent with several interpretations. First, role-switching may signal that the litigation strategy has backfired, potentially undermining managerial credibility. More importantly, it may reinforce employees' perception that the firm relies on litigation as a competitive strategy rather than innovation. Second, role-switching cases typically involve greater legal complexity and longer proceedings, increasing uncertainty and diverting organizational attention away from core business activities. Third, counter-suits may expose the firm to reputational risks. When a plaintiff is counter-sued, external observers may interpret the litigation initiation as overly aggressive or opportunistic, potentially damaging the firm's reputation within the industry. These help explain why the negative effect of litigation on employee satisfaction is concentrated in role-switching cases.

Next, we examine whether variation in legal cost and duration further affects employee responses. Longer litigation may extend the period of uncertainty and divert organizational attention from core business activities. To test this idea, we construct an indicator variable, $Group$, which equals one for cases whose duration falls below a given percentile threshold (25th, 30th, or 50th percentile) in the sample. We interact this measure with the baseline difference-in-differences specification. The results are presented in Table 8, Panels B and C. Across specifications, the coefficient on $1(Litigation) \times Post$ remains significantly negative, indicating that initiating litigation generally reduces employee satisfaction. The triple interaction term, $1(Litigation) \times Post \times Group$, is positive but statistically weak. This pattern suggests that employees respond negatively to strategic litigation decisions in general, while longer litigation duration may further amplify the adverse

effect by extending the period of legal risk and business uncertainty.

4.4 Leadership Dynamics

An alternative explanation for the decline in employee satisfaction following patent litigation relates to changes in top leadership. Patent litigation may coincide with CEO turnover, which itself can affect employee sentiment through uncertainty about strategic direction or organizational restructuring. If this were the case, the observed decline in employee satisfaction could reflect leadership changes rather than the effect of litigation event. To address this concern, we conduct several tests to examine whether CEO turnover drives our main results.

First, we control directly for CEO turnover in the baseline specification. We construct a firm-year indicator variable, $CEO\ Turnover$, which equals one if the firm experiences a CEO change during the year. As reported in Table IA.8 Panel A, including this control does not alter our baseline findings: the negative effect of plaintiff-side patent litigation on employee satisfaction remains statistically significant.

Second, we conduct heterogeneity tests to examine whether the estimated litigation effect is concentrated in firms experiencing CEO turnover around the litigation event. This test helps assess whether leadership changes amplify or drive the observed employee response. Specifically, we divide treated firms based on whether a CEO turnover occurs near the litigation event. We define an indicator variable, $Group$, which equals one if a CEO turnover occurs in the litigation year (T0), the following year (T1), or within the T0–T1 window. If CEO turnover were responsible for the decline in employee satisfaction, the litigation effect should be stronger in firms experiencing CEO turnover. However, as reported in Panel B, the triple interaction terms $1(Litigation) \times Post \times Group$ are statistically insignificant, suggesting that the decline in employee satisfaction is not concentrated in firms experiencing leadership changes.

Third, we examine whether initiating patent litigation is associated with a higher likelihood of CEO turnover. If litigation systematically triggers leadership changes, CEO turnover could still serve as an indirect channel linking litigation to employee sentiment. To test this possibility, we regress CEO turnover on the litigation indicators. The results, reported in Panel C, show no

significant association between patent litigation and CEO turnover. Taken together, these results suggest that our baseline findings are unlikely to be driven by CEO turnover.

5 Real Effects on Human Capital Flows

Our results thus far show that firms initiating patent litigation experience a significant decline in employees' satisfactions with CEO leadership and senior management. The evidence presented in the previous section suggests that this deterioration in internal morale is consistent with three potential mechanisms: value misalignment, effort–reward imbalance, and increased exposure to legal risk. An important question, however, is whether such changes in employee sentiment translate into economically meaningful consequences for the firm. If litigation only affects employees' subjective perceptions without influencing their actual behavior, the practical implications would be limited.

In this section, we examine whether the decline in internal morale leads to tangible labor market outcomes for the firm. In particular, we focus on employee mobility. Labor mobility represents a primary channel through which dissatisfaction within organizations manifests itself in observable firm outcomes. When employees perceive misalignment with managerial decisions or face increased uncertainty regarding the firm's strategic direction, they may respond by seeking employment opportunities elsewhere. Such mobility decisions can directly affect a firm's ability to retain existing human capital and attract new talent.

5.1 Labor Mobility

Inventor Mobility: Outflows and Inflows. We begin by examining inventor mobility. Patent litigation is inherently related to a firm's technological assets and innovation activities. As a result, employees engaged in research and development are particularly relevant for understanding the labor market consequences of litigation. Moreover, inventors represent a key component of firms' innovative human capital, and prior research highlights the important role of inventor mobility in shaping knowledge diffusion and firm-level innovation outcomes (e.g. Li and Wang 2023). It comes naturally to examine inventor mobility and evaluate whether patent litigation affects firms' ability to retain and attract innovation-related talent. This focus is also motivated by our earlier

findings. In Section 4.1, we show that employees whose work is closely tied to the firm's innovative activities exhibit stronger dissatisfaction following patent litigation. If these employees develop negative perceptions toward the firm's top decisions, they may be more likely to leave and search for employment opportunities that better align with their professional values or risk preferences. We therefore first examine whether patent litigation increases inventor outflows.

We restrict inventors to those who have filed for a patent during employment, and construct the firm-inventor panel following Marx, Strumsky, and Fleming (2009) and Li and Wang (2023). Specifically, we follow the rules below: (i) an inventor's place of employment is identified by the assignee of her patent; (ii) inventors are included in the sample for their entire active career (i.e. the period between the year of their first and last patent applications); (iii) if an inventor's consecutive patents have different assignees, we assume that the inventor changes jobs, with the job transition occurring at the midpoint between the two corresponding patent application years. We then construct two variables that capture inventor departures at the firm-year level. $LossCount1$ measures the reduction in the total inventor count relative to last year, and $LossDummy1$ is a dummy variable that equals one if the total inventor count decreases relative to last year, and zero otherwise. These two measures capture net reductions in a firm's total inventor stock, reflecting overall shrinkage in inventor workforce. We estimate the empirical specification in Equation 1. The control variables are the same as those in the baseline model in Section 3.3, with the addition of $\#\ of\ active\ inventors\ as\ of\ t-1$. For the count variable $LossCount1$, we estimate Poisson regressions following standard practice in the literature (Cohn, Liu, and Wardlaw 2022; Chen and Roth 2024). The results are reported in Table 9 Panel A.

The estimates indicate that patent litigation is associated with significantly higher inventor outflows. Most coefficients are positive and statistically significant. In Columns (2) and (4), we find that after initiating a patent lawsuit, a firm experiences a 103.5% increase in net inventor losses and a 4% higher probability of losing inventors. These effects are economically sizable, suggesting that initiating patent litigations is accompanied by a substantial erosion of innovative human capital. To further corroborate this finding, we also examine two additional inventor outflow measures that directly capture inventor exits based on identified departures ($LossCount2$ and $LossDummy2$).

Detailed definitions are provided in Table IA.2, and the corresponding results are reported in Table IA.9 Panel A.

Next, we turn to inventor inflows. Analogously, we construct four variables that capture inventor inflows from two complementary perspectives. $NewCount1$ and $NewDummy1$ measure net increases in a firm's total inventor stock, reflecting overall growth in inventor workforce, while $NewCount2$ and $NewDummy2$ directly capture inventor entry flows based on identified arrivals. Together, these measures distinguish between changes in inventor headcount and actual inventor hiring events. The results are reported in Table IA.9 Panel B. Consistent with the outflow results, we observe a negative effect of patent litigation on inventor inflows. Specifically, Column (4) shows that firms initiating patent litigation experience a 7% reduction in inventor inflow. This finding suggests that litigation not only accelerates the departure of existing inventors but also weakens the firm's ability to attract new innovative employees.

Taken together, the evidence on both inventor outflows and inflows points to a deterioration in firms' position in the market for innovative labor following patent litigation. Firms initiating litigation experience both greater losses of existing innovative talent and reduced success in attracting new inventors. From an economic perspective, these findings suggest that patent litigation may generate unintended internal organizational costs by undermining firms' ability to retain and recruit innovation-related human capital, potentially affecting their long-term innovative capacity.

Heterogeneity by Inventor Litigation Exposure. Inventors may differ in their exposure to patent litigation depending on their prior litigation experience and their connection to the disputed patents. Beyond examining whether litigation increases overall inventor outflows, it is also important to understand whether such departures are concentrated among inventors who are more directly exposed to litigation-related risks. If litigation disproportionately affects inventors with greater exposure, the resulting mobility patterns would suggest that the labor market response is selective rather than uniform across employees.

To examine inventor-level exposure to litigation in relation to inventor outflow, we decompose departing inventors based on whether they have prior litigation experience and then recalculate the dummy variable of $LossDummy2$ that equals one if the firm experiences at least one identified

inventor departure with prior litigation experience during the year, and zero otherwise. Litigation experience is tracked over each inventor's full employment history regardless of firm transitions [8]. The results are reported in Table 9 Panel B Columns (1) and (2). We find stronger and more statistically significant positive coefficients when inventor outflows are restricted to those with prior litigation experience, relative to the baseline results in Table 9 Panel A. This pattern suggests that following patent lawsuits in which firms act as plaintiffs, departing inventors are more likely to be individuals who have previously been exposed to litigation. In other words, litigation-induced inventor mobility appears to be concentrated among inventors who are more familiar with litigation environments, rather than occurring uniformly across the inventor workforce.

We next examine a more direct form of litigation exposure by focusing on inventors whose patents are directly involved in the dispute. Specifically, we classify departing inventors based on whether they are listed as inventors on the litigated patents and then recalculate the dummy variable of $LossDummy2$ that equals one if the firm experiences at least one identified inventor departure directly connected to the litigated technology during the year, and zero otherwise. This analysis complements the previous test by capturing exposure arising from direct technological involvement in the litigation. The results are reported in Table 9 Panel B Columns (3) and (4). The estimates indicate that following patent litigation in which firms act as plaintiffs, inventor outflows are more pronounced among inventors directly connected to the litigated patents. Taken together, these findings suggest that litigation generates targeted disruptions within the innovative workforce. In particular, the mobility response is concentrated among inventors who are most closely associated with the disputed technologies. Such patterns are consistent with the idea that litigation may heighten legal uncertainty, increase work-related stress, or raise reputational concerns for inventors whose work is directly involved in the dispute.

Non-Inventor Workforce Mobility. We next examine whether the mobility effect extends to the broader workforce beyond inventors. If patent litigation primarily affects employees involved in innovation activities, we should observe limited mobility responses among non-R&D employees. To test this prediction, we use LinkedIn employment histories to track employee movements at the firm level.

[8] Such employment history is only among all public firms. We does not consider their employment at private firms.

Specifically, we measure reductions in firms' total non-R&D workforce and construct mobility measures analogous to those used in the inventor analysis. Employees are classified as R&D-related if their job category is labeled as "Scientist" or "Engineer"; all other employees are treated as non-R&D workers. We then construct two firm-year variables capturing reductions in the non-R&D workforce: $LossLabor_NoR\&D$, which measures the decline in the total number of non-R&D employees relative to the previous year, and $LossLabor_NoR\&D_Dummy$, an indicator equal to one if the non-R&D workforce decreases relative to the previous year. Analogously, we define two variables capturing reductions in the total workforce, $LossLabor_Tot$ and $LossLabor_Tot_Dummy$. These measures parallel the inventor mobility variables $LossCount1$ and $LossDummy1$. The control variables are the same as those in the baseline model in Section 3.3, with the addition of $\#\ of\ active\ NoR\&D\ employees\ as\ of\ t-1$ and $\#\ of\ active\ employees\ as\ of\ t-1$ respectively. The results are reported in Table IA.10. Neither the count measure nor the dummy measure shows a statistically or economically significant effect. These findings indicate that patent litigation does not lead to broader workforce departures among non-R&D employees. Instead, the mobility response appears concentrated among innovation-related employees, highlighting the distinctive effect of patent litigation relative to other types of corporate legal disputes.

