# Do overconfident CEOs stay out of trouble? Evidence from employee litigations

Blake Rayfield
*Department of Accounting, Finance, Insurance and Risk Management, Indiana State University, Terre Haute, Indiana, USA, and*
Omer Unsal
*Girard School of Business, Merrimack College, North Andover, Massachusetts, USA*

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## Abstract

**Purpose** – The authors study the relationship between CEO overconfidence and litigation risk by examining employee-level lawsuit data. The purpose of this paper is to better understand the executive characteristics that potentially affect the likelihood of employee litigations.

**Design/methodology/approach** – The authors employ a unique data set of employee lawsuits from the National Labor Relations Board – "Disposition of Unfair Labor Practice Charges" – which includes complaints, litigations and decisions. The data spans the years 2000–2014. The authors employ the option-based CEO overconfidence metric of Malmendier *et al.* (2011) as the primary explanatory variable.

**Findings** – The authors find that overconfident CEOs are less likely to be subjected to labor-related litigations. The authors document that firms with overconfident CEOs have fewer lawsuits opened by both labor unions and individuals. The authors then investigate the effect of employee litigations on firm performance to understand why overconfident CEOs are less prominent among lawsuits. The authors show that litigations lower corporate investment and value of capital expenditures for responsible firms, which may limit overconfident CEOs' ability to invest. Therefore, the results may reveal the fact that overconfident CEOs may prefer to align with the interest of their employees to avoid reduced investment opportunities.

**Originality/value** – The paper makes three main contributions. First, it provides the first large-sample evidence on CEO overconfidence and labor relations. The authors employ data on firm-level labor litigation that contains both the case reason and case outcome. Second, this paper adds to the growing literature of CEO overconfidence and governance practices in the workplace. Finally, the study highlights the importance of employee treatment and explores the impact of labor lawsuits on firm value.

**Keywords** CEO overconfidence, Employee treatment, Labour unions, Litigation risk

**Paper type** Research paper

## 1. Introduction

Labor litigation often has significant consequences for both firms and CEOs involved. Employees may bring suit against their employers for several reasons. Many lawsuits are filed due to discrimination, sexual harassment, union-related disputes, workplace injuries, dangerous assignments, benefits, safety violations, payment disputes and/or layoffs. The 2013 Equal Employment Opportunity Commission report found that racial discrimination, sexual harassment and discrimination (pregnancy and disability) are the most common cases (EEOC Charge Receipts, 2013)[1]. The downside of litigation is well documented (Bhagat and Romano, 2002; Viscusi and Hersch, 1990). Litigation may even cause CEO turnovers (Humphery-Jenner, 2012). As robust as the documentation of the downside effect of litigation is, researchers have not considered how different CEO characteristics

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may contribute to the ability of a firm or CEO to avoid employee-level litigations. There may be observable CEO characteristics that foreshadow a firm becoming the target of a labor-related allegation. We examine one specific executive characteristic, overconfidence, to determine if a CEO's overconfidence contributes to the frequency of lawsuits that may potentially affect a firm's performance.

Our goal is to understand what characteristics affect the likelihood of employee litigations. We focus on overconfident managers, which we define as managers who have an optimistic view about firm prospects. We examine if overconfident managers are more or less likely to violate labor standards in the workplace. We develop and test the relation between overconfident managers and the likelihood of labor litigations. We also investigate whether labor lawsuits prompt changes in a firm's performance by decreasing the level of investment, capital expenditures and overall shareholder wealth.

Prior research has documented the relationship between managerial overconfidence and firms' policies, such as corporate investment, mergers and acquisitions, dividend policies, management forecasting, accounting quality and capital structure (Malmendier and Tate, 2005, 2008; Deshmukh *et al.*, 2013; Malmendier *et al.*, 2011; Lin *et al.*, 2005; Hirshleifer *et al.*, 2012; Bamber *et al.*, 2010; Dyreng *et al.*, 2010; Hribar and Yang, 2011; Schrand and Zechman, 2012; Ahmed and Duellman, 2013). Motivated by the previous literature, we analyze in what circumstances overconfident managers and non-CEO executives expose their companies to employee litigations.

We employ a unique data set of employee lawsuits from the National Labor Relations Board (NLRB) – "Disposition of Unfair Labor Practice Charges" – which includes complaints, litigations and decisions[2]. Our data spans the years 2000–2014. To measure CEO overconfidence, we calculate an options-based measure of overconfidence as proposed by Malmendier *et al.* (2011). The measure considers managers as overconfident if they delay exercising 67 percent "deep in the money" options. The option-based measure of overconfidence explains the CEO's wealth which is related to the firm and undiversified. Unlike rational CEOs, an overconfident CEO will hold options, especially deep in the money options, for an extended period.

First, we show that overconfident CEOs and executives are less likely to expose their firm to labor-related lawsuits. Our regression analysis utilizes industry and year-fixed effect and employs firm-fixed effect for robustness check to examine the variation between industry, firm and years. Next, we investigate the impact of labor litigation on firm performance. Our findings indicate that lawsuits lower subsequent firm performance regarding corporate investment and the level of capital expenditure. Overconfident CEOs are associated with overinvestment (Malmendier and Tate, 2005, 2008) and more optimistic views about the firm's investment prospects (DuCharme *et al.*, 2004). Our results contribute to the understanding of why firms with overconfident managers refrain from exercising poor labor practices in the workplace. We believe one possible motivating factor is that such activities would ultimately lower their ability to invest aggressively.

Our results also highlight the importance of employee treatment in the workplace. We document that employee litigation significantly lowers the firm performance in our sample. Arena and Julio (2015) find that firms with a more significant number of lawsuits hold more cash for greater settlement amounts. Therefore, to improve the robustness of our results we control for the cash sensitivity of lawsuits in our regression analysis. Consistent with expectations, we find that cash sensitivity and lawsuits have an adverse impact on corporate investment and growth opportunities.

Our paper makes three main contributions. First, we provide the first large-sample evidence on CEO overconfidence and labor relations. We employ data on firm-level labor litigation that contains both the case reason and case outcome. Second, this paper adds to the growing literature of CEO overconfidence and governance practices in the workplace.

Finally, our study highlights the importance of employee treatment and explores the impact of labor lawsuits on firm value.

To our knowledge, an examination of the influence of CEO overconfidence on labor practices does not exist. We address this missing piece of literature by testing the relationship between executive overconfidence and labor-related lawsuits. Our research is similar to Banerjee *et al.* (2018), who analyze CEO overconfidence and shareholder-based litigations (securities class actions (SCAs)); however, we further contribute by analyzing executive confidence and labor-related allegations. To avoid the spurious relation between managerial overconfidence and labor disputes, we run a set of robustness checks and conclude that overconfident executives are less likely to be subjected to labor-related lawsuits.

This paper proceeds as follows. We provide a summary of existing literature on CEO overconfidence in Section 2 and develop our testable hypothesis. Section 3 describes the data used in this study, the methods used to investigate our hypothesis and the different variables used in this study. In Section 4, we discuss our findings, and we conclude our work in Section 5.

## 2. Theoretical framework and hypotheses development

The process of human decision making differs in both economic and psychological literature. In the field of economics, humans are considered rational and ultimately optimal decision makers. In contrast, studies in psychology find that humans are not always rational and may exhibit cognitive biases. Overconfidence is one cognitive bias identified by the field of behavioral economics. In this study, the definition of overconfidence is the overestimation of future uncertain outcomes. Svenson (1981) defines overconfidence as a "better-than-average effect" where humans think of themselves as above the average. Therefore, overconfident executives are those who overestimate the outcomes of a firm's strategy, which causes them to impose different corporate policies compared to other managers.

Recent studies reveal an assortment of findings revealing both potential positive and negative effects related to CEO overconfidence. We first discuss the potentially adverse effects that overconfident CEOs may cause.

When a CEO is overconfident, it may have an adverse effect, not only on shareholders, but also other stakeholders, such as bondholders and employees. Gervais *et al.* (2011) and Goel and Thakor (2008) find that a high level of overconfidence may lead to poor investment decisions that reduce firm performance. Additionally, a common tendency of an overconfident CEO is to "over-invest" (Malmendier and Tate, 2005, 2008). Overinvestment by a CEO (e.g. extraneous mergers and acquisitions) can be value-destroying (Kolasinski and Li, 2013; Malmendier and Tate, 2008).

The value-destroying behavior of an overconfident CEO is not limited to investment decisions. For example, projects managed by overconfident managers can also be potentially value-destroying. Ahmed and Duellman (2013), Bouwman (2014), and Schrand and Zechman (2012) find overconfident managers tend to adopt a less conservative accounting practice and employ earnings smoothing or financial misstatements. Overconfident managers have also been found to make more frequent restatements of previously reported financial statements (Presley and Abbott, 2013). Overconfident managers may also misrepresent their investment prospects (Laux and Stocken, 2012) or may have misperceptions about the risk and return associated with those investments (Ben-David *et al.*, 2007), which eventually increases shareholder-based litigation risk (McTier and Wald, 2011; DuCharme *et al.*, 2004). Overconfident CEOs may prefer lower dividend payouts (Deshmukh *et al.*, 2013); have higher stock-price crash risk

(Kim *et al.*, 2016); be more likely to receive financial bailout funds (Troubled Asset Relief Program); and face a higher probability of forced turnover (Campbell *et al.*, 2011).

There exists a wealth of documentation of the adverse effects associated with CEO overconfidence. However, there is also a robust line of research proposing the benefits of overconfident CEOs. These studies document how overconfident CEOs may be successful and lead to better firm performance.

Overconfident CEOs can positively contribute to a firm by making significant investments in innovation and realizing successful innovation outcomes by utilizing research and development expenditures (Galasso and Simcoe, 2011; Hirshleifer *et al.*, 2012). Overconfident CEOs may signal corporate profitability (Johnson and Fowler, 2011), perform better during the financial crisis (Suntheim and Sironi, 2012) and set more ambitious targets which improve corporate value (Palmon and Venezia, 2013; Banerjee *et al.*, 2018). Hribar and Yang (2011) find executive overconfidence is positively related to the precision of management forecasts. Furthermore, research indicates overconfident CEOs, while less risk-averse, may not be blind to necessary firm risk adjustments. Following a post-SOX period, overconfident CEOs reduce risk exposure, which yields to improved firm performance in the long run (Banerjee *et al.*, 2013).

The results of Banerjee *et al.* (2013) seems to indicate that overconfident CEOs are not malicious in the increase in risk, but rather they are "risk-aware." Our results reveal that overconfident CEOs are risk-averse in a different manner than their non-overconfident peers. We expect that overconfident CEOs may choose to implement policies that align with the interest of employees to avoid labor lawsuits, thus avoiding lowering shareholder wealth unnecessarily and preventing frictions in their future (vigorous) investment activities.

Previous findings highlight the importance of the unique governance characteristics of overconfident executives. Motivated by the importance of these characteristics, we debate whether overconfident managers align with the interests of employees, which ultimately influences the firm's performance in the long run. We believe that employee-level litigations are important because employee-related lawsuits are the fastest growing types of legal cases in the USA. Accordingly, we ask if firms with overconfident executives are more or less likely to be the subject of labor lawsuits which eventually affect their ability to maximize the potential of firm-level investment decisions.

We address our research question by examining the potential consequences of lawsuits. Literature findings conclude that lawsuits (both employee lawsuits and shareholder-based lawsuits) have significant adverse effects on firm performance (Ellert, 1976; Wier, 1983; Koku *et al.*, 2001; Griffin *et al.*, 2004; Bhagat and Romano, 2002; Viscusi and Hersch, 1990; Bizjak and Coles, 1995; Gande and Lewis, 2009; Hickox *et al.*, 2016) by causing turnovers of executive officers and directors (Humphery-Jenner, 2012; Cheng *et al.*, 2010; Niehaus and Roth, 1999; Karpoff *et al.*, 2008a; Fich and Shivdasani, 2007; Aharony *et al.*, 2015) and increase corporate direct/indirect cost (Hutton *et al.*, 2014, Polinsky and Shavell, 2014), which lowers the firm performance in the long run.

An employee-level lawsuit is filed by an individual worker and/or by labor unions following disputes in the workplace. The NLRB database includes data on individual cases. The data include the charging party, the defendant(s), the reason for the lawsuit and the outcome of each case after the initial hearing. Employee litigation can cause costly settlements along with legal fees, which would ultimately affect the firm performance over time. We propose that overconfident executives are less likely to commit labor violations for different reasons.

First, as indicated, overconfident CEOs tend to overinvest (Malmendier and Tate, 2005, 2008); however, firms with a higher number of litigations lose significant wealth

(Bhagat and Romano, 2002). In such cases, overconfident CEOs may avoid employee mistreatment (potential lawsuits) to protect the firm's potential to invest. Since firms with more lawsuits hold significantly more cash in anticipation of future settlements and other costs, corporate decisions (e.g. capital expenditures) are affected by litigation risk (Arena and Julio, 2015). Therefore, we propose that overconfident managers may be less likely to commit costly labor violations and disputes.

Second, Banerjee *et al.* (2018) find that CEO overconfidence is positively related to shareholder class action lawsuits where the overconfident managers have such over-positive views of their skills and of future performance that they engage in reckless actions. However, Banerjee *et al.* (2018) document that such actions result in CEO turnover where the companies are less likely to hire an overconfident CEO after SCA lawsuits. In this case, we assume that overconfident CEOs may refrain from employee mistreatment which would similarly result in forced turnover (Humphery-Jenner, 2012).

Third, Banerjee *et al.* (2018) find overconfident CEOs are more likely to be disciplined following shareholder lawsuits. Hence, overconfident managers may also learn from their mistakes, which would prohibit them from risking costly labor allegations. Firms with overconfident managers that have been the subject of a SCA lawsuit may prevent labor violations to avoid further costly legal actions against the parent firm.

Fourth, CEOs may know that employee mistreatment, along with lawsuits, is a value-destroying activity. Firms that closely align with environmental, social and governance issues promote shareholder wealth (McWilliams and Siegel, 2000; Flammer, 2015; Dimson *et al.*, 2015, Servaes and Tamayo, 2013; Delmas and Montiel, 2009), therefore, overconfident CEOs may restrict malpractices in the workplace that damage both employees and firm wealth.

Fifth, overconfident CEOs may forecast potential case outcomes. Employee-level lawsuits in our data are closed in three ways. The court could dismiss the cases after the initial hearing, withdrawn by the employee/union, or settled. Settlement amounts may be substantially large, and cases that are pursued until the final decision may result in a severe penalty. Therefore, the magnitude of a final decision could affect the firm's performance in the long run. In such cases, CEOs may avoid costly lawsuits by taking actions to prevent employee mistreatment. Hribar and Yang (2016) look at the effect of overconfidence and management furcating and their findings support a reputational impact. Additionally, Karpoff and Lott (1993) point out that a reputational penalty may cause overconfident CEOs to avoid litigation.

Based on the preceding literature, we propose the following hypothesis:

*H1.* All other things equal, CEO overconfidence lowers the likelihood of employee-level litigation.

Similarly, an overconfident management team will also avoid labor litigation:

*H2.* All other things equal, firms with overconfident senior, junior, non-CEO and executives are less likely to be subjected to employee-level litigation.

Additionally, we highlight the importance of our research question by examining the potential consequences of lawsuits. Literature findings conclude that lawsuits (both employee lawsuits and shareholder-based lawsuits) have significant adverse effects on firm performance (Ellert, 1976; Wier, 1983; Koku *et al.*, 2001; Griffin *et al.*, 2004; Bhagat and Romano, 2002; Viscusi and Hersch, 1990; Bizjak and Coles, 1995; Gande and Lewis, 2009; Hickox *et al.*, 2016) by causing turnovers of executive officers and directors (Humphery-Jenner, 2012; Cheng *et al.*, 2010; Niehaus and Roth, 1999; Karpoff *et al.*, 2008a, Fich and Shivdasani, 2007; Aharony *et al.*, 2015) and increase corporate direct/indirect cost (Hutton *et al.*, 2014; Polinsky and Shavell, 2014) which

lowers the firm performance in the long run. Therefore, we propose labor litigations similarly affect firm performance:

*H3.* All other things equal, employee-level lawsuits affect the firm performance.

Finally, we examine the unique effect of overconfident CEOs on employee labor litigation. Following the same arguments, we propose the following:

*H4.* All other things equal, CEO overconfidence lowers the likelihood of litigation.

Our work focuses on the effect of employee-level litigations and seeks to provide a better understanding of whether overconfident managers may influence firm-level employee relations to prevent potential losses in the firm's value. While CEO overconfidence is related to high risk-taking, our work suggests that overconfident managers may be more aware. We propose CEOs are "risk aware" and avoid labor disputes which could potentially impact both firm-level and managerial-level decision-making processes.

## 3. Data and research methodology

### *3.1 Data*

*3.1.1 Firm data and CEO characteristics.* We use the COMPUSTAT database to identify the publicly traded firms in our study. We calculate capital expenditures, Tobin's *Q* and other firm-specific variables from the COMPUSTAT database. We then use the S&P database and merge it with COMPUSTAT to obtain CEO characteristics and calculate executive overconfidence. Our final sample includes 2,636 unique firms and 4,582 distinct CEOs between 2000 and 2014.

*3.1.2 Litigation data.* The NLRB – an independent federal agency – protects the rights of private sector employees, with or without a union, to improve their wages, benefits, rights and working conditions. For lawsuits, the NLRB "Disposition of Unfair Labor Practice Charges" includes complaints, charging parties, litigations, case reasons and final decisions (NLRB data on Data.gov). The first complaint issued in the data set was recorded back in 1976. We match the case name with publicly traded firms in the COMPUSTAT database by name and year between 2000 and 2014, according to data availability.

### *3.2 Research methodology*

In our study, we investigate the effect of CEO overconfidence on firm value by examining employee lawsuits filed by both individual workers and unions. Our goal is to understand whether overconfident managers are more or less likely to be subjected to labor violations which may affect their ability to secure their investment prospects. Overconfident managers are associated with overinvestment (Malmendier and Tate, 2005); therefore, we assume that overconfident executives would avert any labor malpractices to protect both firm reputation and firm-level investment alternatives.

To estimate our parameters in the empirical model, we employ a measure of CEO overconfidence as the primary explanatory variable. We compute an option-based CEO overconfidence metric following Malmendier *et al.* (2011). The option-based overconfidence measure assumes that the CEO's wealth is undiversified. An overconfident executive will hold deep in the money options for extended periods. We first calculate CEO "confidence" as the average value per option, divided by average strike price[3]. The average strike price is the firm's stock price at the end of the year less the value per option. We then construct a binary variable Overconfident which is equal to 1.0 if the "confidence" variable is at least 0.67 on at least two occasions, 0 otherwise.

Our primary focus is to measure if executive overconfidence is related to employee-level labor lawsuits. We calculate lawsuits in three ways: lawsuit is a binary variable and equal

to "1" if the firm is subjected to employee-initiated allegations and 0 otherwise; Ln(Lawsuit) is the log transformation of the total number of lawsuits; and Ln(Cumulative Lawsuit) is the cumulative total number of lawsuit for the CEOs during his/her governance. To test the first hypothesis, we propose the following model:

*H1*. All other things equal, CEO overconfidence lowers the likelihood of employee-level litigation ($\beta_1 < 0$):

$$\text{Litigation} = \beta_0 + \beta_1 \text{Overconfident} + \sum \beta_s \text{Controls}. \quad (1)$$

Our dependent variable is Litigation which is equal to "1" if the firm is facing employee-related allegations and 0 otherwise. Overconfident is the primary explanatory variable, equal to 1 if the CEO holds deep in the money options. We compute logistic regression and control for firm characteristics such as size, book leverage, ROA, free cash flow, tangibility, firm age and Herfindahl index[4]. We also create binary variables for each year and industry[5].