Labor Demand vs. Talent Attraction. The evidence so far suggests that firms initiating patent litigation experience both greater losses of existing innovative talent and reduced inflows of new inventors. An alternative explanation, however, is that the decline in inventor inflows reflects a reduction in firms' hiring demand rather than reduced attractiveness in the labor market. If firms decrease their hiring of R&D personnel following litigation, lower inventor inflows could simply reflect reduced labor demand.

To examine this possibility, we use job posting data from LightCast to measure firms' hiring demand. We classify a job posting as R&D-related if its job category is labeled as "Scientist" or "Engineer," and classify all other postings as non-R&D positions. For each firm-year, we then compute the total number of job postings. The results are reported in Table IA.11. Across all specifications, the coefficients are statistically insignificant and economically small. These findings suggest that firms do not significantly reduce their demand for R&D labor following patent litiga-

tion. Combined with the earlier evidence on inventor mobility, the results indicate that the decline in inventor inflows is unlikely to be driven by reduced hiring demand. Instead, it appears that firms initiating litigation face greater difficulty attracting innovative talent in the labor market.

5.2 Linking Satisfaction and Mobility

We have so far documented two related findings. First, initiating patent litigation is associated with a decline in employees' satisfaction with CEO leadership. Second, firms initiating litigation experience increased inventor outflows and reduced success in attracting new innovative employees. In this section, we connect these two sets of results by examining whether the decline in employee sentiment helps explain the observed changes in firms' talent retention following patent litigations.

Specifically, we measure the change in average CEO satisfaction among R&D-related employees—defined as workers whose job category is labeled as "Scientist" or "Engineer"—before and after the litigation event year. For each firm, we compute the percentage change in satisfaction as $\Delta Sati = \frac{Sati_pre - Sati_post}{Sati_pre}$, where a higher value of $\Delta Sati$ indicates a larger decline in employee satisfaction following litigation. We then interact $\Delta Sati$ with $1(Litigation) \times Post$ to examine whether inventor departures are more pronounced in firms where employee sentiment deteriorates more strongly after litigation. The results are reported in Table IA.12. We find that the coefficient on the triple interaction term is positive and statistically significant. The estimates indicate that firms experiencing larger declines in employee satisfaction following litigation also face substantially greater inventor outflows. In economic terms, a one-unit increase in $\Delta Sati$ is associated with an additional 49.18% increase in inventor losses after patent litigation.

Taken together, these findings provide evidence that the labor mobility effects documented earlier are closely linked to changes in internal morale. Firms experiencing larger post-litigation declines in employee satisfaction also suffer greater difficulties in retaining innovative talent, suggesting that deteriorating employee moral may represent an important mechanism through which patent litigation affects firms' human capital.

5.3 Litigation Propensity of New Employers

The previous analysis shows that firms initiating patent litigation experience increased inventor departures. A natural follow-up question is where do these departing inventors relocate. Examining their destination firms provides additional insight into whether litigation affects inventors' preferences over employers and helps shed light on the broader labor market consequences of patent litigation.

To investigate this question, we construct an inventor-level sample of job transitions. Each observation corresponds to an inventor-year in which the inventor moves from a former employer to a new firm. The treatment group consists of inventors whose former employer initiated a patent litigation in the year prior to the job change, while the control group includes inventors whose former employer did not initiate any patent litigation prior to the transition. We then measure the litigation propensity of the new employer. Specifically, we define two indicator variables, $PreYES$ and $PostYES$, which equal one if the new employer initiates at least one patent litigation within the three years before or after the inventor's job transition, respectively. These variables capture whether the destination firm has a history of patent enforcement or the tendency to initiate litigations after the inventor joins. Our empirical specification includes inventor fixed effects and year fixed effects. The inventor fixed effects control for time-invariant individual characteristics—such as ability, or litigation-related preferences—that may influence mobility choices, while year fixed effects absorb common time trends. Standard errors are double-clustered at both the former firm level and the new employer level.

The results are reported in Table IA.13 Panel A. We find a statistically significant negative coefficient when the dependent variable is $PostYES$. The estimates suggest that, relative to the control group, inventors leaving firms that initiated patent litigation are approximately 24% less likely to join new employers that subsequently initiate patent lawsuits. This pattern indicates that inventors who depart after experiencing litigation at their former employer tend to move to firms with a lower propensity to engage in patent litigation forwards. Panel B provides further supporting evidence. In this analysis, we decompose the litigation propensity of the destination firms into four mutually exclusive categories based on combinations of $PreYES$ and $PostYES$.

Specifically, $PreNO+PostYES$ indicates that the new employer does not initiate litigation within the three years before the inventor's arrival but initiates litigation within the three years afterward. The remaining categories—$PreNO+PostNO$, $PreYES+PostYES$, and $PreYES+PostNO$—are defined analogously. The results show that inventors departing from firms that recently initiated patent litigation are significantly less likely to move to employers that both previously engaged in litigation and continue to do so after the inventor's arrival by around 17%.

Taken together, these findings suggest that inventors leaving firms that initiated patent litigation systematically sort into new employers with a lower expected incidence of patent litigation. Compared with inventors leaving firms that did not engage in litigation, these individuals appear to prefer working environments with a lower likelihood of legal disputes over intellectual property.

6 Robustness

Alternative Difference-in-Differences Specifications. Our baseline specification adopts a staggered difference-in-differences design. Recent econometric studies have highlighted that conventional two-way fixed effects DiD estimators may yield biased estimates when treatment effects are heterogeneous across cohorts or over time. To address this concern, we re-estimate our main specification using two alternative approaches that are robust to treatment effect heterogeneity: the stacked DiD and the imputation-based DiD estimation (Cengiz et al. (2019); Borusyak, Jaravel, and Spiess (2024)).

The baseline results on plaintiff-only litigation effects remain robust under both alternative estimators. In the imputation-based DiD specification, we include state-year and industry-year fixed effects. The estimation fails to converge when firm fixed effects are additionally included, likely due to the large number of fixed effects combined with the imputation procedure. Results are reported in Table IA.14.

Ruling Out Changes in Review Activity. Our baseline results could be affected by changes in review activity around litigation events. In particular, if litigation shocks induce a higher (or lower) propensity of employees to submit reviews, the observed decline in average sentiment may reflect changes in the pool of submitted reviews rather than a shift in underlying employee attitudes.

To address this concern, we examine whether litigation events are associated with changes in the number of employee reviews. Specifically, we construct the total number of reviews at the firm-year level across seven satisfaction dimensions[9] and estimate Equation 1 using a Poisson specification. The control variables are identical to that in the baseline model in Section 3.3. As reported in Table IA.15, we find that changes in review number around litigation events are economically small and statistically insignificant. These results suggest that our baseline findings are unlikely to be driven by changes in review activity.

7 Conclusion

We examine the indirect organizational costs of patent litigation by studying how employees perceive and respond to litigation events. We find that employee satisfaction—particularly satisfaction with the CEO—declines significantly following patent litigation, with the effects concentrated in cases where firms act as plaintiffs.

We explore several tests to mitigate concerns about endogeneity. Our baseline specification uses a staggered difference-in-differences design with industry-by-year, state-by-year, and firm fixed effects, isolating litigation from industry shocks, local economic conditions, and time-invariant firm characteristics. Event-time estimates show no evidence of differential pre-trends in employee satisfaction prior to litigation. We further exploit the staggered adoption of U.S. state anti–troll laws between 2013 and 2017 as a quasi-natural experiment that generates plausibly exogenous variation in firms' litigation exposure. The instrumental variable difference-in-differences estimation confirms that employee satisfaction with the CEO declines following patent litigation.

These negative responses are stronger among R&D employees, more educated and highly skilled workers, and in cases where litigation appears strategic rather than innovation-protective. The evidence suggests perceived value misalignment when firms shift resources from innovation toward legal confrontation, highlighting how strategic awareness and access to information about top-level innovation and legal strategies shape employee perceptions.

[9] We examine employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, business outlook, and work-life balance.

The decline in intangible employee sentiment also translates into tangible human capital costs. Litigation weakens firms' ability to retain and attract innovative talent. Following litigation initiation, inventor departures increase, particularly among inventors with prior litigation exposure or direct involvement in the disputed patents. And the inflows of new inventors decline despite no evidence of reduced hiring demand.

Overall, our findings document important indirect and non-monetary organizational costs of patent litigation. By providing evidence from employees' insider perspectives, we show that litigation can disrupt workplace dynamics, affect human capital allocation, and impose organizational costs that extend well beyond the legal and financial consequences typically studied in the literature.

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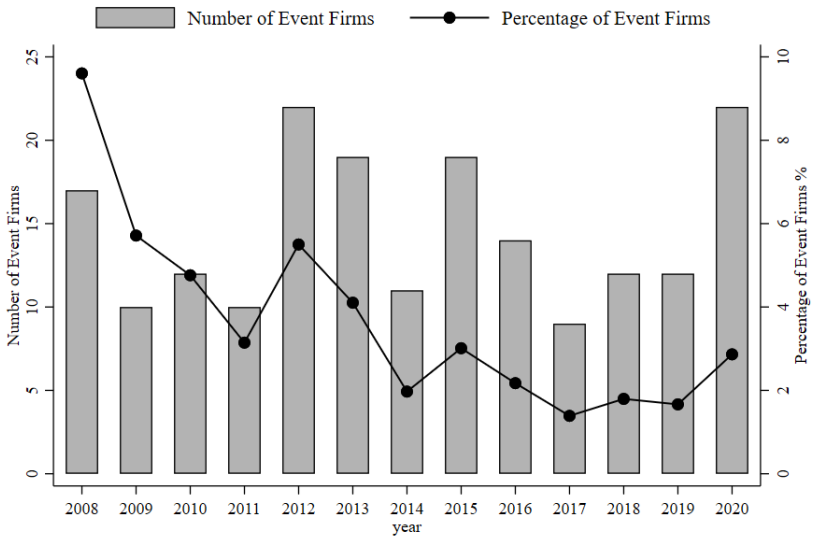
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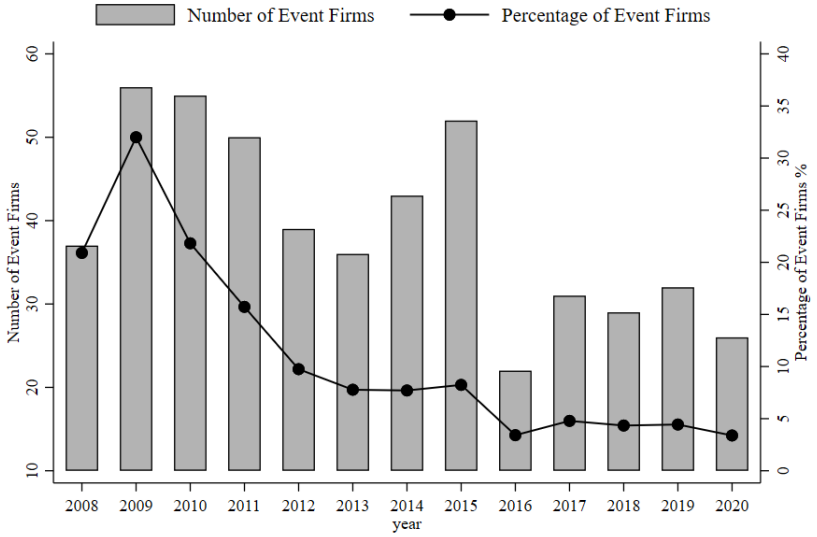
year	# of firms	# of event firms	% event firms
Litigation as Plaintiffs			
2008	177	17	9.60%
2009	175	10	5.71%
2010	252	12	4.76%
2011	318	10	3.14%
2012	400	22	5.50%
2013	463	19	4.10%
2014	558	11	1.97%
2015	631	19	3.01%
2016	644	14	2.17%
2017	648	9	1.39%
2018	668	12	1.80%
2019	721	12	1.66%
2020	768	22	2.86%
Total:	*6,423*	*189*	*2.94%*
Litigation as Defendants			
2008	177	37	20.90%
2009	175	56	32.00%
2010	252	55	21.83%
2011	318	50	15.72%
2012	400	39	9.75%
2013	463	36	7.78%
2014	558	43	7.71%
2015	631	52	8.24%
2016	644	22	3.42%
2017	648	31	4.78%
2018	668	29	4.34%
2019	721	32	4.44%
2020	768	26	3.39%
Total:	*6,423*	*508*	*7.91%*

Panel A. Overall Description

Figure 1. Distribution of Litigation Events Over Years. Panel A reports the annual distribution of firms' first involvement in patent litigation over the period 2008–2020. For each year, we report the total number of sample firms, the number of firms experiencing their first patent litigation event, and the corresponding percentage relative to all firms in that year. The upper panel reports cases in which firms initiate patent litigation as plaintiffs, while the lower panel reports cases in which firms are involved as defendants. Panels B and C plot the annual distribution of first patent litigation events for plaintiff firms and defendant firms respectively.