Our second hypothesis examines the overconfidence of the managerial team as a whole:

*H2*. All other things equal, firms with overconfident senior, junior, non-CEO and executives are less likely to be subjected to employee-level litigation ($\beta_1 < 0$):

$$\text{Litigation} = \beta_0 + \beta_1 \text{FirmConfidence} + \sum \beta_s \text{Controls}. \quad (2)$$

We use the same dependent variable, Litigation, equal to "1" if the firm is facing employee-related allegations, and 0 otherwise. Our primary explanatory variable, FirmConfidence, is measured by examining the board characteristics of the firms in our sample. Our goal is to document, not only the CEO confidence, but also the "board confidence" that may influence employee-level disputes. We use the same set of control variables and report our finding to understand the overconfidence of the firm governance mechanism:

*H3*. All other things equal, employee-level lawsuits affect the firm performance:

$$\text{Firm Performance} = \beta_0 + \beta_1 \text{Lawsuit} + \sum \beta_s \text{ Controls}. \quad (3)$$

Our primary goal is to understand why overconfident CEOs are less likely to be subjected to employee-level lawsuits. We follow Bai *et al.* (2018) and measure how employment protection, investment and growth are related to each other. We regress firm performance variables on the lawsuit variable and report the negative relationship between litigation and firm value. Our analysis includes the interaction term of CEO overconfidence with lawsuit to understand the characteristics of firms with overconfident executives.

Additionally, we compute the change in cash holding ($\Delta$Cash) to analyze the relation between cash sensitivity and lawsuit firm value. This analysis is motivated by the findings of Arena and Julio (2015). The authors find firms may hold more cash in anticipation of future settlements:

*H4*. All other things equal, CEO overconfidence lowers the likelihood of litigation. ($\beta_1 < 0$):

$$\text{Litigation} = \beta_0 + \beta_1 \text{Overconfident} + \sum \beta_s \text{Controls}. \quad (4)$$

One concern of our analysis is the relationship between managerial overconfidence and employment litigation. A spurious relation may cause the relationship. To avoid this relationship from introducing bias in our results, we perform several of the following robustness tests.

First, we test the relationship between executive overconfidence and lawsuits by considering SFAS 123 R[6]. This change in accounting rules may cause executives to change their option holdings habit. Therefore, we employ SFAS 123 R as an exogenous shock to reconfirm our initial hypothesis.

We further re-organize our sample and test if overconfident CEOs are less likely to be subjected to employee-level litigations. We divided our firms into those who were: never sued or were sued only one time; were never sued; and were only sued one time. State-level laws may influence employee-level litigations. Therefore, we perform state-fixed effect controlling for the location of each firm's headquarters. This technique allows the model to control for any variation that may be related to heterogeneous state-level laws. To control for any unobserved heterogeneity between overconfident and non-overconfident CEOs, we conduct propensity score matching. We compare overconfident CEOs (treatment group) to non-overconfident CEOs (control group) and report the differences between the total number of lawsuits and the cumulative number of lawsuits. Our robustness tests confirm our earlier findings: CEO overconfidence lowers the likelihood of a firm being the subject of employee litigation.

## 4. Results

Table I shows the descriptive statistics for our sample at CEO and firm levels. Panel A shows some of the samples key statistics. Over the 14 years span of our sample period, 16 percent of the firms in our sample faced at least one litigation. Labor unions opened more cases compared to individual employees. Additionally, the most common case outcome was a withdrawn case. Panel B describes the CEO characteristics for the firms in our sample and Panel C displays the summary statistics for the firm-level control variables used in the study.

Table II is a univariate analysis. We compare the mean score between two groups of firms: overconfident CEOs vs non-overconfident CEOs in our sample. In Panel A, we document that firms with overconfident CEOs experience a substantially lower number of labor lawsuits compared to their non-overconfident peers. Overconfident CEOs also experience less overall litigations. Panel A from Table II shows that, overall, overconfident CEOs experience significantly fewer litigations, whether those cases are opened by labor unions or by individual employees.

A critical aspect of litigation is the outcome of any individual case. We analyze the case outcome of labor lawsuits in our sample. The results show cases brought against firms with overconfident CEOs are dismissed less frequently than other firms. Moreover, we find that cases brought against firms with overconfident CEOs are less frequently withdrawn when unions/individuals are involved. Similarly, CEOs are less likely to settle. Our results reveal that, once a case is opened against a firm with an overconfident CEO, it is less likely to result in a settlement or be withdrawn. Although not the subject of this study, this result may be due to the nature of overconfident CEOs.

Next, we conduct a multivariate analysis and test the relationship between CEO overconfidence and the likelihood of labor-related allegations. In the first two columns, we execute a logistic regression where our dependent variable is lawsuit as constructed in the previous section. In Columns (3) and (4), we employ the total number of lawsuits as dependent variables. In Columns (5) and (6), we include the cumulative total number of lawsuits as a dependent variable. Presented in Table III are the results of our analysis[7].

Table III documents the relationship between labor disputes and firms that employ overconfident CEOs. Our results show that CEO overconfidence is negatively related to firm experiencing a lawsuit in given year. The results also show that firms with overconfident managers are less likely to be involved in employee litigations. Moreover, we report that overconfident executives experience a lower number of lawsuits and litigations over time (cumulative). The results of Table III provide evidence that managerial overconfidence

| Variables | Mean | Median | SD | Min. | Max. |
|---|---|---|---|---|---|
| *Panel A: litigation characteristic at firm level* | | | | | |
| Total case | 1.06 | 0.00 | 6.17 | 0.00 | 235.00 |
| %Lawsuit | 0.16 | 0.00 | 0.36 | 0.00 | 1.00 |
| Total case (case opened by individual) | 0.33 | 0.00 | 2.63 | 0.00 | 153.00 |
| Total case (case opened by union) | 0.66 | 0.00 | 4.02 | 0.00 | 157.00 |
| Total dismissal | 0.28 | 0.00 | 1.88 | 0.00 | 77.00 |
| Total settlement | 0.06 | 0.00 | 0.56 | 0.00 | 29.00 |
| Total withdrawal | 0.67 | 0.00 | 4.09 | 0.00 | 154.00 |
| Coercive actions | 0.03 | 0.00 | 0.62 | 0.00 | 66.00 |
| Coercive statement | 0.11 | 0.00 | 0.87 | 0.00 | 46.00 |
| Bad faith bargaining | 0.05 | 0.00 | 0.50 | 0.00 | 42.00 |
| Changes in working condition | 0.15 | 0.00 | 1.35 | 0.00 | 118.00 |
| Discharge | 0.17 | 0.00 | 1.31 | 0.00 | 64.00 |
| Discipline | 0.09 | 0.00 | 0.91 | 0.00 | 65.00 |
| Refusal to furnish information | 0.16 | 0.00 | 1.49 | 0.00 | 110.00 |
| Changes in working contract | 0.10 | 0.00 | 0.78 | 0.00 | 53.00 |
| Dangerous assignment | 0.01 | 0.00 | 0.13 | 0.00 | 5.00 |
| Concerted activities | 0.07 | 0.00 | 0.59 | 0.00 | 35.00 |
| Fair representation | 0.03 | 0.00 | 0.31 | 0.00 | 11.00 |
| Layoff | 0.07 | 0.00 | 0.59 | 0.00 | 35.00 |
| Union issues | 0.02 | 0.00 | 0.22 | 0.00 | 9.00 |
| Harassment | 0.01 | 0.00 | 0.15 | 0.00 | 7.00 |
| Other allegations | 0.20 | 0.00 | 1.54 | 0.00 | 62.00 |
| *Panel B: CEO characteristics* | | | | | |
| Overconfident (Holder67) | 0.58 | 0.49 | 0.49 | 0.00 | 1.00 |
| Overconfident (BHAR) | 0.47 | 0.41 | 0.50 | 0.00 | 1.00 |
| Overconfident (CAR) | 0.46 | 0.47 | 0.50 | 0.00 | 1.00 |
| Team confident (Team67) | 0.51 | 0.50 | 0.36 | 0.00 | 1.00 |
| Senior confident (SR Holder67) | 0.18 | 0.16 | 0.20 | 0.00 | 1.00 |
| Junior confident (JR Holder67) | 0.72 | 0.80 | 0.31 | 0.00 | 1.00 |
| Other confident (OTH Holder67) | 0.45 | 0.50 | 0.38 | 0.00 | 1.00 |
| Total compensation | 5,528.84 | 3,254.42 | 9,426.24 | 0.00 | 600,347.40 |
| Total compensation (Options Inc.) | 6,252.66 | 2,781.29 | 20,222.70 | 0.00 | 2,278,668.00 |
| Salary | 747.47 | 700 | 389.03 | 0.00 | 8,100.00 |
| Age | 55.37 | 55.00 | 7.12 | 28.00 | 90.00 |
| Option intensity | 0.27 | 0.21 | 0.27 | 0.00 | 1.00 |
| *Panel C: control variables* | | | | | |
| Firm size | 7,637.69 | 1,609.15 | 22,692.44 | 0.034 | 504,239.60 |
| Cash | 1,800.39 | 153.52 | 14,904.82 | −0.156 | 603,938.00 |
| Capital expenditure | 0.05 | 0.03 | 0.05 | −0.033 | 0.82 |
| Total asset | 16,389.22 | 1,933.88 | 97,323.87 | 0.088 | 3,221,972.00 |
| Tobin's *Q* | 1.87 | 1.41 | 1.89 | −0.986 | 147.35 |
| Book leverage | 0.24 | 0.19 | 1.00 | 0.000 | 120.94 |
| ROA | 0.02 | 0.04 | 0.29 | −14.761 | 11.00 |
| Free cash flow | 0.03 | 0.04 | 0.31 | −28.314 | 0.78 |
| Tangibility | 0.24 | 0.16 | 0.23 | 0.000 | 0.98 |
| Log(FirmAge) | 3.06 | 3.04 | 0.68 | 0.000 | 4.16 |
| Herfindahl Index | 0.21 | 0.16 | 0.18 | 0.012 | 1.00 |
| Log (Num. of employee) | 1.52 | 1.53 | 1.75 | −6.215 | 7.70 |
| Wealth-performance sensitivity | 37.93 | 6.20 | 877.49 | 0.000 | 92,768.40 |
| Industry labor mobility | −0.03 | 0.00 | 0.63 | −1.678 | 2.69 |
| %Union membership | 6.53 | 5.10 | 6.21 | 0.600 | 30.70 |

**Notes:** Table exhibits the summary statistics at firm level. Our sample consists of 1,748 unique firms from the COMPUSTAT database between 1998 and 2014. Panel A represents the lobbying characteristics at firm level; Panel B represents CEO characteristics; and Panel C exhibits control variables used in the study

**Table I.**
Summary statistics

| Variable | $n = 12{,}750$ Overconfident (1) | $n = 9{,}068$ Non-Overconfident (2) | Difference (1)−(2) | *t*-statistics |
|---|---|---|---|---|
| *Panel A: lawsuit characteristic* | | | | |
| %Lawsuit | 0.14 | 0.18 | −0.04 | [−8.04]*** |
| Total case | 0.78 | 1.44 | −0.66 | [−7.68]*** |
| Total dismissal | 0.18 | 0.40 | −0.22 | [−8.39]*** |
| Total settlement | 0.05 | 0.08 | −0.03 | [−3.90]*** |
| Total withdrawal | 0.50 | 0.89 | −0.39 | [−6.96]*** |
| Total case (opened by indiv.) | 0.22 | 0.47 | −0.25 | [−6.98]*** |
| Total case (opened by union) | 0.50 | 0.87 | −0.37 | [−6.81]*** |
| Cumulative total case | 5.13 | 9.35 | −4.22 | [−7.58]*** |
| Cumulative total dismissal | 1.36 | 2.68 | −1.32 | [−7.89]*** |
| Cumulative total settlement | 0.36 | 0.51 | −0.15 | [−4.21]*** |
| Cumulative total withdrawal | 3.27 | 5.94 | −2.67 | [−7.31]*** |
| Cumulative total case (opened by indiv.) | 1.55 | 3.06 | −1.51 | [−6.80]*** |
| Cumulative total case (opened by union) | 3.37 | 5.95 | −2.58 | [−7.33]*** |
| *Panel B: case reasons* | | | | |
| Coercive actions | 0.02 | 0.03 | −0.01 | [−1.80]** |
| Coercive statement | 0.08 | 0.14 | −0.06 | [−5.26]*** |
| Bad faith bargaining | 0.04 | 0.06 | −0.02 | [−3.01]*** |
| Changes in working condition | 0.11 | 0.19 | −0.08 | [−4.74]*** |
| Discharge | 0.12 | 0.24 | −0.12 | [−6.32]*** |
| Discipline | 0.06 | 0.11 | −0.05 | [−4.57]*** |
| Refusal to furnish information | 0.12 | 0.21 | −0.09 | [−4.42]*** |
| Changes in working contract | 0.07 | 0.12 | −0.05 | [−4.79]*** |
| Dangerous assignment | 0.01 | 0.02 | −0.01 | [−4.31]*** |
| Concerted activities | 0.05 | 0.09 | −0.04 | [−4.53]*** |
| Fair representation | 0.05 | 0.10 | −0.05 | [−4.53]*** |
| Layoff | 0.01 | 0.04 | −0.03 | [−6.30]*** |
| Union issues | 0.01 | 0.03 | −0.02 | [−4.63]*** |
| Harassment | 0.01 | 0.02 | −0.01 | [−4.59]*** |
| Other allegations | 0.14 | 0.27 | −0.13 | [−6.23]*** |
| *Panel C: CEO characteristics* | | | | |
| Total compensation | 5,894.34 | 5,016.67 | 877.67 | [6.77]*** |
| Total compensation (Options Inc.) | 7,456.63 | 4,563.25 | 2,893.38 | [10.44]*** |
| Salary | 749.48 | 744.65 | 4.83 | [0.90] |
| Age | 55.66 | 54.95 | 0.71 | [7.17]*** |
| Option intensity | 0.28 | 0.24 | 0.04 | [11.86]*** |
| *Panel D: control variables* | | | | |
| Firm size | 7,170.52 | 8,293.21 | −1,122.69 | [−3.60]*** |
| Cash | 1,089.64 | 2,798.28 | −1,708.64 | [−8.50]*** |
| Capital expenditure | 0.05 | 0.04 | 0.01 | [−9.53]*** |
| Total asset | 10,768.11 | 24,279.7 | −13,511.59 | [−10.53]*** |
| Tobin's *Q* | 2.06 | 1.58 | 0.48 | [18.54]*** |
| Book leverage | 0.22 | 0.25 | −0.03 | [1.49] |
| ROA | 0.04 | −0.01 | 0.046 | [12.10]*** |
| Free cash flow | 0.03 | 0.01 | 0.02 | [5.78]*** |
| Tangibility | 0.23 | 0.24 | −0.01 | [−3.30]*** |
| Log(FirmAge) | 2.98 | 3.16 | −0.18 | [−19.10]*** |
| Herfindahl index | 0.21 | 0.22 | −0.01 | [1.77] |
| Log(Num.of employee) | 1.52 | 1.53 | −0.01 | [−0.01] |

**Notes:** Table exhibits univariate analysis between firms with overconfident CEOs on board and firms without overconfident CEOs on board. In Panel A, we compare firms based on lawsuit characteristics. In Panel B, we compare sample firms based on case reasons. In Panel C, we report differences in CEO characteristics. In Panel D, we report differences in control variables used in the study. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table II.**
Univariate test

**Table III.**
Overconfident CEO and litigation risk: multivariate analysis

| Dependent variable | $Lawsuit_{t+1}$ | $Lawsuit_{t+2}$ | $Ln(Lawsuit)_{t+1}$ | $Ln(Lawsuit)_{t+2}$ | $Ln(Cumulative\ Lawsuit)_{t+1}$ | $Ln(Cumulative\ Lawsuit)_{t+2}$ |
|---|---|---|---|---|---|---|
| Sample | (1) | (2) | (3) | (4) | (5) | (6) |
| *Panel A* | | | | | | |
| $Overconfident_t$ | −0.308 [0.001]*** | −0.284 [0.001]*** | −0.105 [0.001]*** | −0.103 [0.001]*** | −0.204 [0.001]*** | −0.206 [0.001]*** |
| $Ln(Size)_t$ | 0.539 [0.001]*** | 0.545 [0.001]*** | 0.126 [0.001]*** | 0.128 [0.001]*** | 0.270 [0.001]*** | 0.285 [0.001]*** |
| $Book\ leverage_t$ | 0.261 [0.770] | 0.938 [0.001]*** | 0.009 [0.650] | 0.152 [0.001]*** | 0.037 [0.475] | 0.407 [0.001]*** |
| $ROA_t$ | −0.724 [0.001]*** | −0.720 [0.001]*** | −0.126 [0.001]*** | −0.115 [0.001]*** | −0.338 [0.001]*** | −0.333 [0.001]*** |
| $Free\ cash\ flow_t$ | 0.868 [0.001]*** | 0.709 [0.001]*** | −0.012 [0.832] | −0.036 [0.669] | 0.112 [0.352] | 0.082 [0.649] |
| $Tangibility_t$ | 1.403 [0.001]*** | 1.238 [0.001]*** | 0.359 [0.001]*** | 0.330 [0.001]*** | 0.703 [0.001]*** | 0.676 [0.001]*** |
| $Ln(FirmAge)_t$ | 0.403 [0.001]*** | 0.370 [0.001]*** | 0.083 [0.001]*** | 0.075 [0.001]*** | 0.309 [0.001]*** | 0.297 [0.001]*** |
| $HHI_t$ | 0.465 [0.001]*** | 0.507 [0.001]*** | 0.170 [0.001]*** | 0.175 [0.024]** | 0.435 [0.001]*** | 0.462 [0.001]*** |
| Constant | −6.492 [0.001]*** | −6.597 [0.001]*** | −0.746 [0.001]*** | −0.767 [0.001]*** | −2.200 [0.001]*** | −2.234 [0.001]*** |
| Industry and year fixed | Yes | Yes | Yes | Yes | Yes | Yes |
| Num. of clusters | 2,354 | 2,247 | 2,354 | 2,247 | 2,354 | 2,247 |
| $n$ | 19,183 | 16,929 | 19,183 | 16,929 | 19,183 | 16,929 |
| $R^2$ (%) | 22 | 22 | 22 | 22 | 22 | 22 |
| *Panel B: case outcome and charging parties* | | | | | | |
| Dependent variable | $Settle\%_{t+1}$ | $Dismiss\%_{t+1}$ | $Withdrawal\%_{t+1}$ | $Individual\%_{t+1}$ | $Union\%_{t+1}$ | |
| Sample | (1) | (2) | (3) | (4) | (5) | |
| $Overconfident_t$ | −0.006 [0.001]*** | −0.019 [0.001]*** | −0.023 [0.021]** | −0.018 [0.001]*** | −0.027 [0.033]** | |
| Controls | Yes | Yes | Yes | Yes | Yes | |
| Year fixed | Yes | Yes | Yes | Yes | Yes | |
| Industry fixed | Yes | Yes | Yes | Yes | Yes | |
| $n$ | 19,183 | 19,183 | 19,183 | 19,183 | 19,183 | |
| $R^2$ (%) | 2 | 8 | 3 | 3 | 3 | |

**Notes:** Table exhibits the regression results between CEO overconfidence and labor litigations. From Columns (1) and (2), we run logistic regression, and our dependent variable is lawsuit binary variable. In Columns (3) and (4), we run OLS regression and use log transformation of total number of employee lawsuits as dependent variable. In Columns (5) and (6), we run OLS regression, and our dependent variable is cumulative total number of lawsuits (time-series total of litigation each year). In Panel B, we utilize case outcomes and charging parties as dependent variable. In Column (1), our dependent variable is total settled outcomes divided by total number of cases. In Column (2), our dependent variable is total dismissed cases divided by total number of cases. In Column (3), our dependent variable is total withdrawal outcomes divided by total number of cases. In Column (4), our dependent variable is total number of cases opened by individual employee divided by total number of cases. In Column (5), our dependent variable is total cases opened by labor unions divided by total number of cases. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are $p$-values. *,**,***Indicates significance at theSignificant at the 10, 5 and 1 percent levels, respectively

affects corporate labor policies. While Banerjee *et al.* (2018) find that overconfidence CEOs are more likely to commit shareholder class action litigations, we find conflicting results for employee-level allegations. An alternative explanation could be overconfident executives are aware of costly litigations, that would result in a lowering of firm value (Bhagat and Romano, 2002; Viscusi and Hersch, 1990; Bizjak and Coles, 1995; Gande and Lewis, 2009) or increases the likelihood of forced turnover (Humphery-Jenner, 2012; Cheng *et al.*, 2010; Niehaus and Roth, 1999; Karpoff *et al.*, 2008a; Fich and Shivdasani, 2007; Aharony *et al.*, 2015). In Panel B of Table III, we divide each outcome by the total number of lawsuits to calculate the percentage of each outcome. In Column (1), we divide total settled cases by the total number of lawsuits to find Settle%.