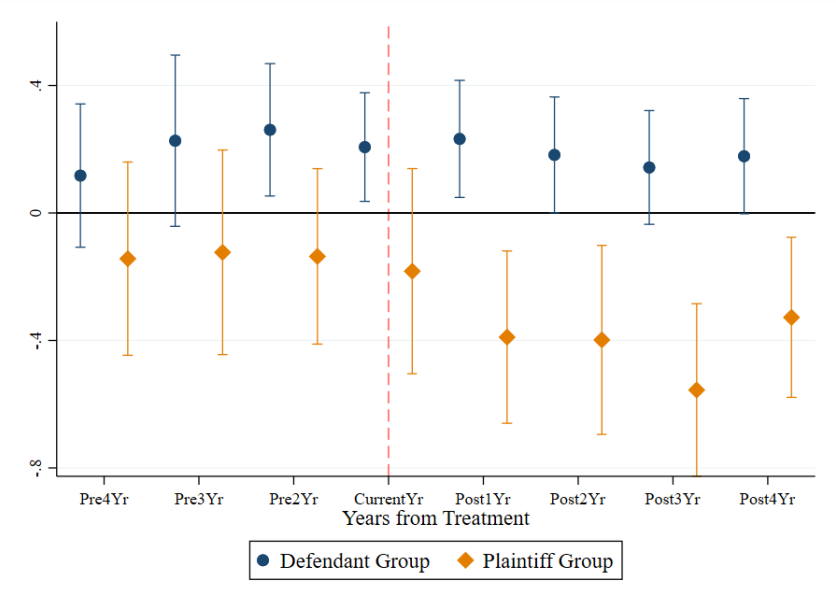


Panel B. Litigation Events as Plaintiffs

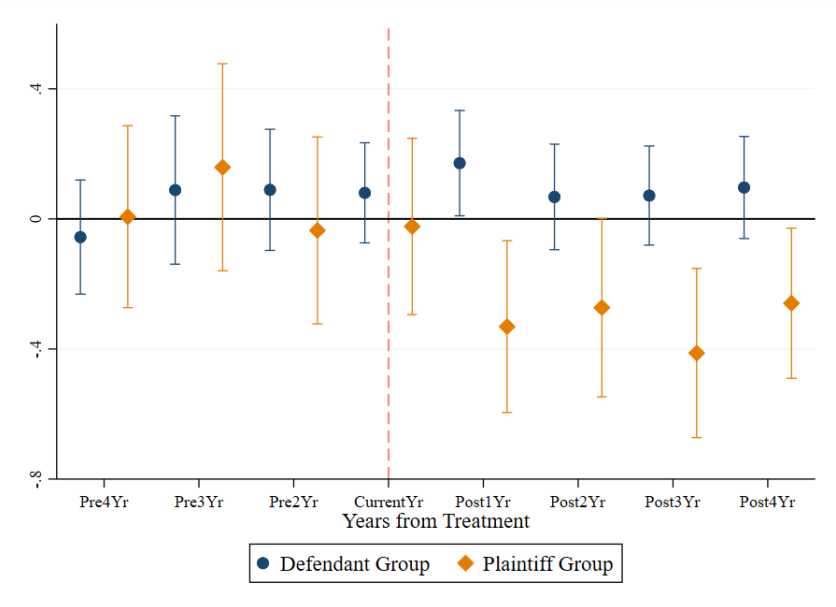


Panel C. Litigation Events as Defendants

Figure 1. Distribution of Litigation Events Over Years. Panel A reports the annual distribution of firms' first involvement in patent litigation over the period 2008–2020. For each year, we report the total number of sample firms, the number of firms experiencing their first patent litigation event, and the corresponding percentage relative to all firms in that year. The upper panel reports cases in which firms initiate patent litigation as plaintiffs, while the lower panel reports cases in which firms are involved as defendants. Panels B and C plot the annual distribution of first patent litigation events for plaintiff firms and defendant firms respectively.



Panel A. CEO Satisfaction



Panel B. Senior Management Satisfaction

Figure 2. Event-Study Evidence on Employee Satisfaction with CEO and Senior Management. This figure plots the dynamic effects of patent litigation on employee satisfaction estimated from the event-study specification in Equation (2). Panel A reports results for employee satisfaction with the CEO, and Panel B for satisfaction with senior management. The coefficients represent estimates of β_s relative to the year immediately preceding the litigation event, which is omitted as the reference period. The yellow line denotes plaintiff-side effects, while the blue line denotes defendant-side effects. We use the baseline unmatched sample. All regressions include firm fixed effects, industry-by-year fixed effects, and state-by-year fixed effects. The vertical lines represent 90% confidence intervals based on standard errors clustered at the firm level.

Table 1. Summary Statistics

Table 1 reports summary statistics for firm-level variables over the period 2008–2023. The upper panel reports summary statistics for average employee satisfaction at the firm-year level. The lower panel reports summary statistics for the control variables used in the analysis. Variable definitions are provided in Appendix IA.2.

Variable	N	Mean	Std	P25	Median	P75
Firm-Year Average Employee Satisfaction						
CEO Leadership	7,574	3.85	1.05	3.06	4.00	4.79
Senior Management	8,099	3.28	1.00	2.69	3.27	4.00
Compensation & Benefits	8,109	3.60	0.82	3.02	3.67	4.09
Culture & Values	7,181	3.61	0.98	3.00	3.69	4.33
Career Opportunities	8,099	3.39	0.93	2.92	3.45	4.00
Business Outlook	7,068	3.86	1.06	3.14	4.00	4.80
Firm Characteristics						
Ln(Asset)	8,234	7.20	1.89	5.85	7.11	8.51
ROA	8,234	-0.05	0.20	-0.09	0.02	0.07
SaleGRW	8,234	0.18	0.58	-0.02	0.08	0.22
Cash	8,234	0.18	0.17	0.06	0.13	0.24
B/M	8,234	0.48	0.44	0.18	0.36	0.63
LEV	8,234	0.50	0.22	0.34	0.51	0.65
PPE	8,234	0.41	0.38	0.14	0.28	0.57
R&D	8,234	0.08	0.11	0.00	0.03	0.12
IssueNum	8,234	54.50	173.52	1.00	6.00	27.00

Table 2. Effects of Litigation Intensity

Table 2 reports the relation between patent litigation intensity and employee satisfaction. The unit of observation is firm-year. The dependent variables measure employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook. The independent variable *LitiIntensity* measures the cumulative number of patent litigation cases in which the firm has been involved up to a given year. Panel A considers cases in which the firm acts as a plaintiff, while Panel B considers cases in which the firm is involved as a defendant. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications are estimated using pooled OLS and include industry × year, state × year, and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Plaintiff-Only Effects

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
LitiIntensity	-0.07***	-0.07***	-0.02	-0.03	-0.05***	-0.04
	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	(0.04)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	4,809	5,102	5,108	4,310	5,105	4,255
Adjusted R^2	0.25	0.26	0.31	0.28	0.25	0.25

Panel B. Defendant-Only Effects

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
LitiIntensity	0.01	0.01	0.01	0.02	0.00	-0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	4,809	5,102	5,108	4,310	5,105	4,255
Adjusted R^2	0.25	0.26	0.31	0.28	0.25	0.25

Table 3. Staggered Difference-in-Differences Results

Table 3 reports baseline estimates of the effects of patent litigation on employee satisfaction with CEO leadership and senior management. The unit of observation is firm-year. The dependent variables are employee satisfaction with CEO leadership in Columns (1)–(4) and satisfaction with senior management in Columns (5)–(8). 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs (defendants) during the sample period and are not simultaneously defendants (plaintiffs) in the same year—and zero otherwise in Panel A (B).1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Control variables are defined in Section 2.4. The sample period is 2008–2023. We estimate the staggered difference-in-differences specification in Equation 1. All specifications include industry × year and state × year fixed effects. Columns (2), (4), (6), and (8) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Plaintiff-Only Effects

	CEO Satisfaction				Senior Management Satisfaction			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1(*Litigation*) × *Post*	-0.36***	-0.28**	-0.33***	-0.27**	-0.31***	-0.26**	-0.25***	-0.26**
	(0.10)	(0.11)	(0.09)	(0.11)	(0.09)	(0.11)	(0.09)	(0.11)
1(*Litigation*)	0.22**		0.18**		0.13		0.11	
	(0.10)		(0.09)		(0.08)		(0.08)	
Ln(Asset)			0.04***	0.02			0.01	-0.02
			(0.01)	(0.04)			(0.01)	(0.04)
ROA			0.22*	0.14			0.07	0.22
			(0.12)	(0.16)			(0.11)	(0.14)
SaleGRW			0.10***	0.03			0.08***	0.02
			(0.03)	(0.03)			(0.03)	(0.03)
Cash			0.23**	0.22			0.32***	0.22
			(0.11)	(0.14)			(0.10)	(0.14)
B/M			-0.39***	-0.37***			-0.28***	-0.22***
			(0.05)	(0.06)			(0.04)	(0.05)
LEV			-0.30***	-0.25*			-0.23***	-0.21
			(0.08)	(0.14)			(0.08)	(0.13)
PPE			-0.15**	-0.47***			-0.16***	-0.29**
			(0.06)	(0.14)			(0.05)	(0.14)
R&D			0.83***	0.31			0.72***	0.09
			(0.24)	(0.43)			(0.21)	(0.44)
IssueNum			-0.00	-0.00**			-0.00	-0.00
			(0.00)	(0.00)			(0.00)	(0.00)
Industry-year FE	Y	Y	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y	N	Y
Observations	6,889	6,713	6,889	6,713	7,371	7,177	7,371	7,177
Adjusted R^2	0.08	0.24	0.12	0.26	0.11	0.28	0.14	0.28

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Panel B. Defendant-Only Effects