Similarly, in Columns (2) and (3), we normalize the total number of dismissals and the total number of withdrawals by the total number of cases, respectively. Our results document a consistent negative relationship between managerial overconfidence and percentage of each outcome. We also calculate the probability of each charging parties in Columns (4) and (5). Our findings are consistent with early results; overconfident managers are less likely to be sued by both unions and individual employees, respectively.

We next examine the relationship between non-executive overconfidence and likelihood of employee-level lawsuits. In Panels A–D of Table IV, we regress the number of firm lawsuits on Team Confident, Senior Confident, Junior Confident and Other Confident in that order. Table AI contains detailed definitions of the variables used in this study.

Table IV shows the link between the confidence levels of different managerial rankings and the likelihood of experiencing labor litigations. Our results support a negative relationship between managerial overconfidence and a firm becoming the subject of a lawsuit. These results hold at various levels of management. While managerial confidence is less likely to prompt litigations, we find that junior level executives' confidence increases the likelihood of employee lawsuits. However, we find that high ranking managers are less likely to be involved in labor allegations, in support of *H2*. In Panel E of Table IV, we control for CEO overconfidence, senior overconfidence, junior overconfidence and other overconfidence. We find that executive (CEO) overconfidence and senior overconfidence remain negative and significant. Firms with overconfident CEOs and overconfident senior board members are less likely to face employee allegations compared to their non-overconfident rivals. These results confirm our initial findings. However, in Columns (1) and (2), junior overconfidence is insignificant. Similarly, other confidence remains insignificant in both Columns (1) and (2). Junior manager overconfidence and other manager overconfidence are insignificant. These results may indicate that that junior executives' overconfidence is not the primary driver of litigation risk.

To provide greater depth for our results, we examine the effect of lawsuits on firm performance and identify potential reasons why overconfident CEOs are less likely to experience labor litigation. In Table V, we follow Bai *et al.* (2018) and use capital expenditures as a dependent variable scaled by the beginning of year book assets. While overconfident CEOs are more likely to overinvest (Malmendier and Tate, 2005, 2008), we believe that lawsuits may lower the capital expenditures which would restrict overconfident CEOs' ability to invest. In Panel A, we measure the relationship between capital expenditure and lawsuit indicators. In Panel B, we measure the relation between lawsuits and capital expenditures by including cash sensitivity ($\Delta$Cash) assuming that firms with more lawsuits may hold excess cash in case of costly settlements (Arena and Julio, 2015). While this measure is endogenously determined, it provides additional depth to the results. We also introduce an interaction term of lawsuit multiplied by CEO confidence to analyze the impact of litigations on firm performance for overconfident executives.

Table V investigates the consequences of lawsuits on firm performance. In Panel A, we find that employee lawsuits (including the total number of lawsuits and the

| Dependent variable<br>Sample | Lawsuit$_{t+1}$<br>(1) | Lawsuit$_{t+2}$<br>(2) |
|---|---|---|
| *Panel A* | | |
| Team confident$_t$ | −0.525 [0.001]*** | −0.452 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 16,929 |
| Pseudo $R^2$ (%) | 22 | 22 |
| *Panel B* | | |
| Senior confident$_t$ | −0.584 [0.001]*** | −0.558 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 16,929 |
| Pseudo $R^2$ (%) | 22 | 22 |
| *Panel C* | | |
| Junior confident$_t$ | 0.361 [0.001]*** | 0.465 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 16,929 |
| Pseudo $R^2$ (%) | 22 | 22 |
| *Panel D* | | |
| Other confident$_t$ | −0.481 [0.001]*** | −0.410 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 16,929 |
| Pseudo $R^2$ (%) | 22 | 22 |
| *Panel E* | | |
| Overconfident$_t$ | −0.332 [0.001]*** | −0.134 [0.001]*** |
| Senior confident$_t$ | −0.556 [0.001]*** | −0.465 [0.041]** |
| Junior confident$_t$ | −0.212 [0.554] | 0.119 [0.443] |
| Other confident$_t$ | −0.309 [0.499] | −0.554 [0.366] |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 16,929 |
| Pseudo $R^2$ (%) | 21 | 21 |

**Notes:** Table exhibits the regression results between board CEO overconfidence and labor litigations. From Columns (1) and (2), we run logistic regression, and our dependent variable is lawsuit binary variable. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table IV.**
Team overconfidence and employee-level litigation

cumulative number of lawsuits) lower capital expenditures. Consistent with expectations, a greater number of lawsuits lower the firm value of a sample firm.

In Panel B, we provide interpretations for the consequences of lawsuits on managerial overconfidence. Consistent with earlier findings, we report that lawsuits reduce the firm value. Moreover, the interaction term of Lawsuit × ΔCash is negative and significant which indicates that lawsuits along with cash sensitivity lower firm performance. For example, if a firm is holding excess cash for costly settlements (Arena and Julio, 2015), employee lawsuits

| Dependent variable | $CAPEX_{t+2}$ | $CAPEX_{t+2}$ | $CAPEX_{t+2}$ |
|---|---|---|---|
| Sample | (1) | (2) | (2) |
| *Panel A* | | | |
| $Lawsuit_t$ | −0.007 [0.001]*** | | |
| $Ln(Lawsuit)_t$ | | −0.003 [0.001]*** | |
| $Ln(Cumulative\ Lawsuit)_t$ | | | −0.002 [0.001]*** |
| Controls | Yes | Yes | Yes |
| $n$ | 17,124 | 17,124 | 17,124 |
| $R^2$ (%) | 19 | 19 | 19 |
| *Panel B* | | | |
| $Lawsuit_t$ | −0.007 [0.001]*** | −0.004 [0.001]*** | |
| $\Delta Cash \times Lawsuit_t$ | −0.001 [0.025]** | | −0.002 [0.001]*** |
| $\Delta Cash_t$ | 0.001 [0.001]*** | | 0.002 [0.001]*** |
| $Overconfident_t$ | | 0.005 [0.001]*** | |
| $Overconfident \times Lawsuit_t$ | | −0.003 [0.034]** | |
| Controls | Yes | Yes | Yes |
| $n$ | 16,410 | 16,410 | 16,410 |
| $R^2$ (%) | 12 | 12 | 12 |
| Dependent variable | Tobin's $Q_{t+2}$ | Tobin's $Q_{t+2}$ | Tobin's $Q_{t+2}$ |
| Sample | (1) | (2) | (2) |
| *Panel C* | | | |
| $Lawsuit_t$ | −0.339 [0.001]*** | | |
| $Ln(Total\ Lawsuit)_t$ | | −0.194 [0.001]*** | |
| $Ln(Cumulative\ Lawsuit)_t$ | | | −0.145 [0.001]*** |
| Controls | Yes | Yes | Yes |
| $n$ | 17,339 | 17,339 | 17,339 |
| $R^2$ (%) | 4 | 4 | 4 |
| *Panel D* | | | |
| $Lawsuit_t$ | −0.345 [0.001]*** | −0.266 [0.001]*** | |
| $\Delta Cash \times Lawsuit_t$ | −0.060 [0.001]*** | | −0.117 [0.001]*** |
| $\Delta Cash_t$ | 0.055 [0.001]*** | | 0.068 [0.001]*** |
| $Overconfident_t$ | | 0.332 [0.001]*** | |
| $Overconfident \times Lawsuit_t$ | | −0.077 [0.089]* | |
| Controls | Yes | Yes | Yes |
| $n$ | 17,339 | 17,339 | 17,339 |
| $R^2$ (%) | 6 | 6 | 6 |
| Dependent variable | $ROA_{t+2}$ | $ROA_{t+2}$ | $ROA_{t+2}$ |
| Sample | (1) | (2) | (2) |
| *Panel E* | | | |
| $Lawsuit_t$ | −0.017 [0.001]*** | | −0.008 [0.131] |
| $Ln(Total\ Lawsuit)_t$ | | −0.011 [0.001]*** | |
| $Overconfident_t$ | | | 0.027 [0.001]*** |
| $Overconfident \times Lawsuit_t$ | | | −0.012 [0.016]** |
| Controls | Yes | Yes | Yes |
| Year fixed | Yes | Yes | Yes |
| Industry fixed | Yes | Yes | Yes |
| $n$ | 17,341 | 17,341 | 17,341 |
| Pseudo $R^2$ (%) | 6 | 6 | 6 |

**Notes:** Table exhibits the regression results between litigation and capital expenditure and Tobin's $Q$ and ROA. From Column (1) to (3) in Panel A and Panel B, our dependent variable is capital expenditure. From Column (1) to (3) in Panel C and Panel D, our dependent variable is Tobin's $Q$. From Column (1) to (3) in Panel E, our dependent variable is ROA. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are $p$-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table V.**
Litigation and corporate investment

may significantly damage the shareholder wealth. We introduce change in cash variable to examine the costly lawsuits. For example, Pouliakas and Theodossiou (2013) show that employees demand a compensating wage premium when they become exposed to more injury risk. The wage premiums and extra wage compensations can be seen for many developed countries (economies) where the costs for employees' lives can be substantially high (Nie and Zhao, 2015). Similar to investment operations, spending on lawsuits and other legal issues must be financed out of either internal cash flow or externally raised capital. In that case, corporations could borrow more to meet all legal fees, including government fees, employee wages and other court-related costs. Furthermore, frequently-sued firms may invest in activities (safety training, learning procedures, and policies, and other training and supervisions) that could also consume financial resources. Cohn and Wardlaw (2016) find that firms implement safety-related operations through budgetary and policy initiatives. Similarly, we also document that change in cash levels affect corporate investment when firms are facing allegations.