	CEO Satisfaction				Senior Management Satisfaction			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1(*Litigation*) × *Post*	-0.03	0.06	-0.03	0.07	-0.03	0.07	-0.02	0.08
	(0.07)	(0.08)	(0.07)	(0.08)	(0.06)	(0.06)	(0.06)	(0.06)
1(*Litigation*)	0.06		0.02		0.04		0.03	
	(0.07)		(0.07)		(0.06)		(0.06)	
Ln(Asset)			0.04***	0.01			0.01	-0.02
			(0.01)	(0.04)			(0.01)	(0.04)
ROA			0.19	0.12			0.04	0.20
			(0.12)	(0.16)			(0.11)	(0.14)
SaleGRW			0.11***	0.03			0.09***	0.02
			(0.03)	(0.03)			(0.03)	(0.03)
Cash			0.24**	0.21			0.33***	0.21
			(0.11)	(0.14)			(0.10)	(0.14)
B/M			-0.39***	-0.37***			-0.28***	-0.22***
			(0.05)	(0.06)			(0.04)	(0.05)
LEV			-0.31***	-0.25*			-0.25***	-0.22*
			(0.08)	(0.14)			(0.08)	(0.13)
PPE			-0.14**	-0.49***			-0.15***	-0.30**
			(0.06)	(0.14)			(0.05)	(0.14)
R&D			0.81***	0.28			0.71***	0.07
			(0.24)	(0.43)			(0.21)	(0.43)
IssueNum			-0.00*	-0.00**			-0.00	-0.00
			(0.00)	(0.00)			(0.00)	(0.00)
Industry-year FE	Y	Y	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y	N	Y
Observations	6,889	6,713	6,889	6,713	7,371	7,177	7,371	7,177
Adjusted R^2	0.08	0.24	0.12	0.26	0.10	0.28	0.13	0.28

Table 4. A Quasi-Natural Experiment: U.S. State Anti-Troll Laws

Table 4 reports the identification results exploiting the staggered adoption of U.S. state anti-troll laws as a quasi-natural experiment. We estimate the instrumental difference-in-differences specification in Equation 3. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. The dependent variable in the first stage is 1(*Litigation*) × *Post*, which equals one for treated firms in years after the firm becomes involved in patent litigation, as defined in Table 3. he instrument in the first stage is 1(*Litigation Law*), an indicator equal to one if the state in which the firm is located has enacted the law by the current year. The second-stage independent variable is $\widehat{1(Litigation_i)} \times Post_t$, the fitted value from the first stage. The dependent variables in the second stage are employee satisfaction with CEO leadership in Panel A and satisfaction with senior management in Panel B. The sample period is 2008–2023. The first-stage regressions include state and year fixed effects, with standard errors clustered at the state level. The second-stage regressions include industry × year and state × year fixed effects. Column (3) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Identification for CEO Satisfaction

	1(*Litigation*) × *Post*	CEO Satisfaction	
	(1)	(2)	(3)
1(*Litigation Law*)	-0.05**		
	(0.02)		
$\widehat{1(Litigation)} \times Post$		-1.06*	-2.60**
		(0.63)	(1.18)
Controls	Y	Y	Y
State FE	Y	N	N
Year FE	Y	N	N
Firm FE	N	N	Y
Industry-year FE	N	Y	Y
State-year FE	N	Y	Y
F-statistic	8.07		
Observations	6,875	6,889	6,713
Adjusted R^2	0.79	0.12	0.26

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Panel B. Identification for Senior Management Satisfaction

	$1(Litigation) \times Post$	Senior Satisfaction	
	(1)	(2)	(3)
$1(Litigation\ Law)$	-0.05**		
	(0.02)		
$1(\widehat{Litigation}) \times Post$		-1.01*	-0.69
		(0.57)	(0.94)
Controls	Y	Y	Y
State FE	Y	N	N
Year FE	Y	N	N
Firm FE	N	N	Y
Industry-year FE	N	Y	Y
State-year FE	N	Y	Y
F-statistic	8.38		
Observations	7,335	7,371	7,177
Adjusted R^2	0.78	0.13	0.28

Table 5. Heterogeneity by Nature of Litigation

Table 5 reports heterogeneous effects based on the nature of patent litigation. The unit of observation is firm-year. The dependent variables are employee satisfaction with CEO leadership and with senior management. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation, as defined in Table 3. We interact this indicator with *Group*, which partitions the treatment sample along several dimensions. In Panel A, *Group* equals one if the litigated patent is of high technological importance to the treated firm. In Panel B, *Group* equals one if technological competition between the treated firm and its counterparties is more intense, measured by technological proximity. In Panel C, *Group* equals one if the treated firm's size is more comparable to that of its counterparties. In Panel D, *Group* equals one if the treated firm's innovation scale is more similar to that of its counterparties. Innovation scale similarity is measured by the squared difference in the cumulative number of granted patents in Columns (1) and (3), and applied patents in Columns (2) and (4). In Panel E, *Group* equals one if the treated firm's technological strength is weaker relative to its counterparties, measured by the difference in cumulative patent counts. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications include industry × year, state × year, and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. The Importance of Litigated Patents (If Core Class)

	CEO Satisfaction	Senior Satisfaction
	(1)	(2)
1(*Litigation*) × *Post* × *Group*	0.58*	0.24
	(0.31)	(0.27)
1(*Litigation*) × *Post*	-0.80***	-0.47**
	(0.28)	(0.23)
Controls	Y	Y
Industry-year FE	Y	Y
State-year FE	Y	Y
Firm FE	Y	Y
Observations	6,247	6,682
Adjusted R^2	0.26	0.28

Panel B. Technology Proximity

	CEO Satisfaction	Senior Satisfaction
	(1)	(2)
1(*Litigation*) × *Post* × *Group*	-0.78*	-0.38
	(0.45)	(0.38)
1(*Litigation*) × *Post*	-0.02	-0.28
	(0.22)	(0.17)
Controls	Y	Y
Industry-year FE	Y	Y
State-year FE	Y	Y
Firm FE	Y	Y
Observations	5,909	6,330
Adjusted R^2	0.27	0.30

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Panel C. Firm Size Comparability

	CEO Satisfaction		Senior Satisfaction	
	(1)	(2)	(3)	(4)
$1(Litigation) \times Post \times Group$	-1.69***	-1.53***	-0.40	-1.60***
	(0.24)	(0.32)	(0.39)	(0.35)
$1(Litigation) \times Post$	-0.04	-0.14	-0.38**	-0.30*
	(0.20)	(0.21)	(0.18)	(0.16)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observations	5,861	5,859	6,276	6,274
Adjusted R^2	0.27	0.27	0.30	0.30

Panel D. Innovation Scale Similarity

	CEO Satisfaction		Senior Satisfaction	
	(1)	(2)	(3)	(4)
$1(Litigation) \times Post \times Group$	0.83***	1.02***	0.37	0.86***
	(0.25)	(0.26)	(0.24)	(0.28)
$1(Litigation) \times Post$	-0.24	-0.25	-0.37**	-0.41**
	(0.22)	(0.21)	(0.17)	(0.16)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observations	5,909	5,909	6,330	6,330
Adjusted R^2	0.27	0.27	0.30	0.30

Panel E. Innovation Gap

	CEO Satisfaction		Senior Satisfaction	
	(1)	(2)	(3)	(4)
$1(Litigation) \times Post \times Group$	-0.66***	-0.66***	0.15	0.15
	(0.25)	(0.25)	(0.22)	(0.22)
$1(Litigation) \times Post$	-0.07	-0.07	-0.34**	-0.34**
	(0.21)	(0.21)	(0.17)	(0.17)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observations	5,909	5,909	6,330	6,330
Adjusted R^2	0.27	0.27	0.30	0.30

Table 6. Heterogeneity by Employee Characteristics

Table 6 reports heterogeneous effects based on employee characteristics. The dependent variables measure employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation, as defined in Table 3. We interact this indicator with *Group*, which captures employee characteristics along several dimensions. In Panel A, *Group* is an indicator equal to one if the employee works in an innovative occupation. In Panel B, *Group* measures the skill intensity of the employee's occupation. In Panel C, *Group* measures educational requirements using the average education level associated with the employee's occupation. In Panel D, *Group* is a discrete measure of employee seniority within the firm, distinguishing between entry-level, middle management, and executive-level positions. In Panel E, *Group* is an indicator equal to one if the employee works in the same city as the firm's headquarters. The unit of observation is the review level in Panels A–C, the firm–seniority–year level in Panel D, and the firm–city–year level in Panel E. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications include industry × year, state × year, and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Group by Job Category

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
1(*Litigation*) × *Post* × *Group*	-0.05	-0.10**	-0.13***	-0.09**	-0.11***	-0.09**
	(0.05)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)
1(*Litigation*) × *Post*	0.12	0.10	0.09	0.13*	0.11	0.18**
	(0.09)	(0.09)	(0.06)	(0.08)	(0.08)	(0.07)
Group	-0.04	-0.08***	-0.01	-0.03	0.02	0.00
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	104,858	121,275	122,870	118,610	122,994	107,410
Adjusted R^2	0.12	0.13	0.16	0.14	0.13	0.11

Panel B. Group by Job Skill

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
1(*Litigation*) × *Post* × *Group*	-0.49*	-0.47*	-0.49**	-0.44*	-0.51**	-0.35
	(0.29)	(0.26)	(0.24)	(0.25)	(0.26)	(0.28)
1(*Litigation*) × *Post*	0.33**	0.24	0.25**	0.27**	0.30**	0.29**
	(0.16)	(0.15)	(0.12)	(0.14)	(0.14)	(0.14)
Group	0.51***	0.22	0.35**	0.35**	0.62***	0.61***
	(0.18)	(0.16)	(0.16)	(0.16)	(0.16)	(0.13)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	66,189	76,525	77,489	75,005	77,529	68,212
Adjusted R^2	0.13	0.14	0.16	0.14	0.13	0.11

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Panel C. Group by Job Education

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	-0.33*	-0.26	-0.18	-0.21	-0.26	-0.30*
	(0.20)	(0.17)	(0.17)	(0.16)	(0.17)	(0.16)
$1(Litigation) \times Post$	0.25*	0.15	0.12	0.17*	0.19*	0.26**
	(0.13)	(0.11)	(0.09)	(0.10)	(0.11)	(0.10)
Group	0.89***	0.80***	0.38***	0.85***	0.82***	0.86***
	(0.13)	(0.11)	(0.13)	(0.11)	(0.11)	(0.10)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	66,189	76,525	77,489	75,005	77,529	68,212
Adjusted R^2	0.13	0.14	0.16	0.15	0.13	0.12

Panel D. Group by Seniority

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	0.08*	0.06	0.05	0.08*	-0.01	0.02
	(0.05)	(0.05)	(0.03)	(0.05)	(0.04)	(0.06)
$1(Litigation) \times Post$	-0.23**	-0.22**	-0.14*	-0.15	-0.11	-0.06
	(0.11)	(0.10)	(0.07)	(0.11)	(0.09)	(0.13)
Group	0.13***	0.15***	0.13***	0.13***	0.18***	0.14***
	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	20,447	21,861	21,906	20,122	21,900	19,633
Adjusted R^2	0.19	0.22	0.24	0.24	0.21	0.20

Panel E. Group by Location

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	0.05	0.13*	0.06	0.13*	0.10*	0.15**
	(0.07)	(0.07)	(0.05)	(0.07)	(0.06)	(0.06)
$1(Litigation) \times Post$	0.02	-0.07	-0.04	0.00	-0.07	0.07
	(0.09)	(0.07)	(0.05)	(0.07)	(0.07)	(0.09)
Group	0.13***	0.08***	0.02	0.08***	0.05**	0.12***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	46,444	52,287	52,827	50,012	52,850	46,925
Adjusted R^2	0.14	0.15	0.18	0.16	0.14	0.12

Table 7. Work-Life Balance and Compensation

Table 7 reports estimates of the effects of patent litigation on employee work–life balance satisfaction and labor compensation. The unit of observation is firm-year. In Panel A, the dependent variable is employee satisfaction with work–life balance. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs (defendants) during the sample period and are not simultaneously defendants (plaintiffs) in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation, consistent with the definition in Table 3. Columns (1)–(4) examine cases in which the firm acts as a plaintiff, whereas Columns (5)–(8) examine cases in which the firm is involved as a defendant. Panels B and C analyze labor expenses. The dependent variables are (i) $Ln(LaborExpense)$, the natural logarithm of total labor expenses; (ii) $\frac{LaborExpense}{Assets}$, labor expenses scaled by total assets; and (iii) $Ln(\frac{LaborExpense}{\#\ of\ Employees})$, the natural logarithm of labor expenses per employee. The independent variables are defined as in Panel A. Panel B examines cases in which the firm acts as a plaintiff, and Panel C examines cases in which the firm is involved as a defendant. Control variables are defined in Section 2.4.The sample period is 2008–2023. We estimate the staggered difference-in-differences specification in Equation 1. All specifications include industry × year and state × year fixed effects. Columns (2), (4), (6), and (8) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Effects on Work-Life Balance Satisfaction

	Plaintiff-Side				Defendant-Side			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1(*Litigation*) × *Post*	-0.26***	-0.14*	-0.21***	-0.15*	-0.03	0.06	-0.03	0.06
	(0.08)	(0.08)	(0.07)	(0.08)	(0.05)	(0.06)	(0.05)	(0.06)
1(*Litigation*)	0.08		0.06		0.03		0.05	
	(0.07)		(0.07)		(0.05)		(0.05)	
Controls	N	N	Y	Y	N	N	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y	N	Y
Observations	7,377	7,184	7,377	7,184	7,377	7,184	7,377	7,184
Adjusted R^2	0.10	0.28	0.12	0.28	0.10	0.28	0.12	0.28

(Continued on next page)

Panel B. Effects on Labor Expense at Plaintiff-Side

	$Ln(LaborExpense)$		$\frac{LaborExpense}{Assets}$		$Ln(\frac{LaborExpense}{\#\ of\ Employees})$	
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post$	-0.60	-0.13	-0.10	-0.05	-0.46	0.14
	(0.62)	(0.24)	(0.13)	(0.06)	(0.74)	(0.11)
$1(Litigation)$	0.22		0.02		0.25	
	(0.53)		(0.13)		(0.52)	
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y
Observations	246	226	246	226	241	220
Adjusted R^2	0.87	0.99	0.33	0.96	0.44	0.96

Panel C. Effects on Labor Expense at Defendant-Side

	$Ln(LaborExpense)$		$\frac{LaborExpense}{Assets}$		$Ln(\frac{LaborExpense}{\#\ of\ Employees})$	
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post$	1.04**	0.62***	0.11	0.05***	-0.37	0.35***
	(0.41)	(0.13)	(0.07)	(0.02)	(0.35)	(0.08)
$1(Litigation)$	-0.85**		-0.09		0.56**	
	(0.33)		(0.06)		(0.24)	
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y
Observations	246	226	246	226	241	220
Adjusted R^2	0.87	0.99	0.33	0.96	0.45	0.96

Table 8. Heterogeneity by Case Characteristics

Table 8 reports heterogeneous effects based on litigation case characteristics that capture the degree of risk exposure faced by the firm. The unit of observation is firm-year. In Panel A, the dependent variables are employee satisfaction with CEO leadership in Columns (1)–(2) and with senior management in Columns (3)–(4). 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation, as defined in Table 3. We split the treatment sample according to whether the litigation involves counter-suits and estimate the baseline specification within each subsample. When the treated firm is counter-sued by the original defendant, the firm's role switches during the litigation process. All specifications include industry × year, state × year, and firm fixed effects. Panels B and C extend the baseline difference-in-differences specification by interacting with an indicator variable *Group*. *Group* equals one for cases whose duration falls below a given percentile threshold of the case-duration distribution in the sample: the 25th percentile in Columns (1)–(2), the 30th percentile in Columns (3)–(4), and the 50th percentile in Columns (5)–(6). The dependent variable is employee satisfaction with CEO leadership in Panel B and employee satisfaction with senior management in Panel C. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications include industry × year and state × year fixed effects. Columns (2), (4), and (6) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Heterogeneity by Role-Switching

	CEO Satisfaction		Senior Satisfaction	
Role Switch	Yes	No	Yes	No
	(1)	(2)	(3)	(4)
1(*Litigation*) × *Post*	-0.36***	-0.14	-0.52***	0.05
	(0.12)	(0.19)	(0.12)	(0.16)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observations	6,284	6,045	6,716	6,473
Adjusted R^2	0.27	0.25	0.29	0.29

(Continued on next page)

Panel B. Heterogeneity by Case Duration on CEO Satisfaction

Bottom Percentage	25%		30%		50%	
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	0.27	0.08	0.37**	0.26	0.28	0.18
	(0.20)	(0.29)	(0.19)	(0.25)	(0.18)	(0.22)
$1(Litigation) \times Post$	-0.44***	-0.31**	-0.47***	-0.38***	-0.48***	-0.38***
	(0.11)	(0.12)	(0.11)	(0.12)	(0.13)	(0.14)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y
Observations	6,859	6,684	6,859	6,684	6,859	6,684
Adjusted R^2	0.12	0.26	0.12	0.26	0.12	0.26

Panel C. Heterogeneity by Case Duration on Senior Satisfaction

Bottom Percentage	25%		30%		50%	
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	0.53***	0.38	0.52***	0.40*	0.31*	0.13
	(0.17)	(0.24)	(0.16)	(0.22)	(0.17)	(0.20)
$1(Litigation) \times Post$	-0.41***	-0.36***	-0.42***	-0.39***	-0.39***	-0.33**
	(0.10)	(0.12)	(0.11)	(0.12)	(0.13)	(0.14)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y
Observations	7,338	7,146	7,338	7,146	7,338	7,146
Adjusted R^2	0.14	0.28	0.14	0.28	0.14	0.28

Table 9. Litigation Effects on Inventor Mobility

Table 9 reports estimates of the effects of patent litigation on inventor mobility. The unit of observation is firm-year. In Panel A, the dependent variables are (i) *LossCount*1, the reduction in the total number of inventors relative to the previous year (Columns (1)–(2)); (ii) *LossDummy*1, an indicator equal to one if the total inventor count decreases relative to the previous year (Columns (3)–(4)). 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. In Panel B, we identify departing inventors and classify them based on their exposure to the litigation. The dependent variable *LossDummy*2 equals one if the firm experiences at least one identified inventor departure with prior litigation experience (Columns (1)–(2)) or directly related to the litigated technology (Columns (3)–(4)). The sample period is 2008–2023. The control variables are the same as those in the baseline model, with the addition of *# of active inventors as of* $t-1$. We estimate the staggered difference-in-differences specification in Equation 1. For the count variable *LossCount*1, we estimate Poisson regressions. All specifications include industry × year and state × year fixed effects. Columns (2) and (4) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Litigation Effects on Inventor Outflows

	*LossCount*1		*LossDummy*1	
	(1)	(2)	(3)	(4)
1(*Litigation*) × *Post*	0.97***	0.71***	0.19***	0.04
	(0.18)	(0.24)	(0.03)	(0.05)
1(*Litigation*)	-0.48**		-0.08***	
	(0.20)		(0.03)	
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	N	Y	N	Y
Observations	7,272	6,477	7,492	7,307
Pseudo R^2 / Adjusted R^2	0.52	0.71	0.10	0.22

Panel B. Heterogeneity by Inventor Litigation Exposure

*Dep. Var: LossDummy*2	With Prior Litigation Experience		Directly Connected to Litigated Patents	
	(1)	(2)	(3)	(4)
1(*Litigation*) × *Post*	0.28***	0.19***	0.03***	0.04***
	(0.04)	(0.05)	(0.01)	(0.01)
1(*Litigation*)	-0.00		-0.00	
	(0.04)		(0.00)	
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	N	Y	N	Y
Observations	7,492	7,307	7,492	7,307
Adjusted R^2	0.24	0.46	-0.01	0.08

Internet Appendix for

"Weaponized My Work: The Organizational Costs of Patent Litigation"

(Not to be published)

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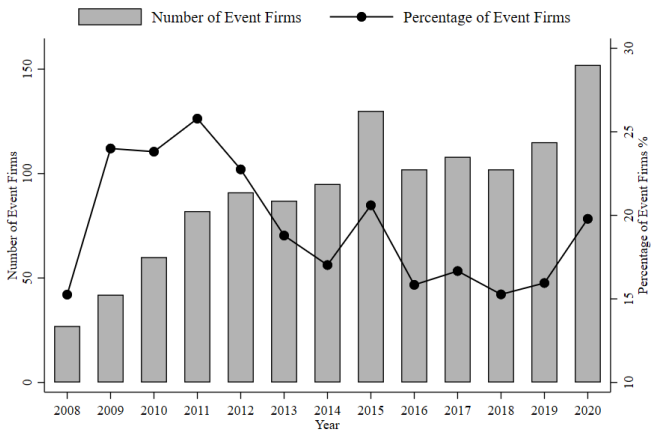
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IB Anecdotal Evidence

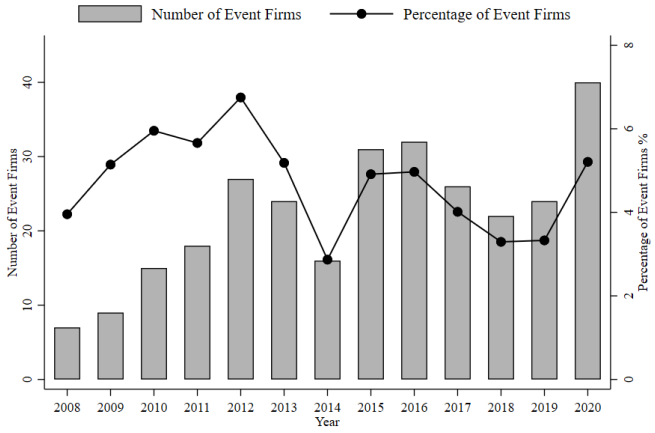
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IC Methodology of Textual Analysis Using Large Language Model

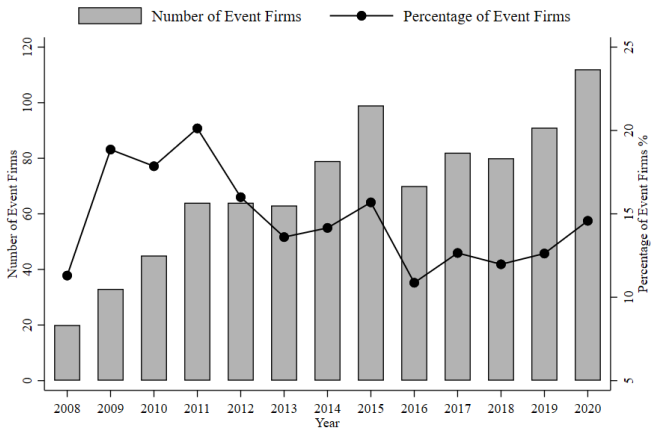
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Panel A. All Litigation Events