When we include the interaction variable of CEO overconfidence and lawsuit, we find that firms in our sample with overconfident managers facing labor lawsuits lower the capital expenditure. In this case, we discuss the potential explanations for overconfident executives being less likely to be involved in litigations. Since overconfident CEOs are more likely to take a risk and overestimate the possible outcomes of future events (Ben-David *et al.*, 2013), we document that a lawsuit lowers the investment opportunities for firms with overconfident managers. We interpret these results as meaning that overconfident CEOs may be less likely to commit labor violations once they realize the possible restrictions of their future investment decisions. For further analysis, we test the relation between lawsuits and the level of capital investment. We calculate the Tobin's *Q* for the firms in our sample and examine the firm value.

In Panel C of Table V, we find that lawsuits lower the Tobin's *Q* for the target firm in our sample. On the whole, the evidence suggests that a firm is more likely to suffer from labor-related disputes in the long run. In Panel D, we test the effect of lawsuits on firm performance by the interaction term of ΔCash. We find that changes in cash holdings for firms that are subjected to lawsuits suffer from reduced Tobin's *Q*. We then add the interaction term between lawsuits and CEO overconfidence. We show that when facing labor allegations, firms with overconfident CEOs suffer a −0.077 point reduction in Tobin's *Q*. These results remain consistent with the notion that litigations reduce firm value, and overconfident CEOs may refrain from additional disputes to protect their ability to invest. In Panel E of Table V, we regress ROA on lawsuit binary variable. We find that firms that experience employee litigation have a −0.017 point decrease in ROA compared to non-lawsuit rivals. In Column (2), we regress ROA on log transformation of the number of total lawsuits. We report a 1 percent increase in litigation decreases a firms' ROA by 1.1 percent. These results are consistent with the assumption that lawsuits lower firm performance via direct cost (attorney fees, legal fees, among others) and indirect costs (reputation loss, motivation loss, among others). In Column (3), we interact our CEO overconfidence variable with a binary variable for lawsuits. This interaction term CEO Overconfidence × Lawsuit helps us to determine how much a firms' ROA is reduced (with an overconfident CEO that experiences a lawsuit) compared to a firms' with non-overconfident CEOs that also face employee lawsuits. We document that a firm with an overconfident CEO and that is subject to labor litigation experiences a −1.2 percent reduction in ROA compared to firms managed by non-overconfident managers.

One primary concern is to avoid a spurious relation between CEO overconfidence and litigation likelihood. Therefore, we construct a set of robustness checks and confirm our early findings. In Table VI, we explore the possible reduction in option holdings based on the SFAS 123 R rule. We create a binary variable of POSTFAS equal to "1" if the observation is after FAS 123 R (i.e. the observation is in 2005 or later).

| Dependent variable<br>Sample | $Lawsuit_{t+1}$<br>(1) | $Lawsuit_{t+1}$<br>(2) |
|---|---|---|
| *Panel A* | | |
| $Overconfident_t$ | −0.400 [0.001]*** | |
| $PostFAS_t$ | −0.977 [0.001]*** | |
| $Overconfident \times PostFAS_t$ | 0.154 [0.214] | −0.236 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 19,183 |
| Pseudo $R^2$ (%) | 22 | 22 |
| | High option intensity<br>$> p75$ | Low option intensity<br>$p75 <$ |
| *Panel B* | | |
| $Overconfident_t$ | −0.329 [0.001]*** | −0.379 [0.001]*** |
| $PostFAS_t$ | −0.907 [0.001]*** | −1.032 [0.001]*** |
| $Overconfident \times PostFAS_t$ | 0.342 [0.120] | 0.365 [0.803] |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 4,931 | 14,252 |
| Pseudo $R^2$ (%) | 24 | 20 |

**Notes:** Table exhibits the regression results between CEO overconfidence and employee allegations. In Panel A, Columns (1) and (2) employs lawsuit binary variable as dependent variable. In Panel B, we divide our sample based on option intensity percentile where our dependent variable is lawsuit binary variable. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table VI.**
FAS 123 R, CEO overconfidence and employee litigation

The results of Table VI are consistent with our expectations. In Panel A, we include CEO overconfidence, a binary variable of POSTFAS and the interaction term of overconfidence multiplied by POSTFAS. Consistent with early findings, overconfident CEOs are less likely to be subjected to employee-level lawsuits. Since the interaction term is insignificant, our results may not be driven by PRE- or POST-FAS period (2005). In Panel B, we divide our sample based on the option holding intensity of CEOs in our sample. We compare CEOs whose option intensity is in the top quartile (75p) vs CEOs whose option intensity is in the bottom quartile (25pp). We find that option intensity does not drive our results, and we continue to observe a reduced likelihood of an overconfident CEO experiencing a labor lawsuit.

Next, we investigate if overconfident CEOs learn from labor litigations. While Banerjee *et al.* (2018) find that overconfident managers are more likely to be disciplined following shareholder lawsuits, we believe that overconfident CEOs learn from past labor litigation. We divide our sample based on the lawsuit densities and measure if overconfident CEOs avoid costly labor disputes.

In Table VII we divided our firms into those who were: never sued or were sued only one time; were never sued; and were only sued one time. Consistent with previous results, we find that CEO confidence lowers the likelihood of labor litigations. We may have discovered this result because CEOs are learning from the damaging litigation of the past. After the initial lawsuit, overconfident CEOs promptly take action to prevent further allegations. We conclude that lawsuits may lower the likelihood of future CEO litigation.

Primarily, new employee lawsuits are the result of bad practices in the workplace. However, some firms may be sued more frequently than others based on the location.

| Dependent variable<br>Sample | $Lawsuit_{t+1}$<br>(1) | $Lawsuit_{t+2}$<br>(2) |
|---|---|---|
| *Panel A: has never been sued or has been sued once* | | |
| $Overconfident_t$ | −0.156 [0.001]*** | −0.181 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 17,019 | 14,960 |
| Pseudo $R^2$ (%) | 13 | 13 |
| *Panel B: never sued before* | | |
| $Overconfident_t$ | −0.140 [0.049]** | −0.209 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 15,955 | 13,996 |
| Pseudo $R^2$ (%) | 24 | 20 |
| *Panel C: has been sued once* | | |
| $Overconfident_t$ | −0.287 [0.027]** | −0.137 [0.224] |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 2,164 | 1,969 |
| Pseudo $R^2$ (%) | 24 | 20 |

**Notes:** Table examines the relationship between labor lawsuits on CEO overconfidence. Panel A regresses lawsuits on CEO's that have never been sued or have been sued once. Panel B investigates CEO's that have never been sued. Panel C investigates on CEO's that have been sued at least once. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table VII.**
CEO Overconfidence and learning from employee-level litigations

One source of heterogeneity may be due to differences in labor laws across states. To eliminate unobserved firm heterogeneity and state-wide variation on labor rights, we perform state-fixed effect and firm-fixed effect and report our findings in Table VIII.

Our results in Table VIII show that the relation between CEO overconfidence and lawsuit holds when we control for state and firm effect. In Panel A, we create binary variables for the location of each firm's headquarters on a state level. In addition, we add three binary variables based on the headquarters cities ranked by Metropolitan Statistical Area statistics according to the population density and economic activity throughout the area. Consistent with our expectations, Table IX shows that CEO overconfidence lowers the likelihood of employee litigations after controlling for state and firm effects. We also ensure that our results are robust to any systematic differences between firms. To eliminate firm-level heterogeneity, we conduct propensity score matching and report our findings in Table IX.

We match our sample firms by the following characteristics: control variables used in the study; size and book-to-market; nearest neighborhood; and only year and industry. We calculate the total number of lawsuits and the cumulative number of lawsuits. Our treatment group includes overconfident executives while the control group includes non-overconfident executives. The findings of Table X show that firms with overconfident managers experience a lower number of employee lawsuits compared to their non-overconfident peers.

In Panel A, we exclude frequently-sued firms (a firm that has been sued more than 10 times in a year), and confirm our findings where managerial overconfidence is related to lowered litigation risk. In Panel B of Table X, we define the ratio of the number of lawsuits

| Dependent variable<br>Sample | Lawsuit$_{t+1}$<br>(1) | Lawsuit$_{t+2}$<br>(2) |
|---|---|---|
| *Panel A: state-fixed effect* | | |
| Overconfident$_t$ | −0.206 [0.001]*** | −0.185 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| State fixed | Yes | Yes |
| City/county fixed | No | Yes |
| *n* | 18,811 | 16,605 |
| Pseudo $R^2$ (%) | 20 | 20 |
| *Panel B: firm fixed effect* | | |
| Overconfident$_t$ | −0.145 [0.001]*** | −0.249 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Firm fixed | Yes | Yes |
| *n* | 19,183 | 16,929 |
| Pseudo $R^2$ (%) | 11 | 11 |

**Notes:** Table exhibits the regression results between CEO overconfidence and employee allegations. In Panel A and Panel B, Columns (1) and (2) employs lawsuit binary variable as dependent variable. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for firm and year fixed effects, year and state-fixed effects, year and city fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table VIII.**
Robustness test: state-fixed effect and firm-fixed effect

| | Treatment group overconfident | Control group non-overconfident | Diff. | *t*-test |
|---|---|---|---|---|
| *Panel A: control variables* | | | | |
| Total lawsuit | 0.78 | 1.53 | −0.75 | [−7.75]*** |
| Cumulative Lawsuit | 5.58 | 9.98 | −4.40 | [−6.62]*** |
| *Panel B: size and book-to-market* | | | | |
| Total lawsuit | 0.32 | 1.44 | −1.12 | [−13.05]*** |
| Cumulative Lawsuit | 1.94 | 9.37 | −7.43 | [−13.25]*** |
| *Panel C: nearest neighborhood* | | | | |
| Total lawsuit | 0.31 | 0.75 | −0.44 | [−5.27]*** |
| Cumulative Lawsuit | 3.22 | 5.95 | −2.73 | [−6.02]*** |
| *Panel D: only year and industry* | | | | |
| Total lawsuit | 0.66 | 1.44 | −0.78 | [−8.52]*** |
| Cumulative Lawsuit | 5.57 | 9.36 | −3.79 | [−5.91]*** |