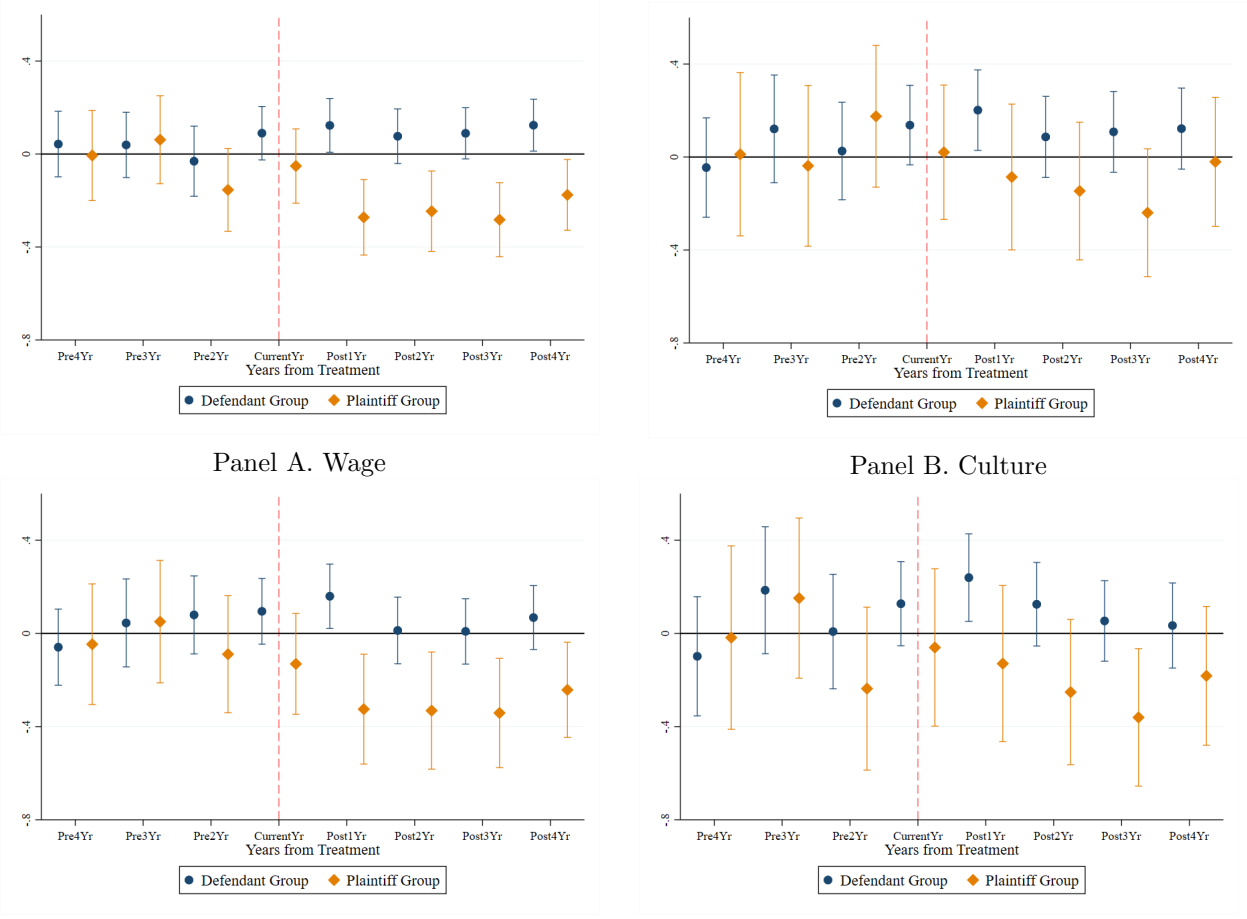


Panel B. Litigation Events as Plaintiffs



Panel C. Litigation Events as Defendants

Figure IA1 Distribution of Litigation Events. Panel A reports the annual distribution of patent litigation involving sample firms over the period 2008–2020. The figure further distinguishes firms' roles in each case: Panel B reports the annual distribution of cases in which firms act as plaintiffs, and Panel C reports the annual distribution of cases in which firms are involved as defendants.



Panel A. Wage

Panel B. Culture

Panel C. Career

Panel D. Outlook

Figure IA2 Event-Study Evidence on Employee Satisfaction: Other Dimensions. This figure plots the dynamic effects of patent litigation on employee satisfaction estimated from the event-study specification in Equation (2). Panel A reports results for employee satisfaction with the compensation and benefits, Panel B for satisfaction with culture and values, Panel C for satisfaction with career opportunities, and Panel D for satisfaction with business outlook. The coefficients represent estimates of β_s relative to the year immediately preceding the litigation event, which is omitted as the reference period. The yellow line denotes plaintiff-side effects, while the blue line denotes defendant-side effects. We use the baseline unmatched sample. All regressions include firm fixed effects, industry-by-year fixed effects, and state-by-year fixed effects. The vertical lines represent 90% confidence intervals based on standard errors clustered at the firm level.

Table IA1. Sample Formation

This table reports the formation of the baseline sample. # Firm-years denotes the number of firm-year observations, and # Firms denotes the number of unique firms in the sample.

	# Firm-years	# Firms
All COMPUSTAT firms over the period from 2008 to 2023	184,832	23,374
Match: Innovative firms that applied for at least one patent during the sample period	29,969	3,073
Match: Firm-years with satisfaction scores in Glassdoor	15,133	2,057
Less: Firms in finance or utility industry	14,031	1,950
Less: Firms that were involved in patent litigation during the five years preceding the sample period starting in 2008	9,115	1,489
Final sample after requiring that the necessary data be available for control variables	8,234	1,374

Table IA2. Variable Definitions

This table provides definitions of the variables used in the analysis for this paper.

Variable	Definition
Firm-level Control Variables	
$Ln(Asset)$	The natural logarithm of a firm's total assets (in million USD).
ROA	The ratio of income before extraordinary items to total assets.
$SaleGRW$	The growth rate of total revenue.
$Cash$	The ratio of cash holdings to total assets.
B/M	The ratio of book equity to market value, where book equity is constructed following Hou, Xue, and Zhang (2015).
LEV	The ratio of total liabilities to total assets.
PPE	The ratio of total property, plant and equipment to total assets.
$R\&D$	The ratio of R&D expenses to total assets.
$IssueNum$	The number of granted patents over the past three years.
Firm-level Inventor Mobility Measures	
$LossCount1$	The reduction in the total inventor count relative to last year. If the change in the total number of inventors is positive (i.e., no decline), the value is set to zero.
$LossDummy1$	A dummy variable that equals one if the total inventor count decreases relative to last year, and zero otherwise.
$LossCount2$	The number of identified inventor departures from the firm.
$LossDummy2$	A dummy variable that equals one if the firm experiences at least one identified inventor departure during the year, and zero otherwise.
$NewCount1$	The increase in the total inventor count relative to last year. If the change in the total number of inventors is negative (i.e., no increase), the value is set to zero.
$NewDummy1$	A dummy variable that equals one if the total inventor count increases relative to last year, and zero otherwise.
$NewCount2$	The number of identified inventor joining the firm.
$NewDummy2$	A dummy variable that equals one if the firm has at least one identified inventor joining during the year, and zero otherwise.

Table IA3. Effects of Litigation Intensity: Alternative Measures

This table reports the relation between patent litigation intensity and employee satisfaction. The unit of observation is firm-year. The dependent variables measure employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook. In Panels A and B, the independent variable *LitiIntensity* measures the cumulative number of patent litigation cases over the past five years. In Panels C and D, the independent variable *LitiIntensity* measures the weighted sum of past litigation cases, with weights declining geometrically with the time elapsed since each litigation event. Panels A and C consider cases in which the firm acts as a plaintiff, while Panels B and D considers cases in which the firm is involved as a defendant. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications are estimated using pooled OLS and include industry × year, state × year, and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Litigation Intensity over the Past Five Years (Plaintiff-Only Effects)

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
LitiIntensity	-0.09***	-0.07***	-0.04*	-0.06*	-0.05**	-0.06
	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.04)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observation	4,809	5,102	5,108	4,310	5,105	4,255
Adjusted R^2	0.25	0.26	0.31	0.28	0.25	0.25

Panel B. Litigation Intensity over the Past Five Years (Defendant-Only Effects)

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
LitiIntensity	-0.00	0.00	0.01	-0.00	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observation	4,809	5,102	5,108	4,310	5,105	4,255
Adjusted R^2	0.25	0.26	0.31	0.28	0.25	0.25

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Panel C. Weighted Litigation Intensity (Plaintiff-Only Effects)

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
LitiIntensity	-0.09**	-0.09**	-0.03	-0.05	-0.08***	-0.05
	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.06)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observation	4,809	5,102	5,108	4,310	5,105	4,255
Adjusted R^2	0.25	0.26	0.31	0.28	0.25	0.25

Panel D. Weighted Litigation Intensity (Defendant-Only Effects)

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
LitiIntensity	0.01	0.00	0.01	0.00	-0.01	-0.01
	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observation	4,809	5,102	5,108	4,310	5,105	4,255
Adjusted R^2	0.25	0.26	0.31	0.28	0.25	0.25

Table IA4. Staggered Difference-in-Differences: Other Satisfaction Dimensions

This table reports baseline estimates of the effects of patent litigation on employee satisfaction with other dimensions. The unit of observation is firm-year. The dependent variables are employee satisfaction with compensation and benefits in Column (1), culture and values in Column (2), career opportunities in Column (3), and business outlook in Column (4). 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs (defendants) during the sample period and are not simultaneously defendants (plaintiffs) in the same year—and zero otherwise in Panel A (B).1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Control variables are defined in Section 2.4. The sample period is 2008–2023. We estimate the staggered difference-in-differences specification in Equation 1. All specifications include industry × year, state × year and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Plaintiff-Only Effects

Dimension	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)
1(*Litigation*) × *Post*	-0.16***	-0.12	-0.24***	-0.14
	(0.06)	(0.12)	(0.09)	(0.14)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observation	7,185	6,382	7,182	6,281
Adjusted R^2	0.32	0.30	0.27	0.25

Panel B. Defendant-Only Effects

Dimension	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)
1(*Litigation*) × *Post*	0.09*	0.11	0.06	0.11
	(0.05)	(0.08)	(0.05)	(0.08)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observation	7,185	6,382	7,182	6,281
Adjusted R^2	0.32	0.30	0.26	0.25

Table IA5. Matching Difference-in-Differences Results

This table reports DiD estimates based on the matched sample of the effects of patent litigation on employee satisfaction. The unit of observation is firm-year. Panel A presents the balance test before and after the propensity score matching. Panel B shows the results from estimating the staggered difference-in-differences specification in Equation 1 using the matched sample. The dependent variables measure employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs (defendants) during the sample period and are not simultaneously defendants (plaintiffs) in the same year—and zero otherwise in Panel B (C).1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications include industry × year, state × year and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Balance Tests

	Mean Difference		T-test	
	Before	After	Before	After
$Ln(Asset)$	0.24	0.00	4.31***	-0.01
ROA	0.04	-0.03	4.57***	-1.29
$SaleGRW$	-1.03	-0.42	-1.10	-0.37
$Cash$	-0.02	0.00	-3.36***	0.17
B/M	-0.07	-0.02	-2.91***	-0.36
LEV	0.04	-0.01	5.01***	-0.51
PPE	-0.05	0.06	-3.87***	1.69*
$R\&D$	0.00	0.02	0.19	1.11
$IssueNum$	49.69	36.79	5.31***	1.07

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Panel B. Plaintiff-Only Effects

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post$	-0.28**	-0.29**	-0.20***	-0.18	-0.29***	-0.25*
	(0.13)	(0.11)	(0.07)	(0.13)	(0.09)	(0.15)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observation	5,692	5,942	5,943	5,103	5,944	5,043
Adjusted R^2	0.39	0.38	0.38	0.39	0.37	0.35

Panel C. Defendant-Only Effects

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post$	0.07	0.04	0.08	0.04	0.03	0.05
	(0.09)	(0.07)	(0.05)	(0.09)	(0.06)	(0.09)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observation	11,875	12,490	12,487	10,641	12,494	10,479
Adjusted R^2	0.42	0.41	0.45	0.42	0.40	0.42

Table IA6. Heterogeneity by Employee Characteristics

This table reports heterogeneous effects based on employee characteristics. The dependent variables measure employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as defendants during the sample period and are not simultaneously plaintiffs in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes sued in patent litigation, as defined in Table 3. We interact this indicator with *Group*, which captures employee characteristics along several dimensions. In Panel A, *Group* is an indicator equal to one if the employee works in an innovative occupation. In Panel B, *Group* measures the skill intensity of the employee's occupation. In Panel C, *Group* measures educational requirements using the average education level associated with the employee's occupation. In Panel D, *Group* is a discrete measure of employee seniority within the firm, distinguishing between entry-level, middle management, and executive-level positions. In Panel E, *Group* is an indicator equal to one if the employee works in the same city as the firm's headquarters. The unit of observation is the review level in Panels A–C, the firm–seniority–year level in Panel D, and the firm–city–year level in Panel E. Control variables are defined in Section 2.4. The sample period is 2008–2023. All specifications include industry × year, state × year, and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Group by Job Category

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
1(*Litigation*) × *Post* × *Group*	0.10***	0.06*	0.10***	0.05	0.08**	0.05
	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)
1(*Litigation*) × *Post*	0.02	-0.04	0.03	-0.03	-0.03	0.07
	(0.08)	(0.06)	(0.04)	(0.06)	(0.05)	(0.07)
Group	-0.10***	-0.12***	-0.09***	-0.07***	-0.04**	-0.04
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	104,858	121,275	122,870	118,610	122,994	107,410
Adjusted R^2	0.12	0.13	0.16	0.14	0.13	0.11

Panel B. Group by Job Skill

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
1(*Litigation*) × *Post* × *Group*	0.46	0.05	0.33	0.11	0.23	0.19
	(0.30)	(0.27)	(0.26)	(0.26)	(0.27)	(0.23)
1(*Litigation*) × *Post*	-0.09	-0.01	-0.07	-0.01	-0.08	0.06
	(0.15)	(0.13)	(0.11)	(0.12)	(0.12)	(0.12)
Group	0.20	0.14	0.11	0.24*	0.44***	0.46***
	(0.12)	(0.14)	(0.09)	(0.13)	(0.12)	(0.14)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	66,189	76,525	77,489	75,005	77,529	68,212
Adjusted R^2	0.13	0.14	0.16	0.14	0.13	0.11

(Continued on next page)

Panel C. Group by Job Education

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	-0.01	-0.20	0.14	-0.19	-0.05	-0.10
	(0.20)	(0.17)	(0.20)	(0.17)	(0.18)	(0.16)
$1(Litigation) \times Post$	0.10	0.08	0.01	0.11	0.04	0.18**
	(0.11)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Group	0.85***	0.88***	0.27***	0.93***	0.81***	0.88***
	(0.11)	(0.10)	(0.07)	(0.10)	(0.10)	(0.10)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	66,189	76,525	77,489	75,005	77,529	68,212
Adjusted R^2	0.13	0.14	0.16	0.15	0.13	0.12

Panel D. Group by Seniority

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	-0.03	-0.06**	-0.02	-0.10***	-0.07**	-0.06
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
$1(Litigation) \times Post$	0.08	0.09	0.08*	0.16**	0.14**	0.11
	(0.08)	(0.06)	(0.05)	(0.07)	(0.06)	(0.08)
Group	0.16***	0.19***	0.15***	0.19***	0.21***	0.17***
	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	20,447	21,861	21,906	20,122	21,900	19,633
Adjusted R^2	0.19	0.22	0.24	0.24	0.21	0.20

Panel E. Group by Location

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
$1(Litigation) \times Post \times Group$	-0.02	0.01	0.00	-0.00	0.01	0.01
	(0.04)	(0.04)	(0.03)	(0.04)	(0.04)	(0.04)
$1(Litigation) \times Post$	0.01	0.01	0.05	0.06	0.02	0.10*
	(0.06)	(0.05)	(0.04)	(0.06)	(0.04)	(0.06)
Group	0.15***	0.09***	0.02	0.10***	0.06**	0.13***
	(0.03)	(0.03)	(0.02)	(0.03)	(0.03)	(0.03)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Observations	46,444	52,287	52,827	50,012	52,850	46,925
Adjusted R^2	0.14	0.15	0.18	0.16	0.14	0.12

Table IA7. Employee Perceptions of Innovation Strategy

This table reports estimates of the effects of patent litigation on employee perceptions of the firm's innovation strategy. The unit of observation is firm-year. The dependent variables are the average negative score of innovation-related reviews in Columns (1)–(2) and the average positive score of innovation-related reviews in Columns (3)–(4). These sentiment scores are constructed using a BERT-based large language model, described in more detail in Appendix IC. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Control variables are defined in Section 2.4. The sample period is 2008–2023. We estimate the staggered difference-in-differences specification in Equation 1. All specifications include industry × year and state × year fixed effects. Columns (2) and (4) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

	Negative Score		Positive Score	
	(1)	(2)	(3)	(4)
1(*Litigation*) × *Post*	0.06***	0.03	-0.13***	-0.08**
	(0.02)	(0.03)	(0.03)	(0.04)
1(*Litigation*)	-0.04**		0.09***	
	(0.02)		(0.02)	
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	N	Y	N	Y
Observation	2,977	2,719	2,977	2,719
Adjusted R^2	0.06	0.11	0.13	0.18

Table IA8. CEO turnover

This table examines whether CEO turnover explains the effect of patent litigation on employee satisfaction. The unit of observation is firm-year. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Panel A augments the baseline specification in Table 3 by controlling for CEO turnover. *CEO Turnover* is an indicator equal to one if the firm experiences a CEO change during the year. Panel B examines heterogeneity around CEO turnover by interacting the baseline specification with an indicator variable *Group*, which equals one if a CEO turnover occurs in the litigation year (T0) in Column (1), the following year (T1) in Column (2), or within the T0–T1 window in Column (3). The dependent variable in Panels A and B is employee satisfaction with CEO leadership. Panel C examines whether patent litigation predicts CEO turnover. The dependent variable in Column (1) equals one if a CEO turnover occurs in the litigation year (T0), and the dependent variable in Column (2) equals one if a CEO turnover occurs in the following year (T1). Control variables are defined in Section 2.4. The sample period is 2008–2023. We estimate the staggered difference-in-differences specification in Equation 1. All specifications include industry × year, state × year and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Include CEO Turnover as An Additional Control

	CEO Satisfaction
	(1)
1(*Litigation*) × *Post*	-0.26*
	(0.13)
Controls	Y
Industry-year FE	Y
State-year FE	Y
Firm FE	Y
Observations	4,058
Adjusted R^2	0.24

Panel B. Heterogeneity Test

	CEO Satisfaction		
	T0	T1	T0–T1
	(1)	(2)	(3)
1(*Litigation*) × *Post* × *Group*	-0.24	0.06	-0.04
	(0.25)	(0.46)	(0.34)
1(*Litigation*) × *Post*	-0.25*	-0.27**	-0.26*
	(0.13)	(0.13)	(0.13)
Controls	Y	Y	Y
Industry-year FE	Y	Y	Y
State-year FE	Y	Y	Y
Firm FE	Y	Y	Y
Observations	3,446	3,463	3,446
Adjusted R^2	0.23	0.23	0.23

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Panel C. Effects on CEO Turnover

	CEO Turnover	
	T0	T1
	(1)	(2)
$1(Litigation) \times Post$	-0.05	-0.02
	(0.03)	(0.04)
Controls	Y	Y
Industry-year FE	Y	Y
State-year FE	Y	Y
Firm FE	Y	Y
Observations	4,253	4,251
Adjusted R^2	-0.01	0.03

Table IA9. Litigation Effects on Inventor Mobility

This table reports estimates of the effects of patent litigation on inventor mobility. The unit of observation is firm-year. In Panel A, the dependent variables are (i) $LossCount2$, the number of identified inventor departures from the firm (Columns (1)–(2)); (ii) $LossDummy2$, an indicator equal to one if the firm experiences at least one identified inventor departure during the year, and zero otherwise. (Columns (3)–(4)). In Panel B, we examine the effects of patent litigation on inventor inflow. $NewCount1$ is the increase in the total inventor count relative to last year. $NewDummy1$ is a dummy variable that equals one if the total inventor count increases relative to last year, and zero otherwise. $NewCount2$ is the number of identified inventor joining the firm. $NewDummy2$ is a dummy variable that equals one if the firm has at least one identified inventor joining during the year, and zero otherwise. $1(Litigation)$ is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise in Panel A. $1(Litigation) \times Post$ equals one for treated firms in years after the firm becomes involved in patent litigation. The sample period is 2008–2023. We estimate the staggered difference-in-differences specification in Equation 1. For the count variable $LossCount2$, $NewCount1$, and $NewCount2$, we estimate Poisson regressions. All specifications include industry × year and state × year fixed effects. Columns (2), (4), (6), and (8) additionally include firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Litigation Effects on Inventor Outflows: Alternative Measures

	$LossCount2$		$LossDummy2$	
	(1)	(2)	(3)	(4)
$1(Litigation) \times Post$	0.28***	-0.10	0.08**	-0.04
	(0.09)	(0.13)	(0.04)	(0.04)
$1(Litigation)$	0.29***		0.05	
	(0.09)		(0.04)	
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	N	Y	N	Y
Observations	7,394	6,694	7,492	7,307
Pseudo R^2 / Adjusted R^2	0.67	0.82	0.17	0.39

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Panel B. Litigation Effects on Inventor Inflows

	$NewCount1$		$NewDummy1$		$NewCount2$		$NewDummy2$	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$1(Litigation) \times Post$	-0.22	-0.09	-0.18***	-0.07*	-0.08	-0.13	-0.06	-0.01
	(0.15)	(0.18)	(0.04)	(0.04)	(0.11)	(0.09)	(0.04)	(0.03)
$1(Litigation)$	0.29*		0.15***		0.33**		0.10***	
	(0.16)		(0.04)		(0.13)		(0.03)	
Controls	Y	Y	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y	Y	Y
Firm FE	N	Y	N	Y	N	Y	N	Y
Observations	6,290	5,021	7,492	7,307	6,945	5,907	7,492	7,307
Pseudo R^2 / Adjusted R^2	0.55	0.74	0.19	0.30	0.69	0.84	0.29	0.48

Table IA10. Non-Inventor Workforce Mobility

This table reports estimates the mobility effects extends to the broader workforce beyond inventors. The unit of observation is firm-year. The dependent variables are: (i) $LossLabor_NoR\&D$, the decline in the total number of non-R&D employees relative to the previous year in Column (1); (ii) $LossLabor_NoR\&D_Dummy$, an indicator equal to one if the non-R&D workforce decreases relative to the previous year in Column (2); (iii) $LossLabor_Tot$, the decline in the total number of employees relative to the previous year in Column (3); (iv) $LossLabor_Tot_Dummy$, an indicator equal to one if the total workforce decreases relative to the previous year in Column (4). $1(Litigation)$ is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise in Panel A. $1(Litigation) \times Post$ equals one for treated firms in years after the firm becomes involved in patent litigation. The sample period is 2008–2023. The control variables are the same as those in the baseline model in Section 3.3, with the addition of $\#\ of\ active\ NoR\&D\ employees\ as\ of\ t-1$ in Columns (1)–(2) and $\#\ of\ active\ employees\ as\ of\ t-1$ in Columns (3)–(4). We estimate the staggered difference-in-differences specification in Equation 1. For the count variables, we estimate Poisson regressions. All specifications include industry × year, state × year and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Dep.Var: LossLabor	Count		Dummy	
	NoR&D	*Tot*	*NoR&D*	*Tot*
	(1)	(2)	(3)	(4)
$1(Litigation) \times Post$	-0.41	-0.36	0.01	-0.04
	(0.31)	(0.30)	(0.05)	(0.05)
Controls	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y
Observation	5,378	5,285	6,142	6,142
Pseudo R^2 / Adjusted R^2	0.86	0.86	0.37	0.47

Table IA11. Firm Hiring Demand

This table reports estimates of the effects of patent litigation on firm hiring demand. The unit of observation is firm-year. The dependent variable $\#\ of\ R\&D\ Post$ is the total number of job postings for R&D positions in Column (1), and $\#\ of\ Non-R\&D\ Post$ is the total number of job postings for non-R&D positions in Column (2). 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise in Panel A. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. The sample period is 2008–2023. The control variables are the same as those in the baseline model in Section 3.3. We estimate the staggered difference-in-differences specification in Equation 1 and use Poisson regressions. All specifications include industry × year, state × year and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