**Notes:** Table exhibits propensity score matching between two groups of firms: treatment group (firms with overconfident CEOs) and control group (firms without overconfident CEOs). We match our sample based on Panel A: control variables used in the study, Panel B: by size and book-to-market, Panel C: nearest neighborhood and Panel D: only year and industry. Numbers in brackets are *t*-stats. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table IX.**
Robustness test: propensity score matching

to the number of employees as "lawsuit per 1,000 employees." We regress the (lawsuit/employee) ratio on managerial confidence along with other control variables. We find overconfident CEOs have 1 percent less lawsuit per 1,000 employees. In Column (2), we divide the cumulative total number of employee lawsuits by the number of employees.

| | Total case < 10 | Total case < 10 |
|---|---|---|
| *Panel A. removing repeatedly sued firms* | | |
| Overconfident$_t$ | −0.222 [0.001]*** | −0.219 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 18,611 | 16,415 |
| Pseudo $R^2$ (%) | 18 | 18 |
| | Lawsuit/#Emp | Cumulative Lawsuit/#Emp |
| *Panel B: lawsuit per employee* | | |
| Overconfident$_t$ | −0.010 [0.001]*** | −0.088 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 19,183 |
| $R^2$ (%) | 11 | 11 |
| | Lawsuit$_{t+1}$ | Lawsuit$_{t+1}$ |
| *Panel C: alternative confidence intervals* | | |
| Continuous_confidence | −0.370 [0.001]*** | |
| Confidence_50$_t$ | | −0.231 [0.001]*** |
| Controls | Yes | Yes |
| Year fixed | Yes | Yes |
| Industry fixed | Yes | Yes |
| *n* | 19,183 | 19,183 |
| Pseudo $R^2$ (%) | 20 | 20 |

**Notes:** Table exhibits the regression results between CEO overconfidence and employee allegations. In Panel A, Columns (1) and (2) employs lawsuit binary variable as dependent variable. In Panel B. we drop firms that are frequently sued. In Panel C, our dependent variable is number of lawsuits normalized by number of employees, and number of cumulative lawsuits normalized by number of employees, respectively. In Panel D, our dependent variable is lawsuit binary variable. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table X.**
Removing repeatedly sued firms, lawsuit per worker

We define the cumulative number of lawsuits as the time-series total each year at the firm level. We normalize the cumulative number of lawsuits by the number of employees. Our results support evidence that managerial overconfidence is associated less (8 percent) with labor allegations. In Panel C, we introduce two new variables, "alternative_confidence" and "confidence_50". We calculate alternative confidence as a continuous variable; we divide the value of exercisable unexercised options by the number of exercisable unexercised options and subtract this value from the stock price at the fiscal year end to obtain the average exercise price per option. Second, we divide the value of exercisable unexercised options per option by the average exercise price per option to calculate the ratio of the options in the money. We define this ratio as "alternative_confidence." We use alternative confidence in Column (1) of Table X – Panel C. We find that continuous CEO confidence indicators are negative and significant; firms with managerial confidence are less likely to be involved in labor allegations. In Column (2), we generate "confidence_50" as a new cutoff of CEO overconfidence. Since original CEO overconfidence requires "a binary variable equal to one if the CEO holds options with five years remaining duration despite a 67% increase in stock price (or more) at least twice", we change cutoff point from 67 to 50 percent. Consistent with expectations, we find that employee lawsuits are less likely to be associated with firms who

are managed by an overconfident CEO. To conclude our robustness checks, we test our sample for controlling variables that are related to CEO and labor characteristics to avoid omitted variable bias.

In Table XI, we run several tests by adding compensation, governance, labor and firm-specific variables. In Panel A, our tests include CEO age, option intensity and CEO wealth-performance[8] sensitivity. Our primary goal is to confirm that our results hold when we consider CEO compensation contract and wealth sensitivity of that contract. Our results are not driven by omitted variable bias as shown in Panel A. In Panel B, we control our sample for labor-specific characteristics. In the first column, we measure firm size by the number of employees to analyze if the number of employees affects the likelihood of litigation. In the second column, we employ Donangelo's (2014) empirical measure of labor mobility[9]. This measure allows us to investigate to what extent firm-year variation in labor mobility affects our results. Second, we control for industry-level variation in union membership. It is necessary to consider to what extent lawsuits self-select into traditionally unionized industries[10]. Consistent with early evidence, we find that overconfident managers lower the likelihood of labor allegations.

Finally, overconfident CEOs with excess capital may not behave similarly to those CEOs in firms with limited resources. To show this relationship empirically, we divided our

| Dependent variable<br>Sample | $Lawsuit_{t+1}$<br>(1) | $Lawsuit_{t+1}$<br>(2) | $Lawsuit_{t+1}$<br>(2) |
|---|---|---|---|
| *Panel A: age, compensation contracts and governance* | | | |
| $Overconfident_t$ | −0.322 [0.001]*** | −0.302 [0.001]*** | −0.410 [0.001]*** |
| $Ln(CEO\ age)_t$ | 0.460 [0.015]** | | |
| $Option\ intensity_t$ | | −0.215 [0.024]** | |
| $Wealth\text{-}performance\ sensitivity_t$ | | | −0.114 [0.001]*** |
| Controls | Yes | Yes | Yes |
| Year fixed | Yes | Yes | Yes |
| Industry fixed | Yes | Yes | Yes |
| *n* | 18,688 | 19,092 | 13,731 |
| Pseudo $R^2$ (%) | 22 | 22 | 23 |
| *Panel B: controlling for labor characteristics* | | | |
| $Overconfident_t$ | −0.139 [0.001]*** | −0.343 [0.001]*** | −0.251 [0.001]*** |
| Ln(Number of employee) | 0.773 [0.001]*** | | |
| Labor mobility | | 0.106 [0.013]** | |
| Union coverage | | | 0.040 [0.001]*** |
| Controls | Yes | Yes | Yes |
| Year fixed | Yes | Yes | Yes |
| Industry fixed | Yes | Yes | Yes |
| *n* | 19,064 | 16,882 | 19,060 |
| Pseudo $R^2$ (%) | 26 | 22 | 24 |
| *Panel C: controlling for CEO tenure* | | | |
| $Overconfident_t$ | −0.045 [0.041]** | | |
| $Overconfident_t$ (at least 5 years of tenure) | | | −0.556 [0.001]*** |
| Controls | Yes | | Yes |
| CEO/year fixed | Yes | | No |
| Industry and year fixed | No | | Yes |
| $R^2$ (%) | 11 | | 13 |

**Table XI.**
Controlling for CEO, firm and labor-specific variables

**Notes:** Table exhibits the regression results between CEO overconfidence and employee allegations. Both Panel A and Panel B utilize lawsuit binary as dependent variable. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

sample into different subgroups. We first divide our sample firms based on higher or lower than average leverage (for financial constraints), average cash holding (for the magnitude of lawsuits) and average capital expenditures (for investment constraint). The results of our analysis are presented in Table XII.

In Columns (1) and (2), we test how CEO overconfidence influences employee relations when firms have financial constraints. We document that the negative impact of CEO overconfidence on employee litigations are more pronounced for firms with high leverage. In Columns (3) and (4), we reproduce the previous regression based on cash holding. The results show that overconfident CEOs avoid litigation when firms are more cash poor (below sample average). In Columns (5) and (6), we test the relationship between managerial overconfidence and employee relations based on firms' investment opportunity. We show that, on average, CEO overconfidence lowers the number of employee litigations in firms with low capital expenditures. The results confirm that overconfident CEOs in firms with abundant resources may be more careful to face costly litigations.

Overall, the evidence seems to suggest that overconfident CEOs are less likely to be subjected to labor litigations. These results may be because overconfident managers realize the potential damage to firm value from litigations. Overconfident executives may refrain from labor disputes to protect the firm's reputation. Alternatively, overconfident managers are more cautious to protect their ability to invest without facing costly settlements.

## 5. Conclusion

In this paper, we investigate the relationship between CEO overconfidence and employee-level lawsuits. Our goal is to understand whether firms with overconfident managers influence labor practices in the workplace. Specifically, we study whether executive confidence is a determinant of legal actions by employees. First, we collect employee-level litigation data between 2000 and 2014. Then we calculate CEO overconfidence following Malmendier *et al.* (2011) derived from executives' levels of option holding.

In our analyses, we document a link between employee litigations and managerial confidence at the firm level. Our study shows that firms with overconfident CEOs are less likely to be subjected to labor-related litigations. We find that overconfident CEOs have fewer lawsuits opened either by individuals or by unions for several reasons.