	$\#\ of\ R\&D\ Post$	$\#\ of\ Non_R\&D\ Post$
	(1)	(2)
1(*Litigation*) × *Post*	0.00	0.02
	(0.09)	(0.08)
Controls	Y	Y
Industry-year FE	Y	Y
State-year FE	Y	Y
Firm FE	Y	Y
Observation	6,000	6,004
Pseudo R^2	0.94	0.94

Table IA12. Changes in CEO Satisfaction and Inventor Mobility

This table reports estimates examining whether declines in employee sentiment help explain the observed changes in firms' talent retention following patent litigation. The dependent variable $LossCount1$ is the reduction in the total number of inventors relative to the previous year. $1(Litigation)$ is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. $1(Litigation) \times Post$ equals one for treated firms in years after the firm becomes involved in patent litigation. $\Delta Sati = \frac{Sati_{pre} - Sati_{post}}{Sati_{pre}}$ measures the decline in employee satisfaction following litigation, with larger values indicating greater declines. The specification interacts $\Delta Sati$ with $1(Litigation) \times Post$. The sample period is 2008–2023. The control variables are the same as those in the baseline model in Section 3.3. We estimate the staggered difference-in-differences specification in Equation 1 and estimate Poisson regressions. We include industry × year, state × year and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

	$LossCount1$
	(1)
$1(Litigation) \times Post \times \Delta Sati$	0.40*
	(0.24)
$1(Litigation) \times Post$	0.76***
	(0.26)
Controls	Y
Industry-year FE	Y
State-year FE	Y
Firm FE	Y
Observation	6,477
Pseudo R^2	0.71

Table IA13. Litigation Propensity of Destination Firms

This table reports estimates of the litigation propensity of new employers that departing inventors join. Each observation corresponds to an inventor-year in which an inventor moves from a former employer to a new firm. 1(*Litigation from Former Employer*) is an indicator equal to one for inventors whose former employer initiated patent litigation in the year prior to the job change, and zero otherwise. In Panel A, the dependent variables are two indicators capturing the litigation activity of the new employer around the inventor's job transition. $PreYES$ equals one if the new employer initiates at least one patent litigation within the three years before the inventor's job transition in Column (1), and $PostYES$ equals one if the new employer initiates at least one patent litigation within the three years after the inventor's job transition in Column (2). Panel B further decomposes the litigation propensity of destination firms into four mutually exclusive categories based on combinations of $PreYES$ and $PostYES$. Specifically, $PreNO + PostYES$ indicates that the new employer does not initiate litigation within the three years before the inventor's arrival but initiates litigation within the three years afterward. The remaining categories—$PreNO + PostNO$, $PreYES + PostYES$, and $PreYES + PostNO$—are defined analogously. The sample period is 2008–2023. All specifications include inventor and year fixed effects. Standard errors are double clustered at the former employer and new employer level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Litigation Propensity of the New Employer Pre- and Post-Job Change

	$PreYES$	$PostYES$
	(1)	(2)
1(*Litigation from Former Employer*)	0.18	-0.24**
	(0.18)	(0.11)
Inventor FE	Y	Y
Year FE	Y	Y
Observation	696	459
Adjusted R^2	-0.04	0.23

Panel B. Litigation Propensity of the New Employer: Break-Downs

	$PreNO + PostYES$	$PreNO + PostNO$	$PreYES + PostYES$	$PreYES + PostNO$
	(1)	(2)	(3)	(4)
1(*Litigation from Former Employer*)	-0.07	-0.07	-0.17**	0.31**
	(0.08)	(0.20)	(0.09)	(0.13)
Inventor FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Observation	459	459	459	459
Adjusted R^2	0.03	0.07	-0.01	0.09

Table IA14. Robustness Using Other Difference-in-Differences Methods

This table reports estimates of the effects of patent litigation on employee satisfaction using alternative difference-in-differences estimators. The unit of observation is firm-year. The dependent variables measure employee satisfaction with CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, and business outlook. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs during the sample period and are not simultaneously defendants in the same year—and zero otherwise. 1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Control variables are defined in Section 2.4. The sample period is 2008–2023. Panel A reports estimates from the stacked difference-in-differences specification, and Panel B reports estimates from the imputation-based difference-in-differences specification. All specifications include industry × year and state × year fixed effects, and Panel A additionally includes firm and cohort × year fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Stacked Difference-in-Differences

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
1(*Litigation*) × *Post*	-0.27**	-0.25**	-0.16**	-0.09	-0.22**	-0.18
	(0.12)	(0.11)	(0.07)	(0.12)	(0.09)	(0.15)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y
Cohort-year FE	Y	Y	Y	Y	Y	Y
Observations	78,354	83,816	83,858	74,609	83,833	73,381
Adjusted R^2	0.49	0.50	0.51	0.50	0.48	0.48

Panel B. Imputation-based Difference-in-Differences

Dimension	CEO	Senior	Wage	Culture	Career	Outlook
	(1)	(2)	(3)	(4)	(5)	(6)
1(*Litigation*) × *Post*	-0.14***	-0.14***	-0.10**	-0.15***	-0.15***	-0.12**
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)
Controls	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y
Observations	7,032	7,510	7,516	6,661	7,514	6,558

Table IA15. The Effect of Litigation on the Number of Reviews

This table report estimates of the effect of patent litigations on the number of reviews. The unit of observation is firm-year. The dependent variables measure the total number of reviews related to CEO leadership, senior management, compensation and benefits, culture and values, career opportunities, business outlook, and work-life balance. 1(*Litigation*) is an indicator equal to one for firms in the treatment group—those that initiate patent litigation as plaintiffs (defendants) during the sample period and are not simultaneously defendants (plaintiffs) in the same year—and zero otherwise in Panel A (B).1(*Litigation*) × *Post* equals one for treated firms in years after the firm becomes involved in patent litigation. Control variables are defined in Section 2.4. The sample period is 2008–2023. We estimate the staggered difference-in-differences model in Equation 1 using a Poisson specification. All specifications include industry × year, state × year, and firm fixed effects. Standard errors are clustered at the firm level. Statistical significance is denoted by *, **, and ***, indicating significance at the 10%, 5%, and 1% levels, respectively.

Panel A. Plaintiff-Only Effects

Dimension	CEO	Senior	Wage	Culture	Career	Outlook	WLB
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1(*Litigation*) × *Post*	0.03	0.03	0.02	0.04	0.02	0.02	0.02
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Controls	Y	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y
Observations	7,188	7,305	7,305	6,554	7,305	6,553	7,305
Pseudo R^2	0.81	0.83	0.83	0.84	0.83	0.82	0.83

Panel B. Defendant-Only Effects

Dimension	CEO	Senior	Wage	Culture	Career	Outlook	WLB
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1(*Litigation*) × *Post*	0.02	-0.02	-0.02	-0.05	-0.02	-0.04	-0.02
	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)	(0.08)
Controls	Y	Y	Y	Y	Y	Y	Y
Industry-year FE	Y	Y	Y	Y	Y	Y	Y
State-year FE	Y	Y	Y	Y	Y	Y	Y
Firm FE	Y	Y	Y	Y	Y	Y	Y
Observations	7,188	7,305	7,305	6,554	7,305	6,553	7,305
Pseudo R^2	0.81	0.83	0.83	0.84	0.83	0.82	0.83

Appendix IB: Anecdotal Evidence

This section presents anecdotal evidence consistent with the mechanism proposed in our analysis. Our empirical results show that when firms initiate patent litigation, employee satisfaction with CEO leadership and senior management declines. One possible explanation is that employees perceive value misalignment when firm diverts resources from innovation to legal confrontation, especially when litigation is a rent-seeking strategy and when employees themselves are engaged in R&D-related work.

Engineer Criticism of Yahoo's Patent Litigation Strategy[10]

A well-known example arises from Yahoo's patent lawsuit against Facebook in 2012. The lawsuit alleged that Facebook had infringed several Yahoo patents and was widely interpreted as an attempt to monetize Yahoo's patent portfolio rather than to protect ongoing innovation. The litigation triggered criticism from employees and members of the technology community. Andy Baio, an engineer at Yahoo, publicly criticized the lawsuit, describing it as "a deplorable move" and "nothing less than extortion". He further argued that such strategy from firm's top management represented "an attack on invention". Such reactions suggest that employees may interpret aggressive patent litigation as a signal that management prioritizes legal confrontation over technological advancement, which may weaken employees' confidence in the firm's leadership and strategic direction.

Twitter's "Innovator's Patent Agreement"[11]

Related concerns have led some technology firms to adopt policies designed to maintain employee trust in how intellectual property is used. One prominent example is Twitter's introduction of the "Innovator's Patent Agreement" (IPA) in 2012. The IPA states that patents generated from employees' inventions can only be used for defensive purposes and cannot be used in offensive litigation without the inventor's permission. Twitter introduced this policy in response to concerns within the technology community that firms might exploit employee-generated patents primarily for litigation. By limiting the offensive use of patents, the agreement aims to reassure employees that their innovations will not be used as legal weapons against other firms, thereby reinforcing employees' commitment to innovation and their sense of personal contribution within the firm.

Taken together, these cases provide qualitative evidence consistent with the empirical findings in the paper that employee satisfaction with leadership declines following patent litigation initiated by the firm.

[10] Source of Engineer Criticism of Yahoo's Patent Litigation Strategy
[11] Source of Twitter's "Innovator's Patent Agreement"

Appendix IC: Methodology of Textual Analysis Using Large Language Model

In this section, we describe the textual analysis methodology used to examine employee perceptions of firms' innovation strategies in Section 4.1.3. The analysis is based on four types of textual information from Glassdoor.com: *review_summary* (the title of the review), *review_advice* (the reviewer's advice to the company), *review_pros* (positive comments about the company), and *review_cons* (negative comments about the company).

Constructing the Innovation Dictionary *using Word2Vec*

This step constructs a dictionary of innovation-related terms tailored to the language used in employee reviews.

1. Create a basic innovation-related dictionary
   We first construct a basic innovation dictionary using seed words drawn from Guiso, Sapienza, and Zingales (2015) and Li et al. (2021). These seed terms capture commonly used expressions related to corporate innovation.

2. Streamline the dictionary
   We compute the frequency of each seed term in the review corpus and remove words that do not appear in the data. The corpus consists of 2,618,762 reviews combining *review_summary*, *review_advice*, *review_pros*, and *review_cons*. This step ensures that the dictionary focuses on terms that are actually used in employee reviews.

3. Expand the dictionary using the Word2Vec model
   Following Li et al. (2021), we expand the streamlined dictionary using a Word2Vec model trained on the review corpus. The text is processed through the following steps:

   (a) sentence segmentation and tokenization;

   (b) lemmatization, which converts words to their base forms in lowercase;

   (c) dependency parsing using the Stanford CoreNLP package to capture grammatical relationships and identify multi-word expressions (MWE) and compound terms;

   (d) removal of punctuation, stop words, and single-letter words using a generic stopword list;

   (e) phrase detection using the *phraser* module in the *gensim* library to identify corpus-specific collocations;

   (f) training the Word2Vec model on the processed corpus;

   (g) bootstrapping by selecting the top 50 most similar terms for each word in the streamlined dictionary;

   (h) manually reviewing the candidate terms to retain those that are relevant to innovation-related concepts.

Sentiment Classification Using a BERT Model

After constructing the *Innovation Dictionary*, we identify review texts that contain at least one dictionary term. These texts are then analyzed using a BERT-based language model to obtain sentiment classifications and corresponding sentiment scores. The model is trained using the *review_summary* and *review_advice* fields. The *review_pros* and *review_cons* fields are excluded from the training process because they already encode sentiment by definitions, with the former capturing positive aspects and the latter negative aspects of the firm.