We then investigate the potential explanations of why overconfident CEOs are less likely to be sued by their employees. We find that litigation lowers both the corporate investment (CAPEX) and the value of an investment (Tobin's *Q*). This behavior is against the nature of

| Dependent variable | $Lawsuit_{t+1}$ | $Lawsuit_{t+1}$ | $Lawsuit_{t+1}$ | $Lawsuit_{t+1}$ | $Lawsuit_{t+1}$ | $Lawsuit_{t+1}$ |
|---|---|---|---|---|---|---|
| Sample | Above leverage (1) | Below leverage (2) | Above cash hold (3) | Below cash hold (4) | Above CAPEX (5) | Below CAPEX (6) |
| $Overconfident_t$ | −0.183 [0.001]*** | −0.025 [0.071]* | −0.017 [0.556] | −0.126 [0.001]*** | −0.144 [0.001]*** | −0.019 [0.056]* |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry and year fixed | Yes | Yes | Yes | Yes | Yes | Yes |
| Num. of cluster | 1,480 | 1,837 | 2,354 | 2,247 | 2,354 | 2,247 |
| *n* | 8,031 | 11,152 | 4,888 | 14,295 | 7,338 | 11,845 |
| $R^2$ (%) | 19 | 23 | 20 | 21 | 22 | 19 |

**Notes:** Table shows the investigation of financial constraints on an overconfident CEOs ability to avoid litigation. In each column, we divide the sample by higher and lower than average leverage, cash holding, and CAPEX. To conserve space, we only report the variable of interest while controlling for same firm-level control variables. Our regressions are controlling for industry and year fixed effects, but omit the coefficients. Standard errors are clustered at firm level. Numbers in brackets are *p*-values. *,**,***Indicates significance at the 10, 5 and 1 percent levels, respectively

**Table XII.** Overconfident CEO and litigation risk: different samples

overconfident managers (Malmendier and Tate, 2005, 2008). Therefore, overconfident CEOs' interests may be to align with the interests of employees allowing them to protect their ability to invest. There may be a possibility that an employee would avoid filing a lawsuit against an overconfident manager. For example, employees may believe an overconfident manager is untouchable or valuable to an organization; therefore, the employee would avoid filing a lawsuit to protect the company. We believe this scenario to be unlikely; however, future research may seek to research further the actions by which an overconfident manager takes to reduce his/her labor violations. We conclude that overconfident CEOs may prefer better practices in the workplace, which ultimately contributes to shareholder wealth.

The contribution of our work is twofold. First, we contribute to the literature examining the effect of corporate litigation on firm performance. We conclude that labor litigation has significant adverse effects on firm performance. Like Feroz *et al.*, Hutton *et al.* (2014), and Polinsky and Shavell (2014), we find that labor litigation has significant costs to firms, as well as adverse effects that ultimately lower the firm performance.

Second, we contribute to the overwhelming amount of research which shows a relationship between overconfident CEOs and firm policies such as corporate investment, mergers and acquisitions, dividend policies, management forecasting, accounting quality and capital structure (Malmendier and Tate, 2005, 2008; Deshmukh *et al.*, 2013; Malmendier *et al.*, 2011; Lin *et al.*, 2005; Hirshleifer *et al.*, 2012; Bamber *et al.*, 2010; Dyreng *et al.*, 2010; Hribar and Yang, 2011; Schrand and Zechman, 2012; Ahmed and Duellman, 2013). Like prior work, our paper shows that CEOs are motivated by their desire to manage. Consequently, overconfident CEOs avoid labor litigation to prevent any frictions that could potentially hinder their ability to invest aggressively. We show that not only firms with overconfident management teams avoid labor litigation, but also firms that do experience litigation avoid subsequent litigation. Our results remain robust to multiple measures of CEO overconfidence as well as several statistical methods addressed by existing literature. Our primary finding, that overconfident CEOs avoid labor litigations, we believe is driven by the desire of an overconfident CEO to maintain control over investment decisions.

## Notes

1. Equal Employment Opportunity Commission Report (2013): www1.eeoc.gov/eeoc/statistics/enforcement/state_13.cfm
2. www.nlrb.gov/opengov/nlrb-data-datagov
3. Average value per option is the total value of option holdings normalized by the number of options.
4. We also use total number of lawsuit and cumulative total number of lawsuits as dependent variables and obtain the similar results. To conserve space, we report the logit regression outcomes. Results are available upon request.
5. We also perform firm fixed effect for robustness check and report our findings in Table 11.
6. In 2004, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standard No. 123 (revised 2004), Share-Based Payments (SFAS 123 R), requiring all entities to recognize as expense the fair value of stock options issued to employees for services provided (Baril *et al.*, 2007).
7. We also use total number of lawsuits and cumulative total number of lawsuits as dependent variables and obtain similar results. To conserve space, we report only the logit regression outcomes. Results are available upon request.
8. Wealth-performance sensitivity data is available from Alex Edmans's website: http://alexedmans.com/data/

9. The measure is available on Andres Donangelo's webpage at http://faculty.mccombs.utexas.edu/donangelo/mobility.txt

10. Barry Hirsch (Andrew Young School of Policy Studies, Georgia State University) and David Macpherson (Department of Economics, Trinity University), created the Union Membership and Coverage Database, which is available at www.unionstats.com

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## Further reading

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## Appendix

| Variables | Definition |
|---|---|
| *Panel A: confidence variables* | |
| Overconfident | Following Malmendier *et al.* (2011) the average value per option divided by average strike price. The average strike price is the firm's stock price at the end of year less the value per option. We then construct a binary variable Overconfidence which is equal to 1.0 if "confidence" variable is at least 0.67 on at least two occasions, 0 otherwise |
| Team confident | The average confidence measure for all executives at the firm in that year. We compute the team confident measure for non-CEO executives in the same way as we compute CEO Overconfident (Banerjee *et al.*, 2018) |
| Senior confident | The confidence measure for all senior executives at the firm in that year. Executives are defined as senior executives as any executive with the title (in S&P) of CEO, CFO, COO, President, Chairman/woman and Executives whose title includes the word "chief" (Banerjee *et al.*, 2018) |
| Junior confident | The confidence measure for all junior executives at the firm in that year. Executives defined as junior executives are any non-senior executives (Banerjee *et al.*, 2018) |
| Other confident | The confidence measure for all non-CEO executives (Banerjee *et al.*, 2018) |
| PostFAS | Equal to 1.0 if the observation is after FAS 123 R (i.e. the observation is in 2005 or later) |
| Continuous confidence | Value of exercisable unexercised options by the number of exercisable unexercised options and subtract this value from the stock price at the fiscal year end to obtain the average exercise price per option. We divide the value of exercisable unexercised options per option by the average exercise price per option to calculate the ratio of the options in the money (Banerjee *et al.*, 2018) |
| Confidence_50 | Overconfident variable where the cutoff point is changed from 0.67 to 0.50 |
| *Panel B: litigation variables* | |
| Lawsuit | Binary variable and equal to 1 if firm is facing at least one employee allegation, 0 otherwise |
| Ln(Lawsuit) | Log transformation of total number of employee litigation filed against the firm each year |
| Ln(Cumulative Lawsuit) | Log transformation of cumulative total number (time-series sum) of employee litigation filed against the firm each year |
| Total union | Total number of litigations filed by unions against the firm each year |
| Total individual | Total number of litigations filed by individuals (employees) against the firm each year |
| Union | Binary variable equal to 1 if litigation is filed by labor union |
| Individual | Binary variable equal to 1 if litigation is filed by individual employee |
| Settlement | Total number of settlement decision as case outcome |
| Closure | Total number of closure as case outcome |
| Dismissal | Total number of dismissal as case outcome |
| Withdrawal | Total number of withdrawals as case outcome |
| Dismiss% | Total number of dismissals divided by total number of cases |
| Withdrawal% | Total number of withdrawal divided by total number of case |
| Settle% | Total number of settled cases divided by total number of case |
| Cumulative Dismissal | Cumulative sum of total dismissed cases for each firm over sample span |
| Cumulative Dismissal | Cumulative sum of total withdrawn cases for each firm over sample span |
| Duration (days) | Case duration measured as closure date minus opening date |
| Days to withdrawal | Case duration for withdrawn cases measured as closure date minus opening date |
| Coercive actions | Total number of lawsuits with main case reason as coercive action |
| Coercive statement | Total number of lawsuits with main case reason as coercive statement |

**Table AI.**
Definition of variables

(*continued*)

| Variables | Definition |
|---|---|
| Bad faith bargaining | Total number of lawsuits with main case reason as bad faith bargaining |
| Changes in working condition | Total number of lawsuits with main case reason as changes in the working conditions |
| Discharge | Total number of lawsuits with main case reason as discharge |
| Discipline | Total number of lawsuits with main case reason as discipline |
| Refusal to furnish information | Total number of lawsuits with main case reason as refusing to furnish information |
| Changes in working contract | Total number of lawsuits with main case reason as changes in the working contract |
| Dangerous assignment | Total number of lawsuits with main case reason as onerous assignment |
| Concerted activities | Total number of lawsuits with main case reason as concerted activities |
| Unilateral changes | Total number of lawsuits with main case reason as unilateral changes |
| Fair representation | Total number of lawsuits with main case reason as fair representation |
| Layoff | Total number of lawsuits with main case reason as layoff |
| Union issues | Total number of lawsuits with main case reason as union issues |
| Harassment | Total number of lawsuits with main case reason as harassment |
| Other Issues | Total number of lawsuits with main case reason as other issues |
| [Lawsuit/#Emp] | Number of lawsuits normalized by number of employee (in thousands) |
| [Cumulative Lawsuit/ #Emp] | Cumulative number of lawsuits normalized by number of employee (in thousands) |
| *Panel C: control variables* | |
| Ln(Size) | Market capitalization of the firm |
| Ln(Asset) | Log transformation of total assets |
| Ln(Number of employee) | Log transformation of number of employee |
| Book leverage | Debt in current liabilities plus long-term debt divided by assets |
| ROA | Earnings before interests and taxes divided by assets |
| Tangibility | Ratio of fixed assets to book assets |
| Tobin's *Q* | Market value of assets divided by book value of assets |
| Herfindahl index | Industry concentration by summing the squared market shares of the firms in the industry |
| Ln(#FirmAge) | The natural log of the number of firm's age |
| Free cash flow | The firm's free cash flows in year *t* divided by its assets in year *t* |
| CAPEX | Capital expenditures normalized by assets |
| ΔCash | Change in firm's cash holding between year *t* and *t*-1 |
| Ln(CEO age) | Log transformation of CEO age |
| Option intensity | Proportion of total pay that comes from option grants |
| Wealth-performance sensitivity | "wealth-performance sensitivity" of the CEO compensation contract: http://alex edmans.com/data/ |
| Labor mobility | Firm-year variation in labor mobility Andres Donangelo's webpage at http:// faculty.mccombs.utexas.edu/donangelo/mobility.txt |
| Union coverage | Union Coverage at industry level. Barry Hirsch (Andrew Young School of Policy Studies, Georgia State University) and David Macpherson (Department of Economics, Trinity University), created the Union Membership and Coverage Database, which is available at www.unionstats.com |

**Table AI.**

**Corresponding author**
Blake Rayfield can be contacted at: blake.rayfield@indstate.edu