# Do workplace safety violations deter potential acquirors?

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#### Abstract

This paper investigates the impact of workplace safety violations on takeover decisions. Using a matched sample, we find that firms with safety violation penalties are less likely to be targeted by acquirors. This deferring effect is more pronounced when target firms are under stronger employee protection and more informational-opaque. We further find that target firms who have previously involved in workplace safety violations receive lower acquisition premiums whereas the associated acquirors generate higher takeover announcement abnormal returns, suggesting that the safety penalization affects the bargaining power of both parties. Overall, our work contributes to the debate on the value of human capital by highlighting the deterring effect of workplace safety violations in the takeover market.

**Keywords:** workplace safety; merger & acquisition; CSR; human capital **JEL classification**: G34, J28, K31

#### 1. Introduction

The intrinsic value in contemporary firms increasingly stems from intangible capital related to human capital, such as organizational culture, employee expertise, and workplace relations (Edmans, 2011; Eisfeldt and Papanikolaou, 2013). This shift has notably influenced mergers and acquisitions (M&A), where human capital synergies are documented to positively affect takeover likelihoods, acquirer returns, and post-merger operating performance (Chen et al., 2021; Lee et al., 2018). However, frictions in human capital management, particularly those arising from employee protection and union forces, can impede post-merger integration and deter takeover activities (Dessaint et al., 2017; John et al., 2015; Tian and Wang, 2021). We extend this literature by examining how workplace safety violations, a significant indicator of human capital frictions, affect both the probability and performance of corporate acquisitions.

Workplace safety incidents impose substantial economic and social costs through multiple channels. In the U.S. alone, these incidents result in approximately 3.5 million deaths annually and \$250 billion in losses, exceeding national cancer treatment expenditures (Leigh, 2011). Empirical evidence documents that such incidents exert direct and material impact on firm operations through increased downtime, higher training costs, and diminished productivity (Caskey and Ozel, 2017; Cohn and Wardlaw, 2016). Moreover, these incidents are associated with reduce household income (Galizzi and Zagorsky, 2009), deteriorating profitability (Amin et al., 2021), and erosion in firm value (Cohn and Wardlaw, 2016).

Workplace safety violations expose firms to substantial regulatory and economic consequences. Regulatory penalties imposed by the Occupational Safety and Health Administration (OSHA) exceeded \$200 million in 2020, with violating firms subject to heightened regulatory scrutiny through initiatives such as the Severe Violator Enforcement

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Program.<sup>2</sup> Beyond regulatory penalties, recurring workplace injuries can drive up wage premiums and insurance costs that compensate employees for higher safety risks (Kniesner and Leeth, 2014). These violations also damage firm reputation and legitimacy (Johnson, 2020), adversely affecting relationships with stakeholders including customers, suppliers, and potential business partners (Caskey and Ozel, 2017).

Given these negative consequences, we predict that potential acquirers are less likely to target firms with workplace safety violations due to increased risk, potential financial losses, and the uncertainty associated with resolving safety-related issues. However, an alternative argument suggests that acquirers motivated by a desire to intervene in poorly managed firms (Jensen and Ruback, 1983; Manne, 2019) may see these violations as opportunities to create value by addressing inefficiencies, improving safety standards, and ultimately enhancing the firm's overall productivity and reputation. Tunyi et al. (2019) identify four attributes of managerial performance: "poor" management, "myopia," "hyperopia," and "efficient" management. They suggest that firms exhibiting managerial myopia—characterized by a focus on short-term gains—are more likely to face discipline through the takeover market, resulting in higher takeover likelihood. Prior research links workplace safety violations to managerial myopia, as managers may prioritize immediate outcomes over long-term safety investments (Bradley et al., 2022; Qian et al., 2024). For instance, Qian et al. (2024) find that promotionfocused CEOs are more likely to allocate resources toward growth strategies at the expense of employee safety, leading to increased injuries and illness. Consequently, firms with workplace safety violations may reflect greater managerial myopia, making them more appealing to potential acquirers.

<sup>&</sup>lt;sup>2</sup> The Occupational Safety and Health Administration (OSHA) launched the Severe Violator Enforcement Program (SVEP) in 2010 as a targeted enforcement initiative aimed at addressing employers who demonstrate a pattern of serious noncompliance with workplace safety and health regulations. It focuses on employers committing willful, repeated, or failure-to-abate violations.

To investigate these competing hypotheses, we conduct the empirical tests using a matched sample comprising 9,638 firm-year observations across 2000 to 2021. To mitigate inherent differences between firms with and without safety violations, we employ propensity score matching to align non-violating firms with their violating counterparts, followed by a logit model analysis of the matched dataset. Our findings show that firms with workplace safety violations are significantly less likely to be acquired. This suggests that acquirers may prioritize targets with fewer potential risks and liabilities, influencing their target selection strategies to focus on firms with stronger safety records and lower regulatory exposure. Specifically, controlling for year and industry fixed effects, the likelihood of becoming an acquisition target decreases by 0.526 for each 1% increase in the number of violations and by 0.057 for each 1% increase in monetary penalties.

To address potential endogeneity concerns, we further employed an instrumental variable (IV) approach, using two instruments: variations in state-level unemployment insurance (UI) benefits and the introduction of the SEC Whistleblower Program in 2010. Prior research emphasizes the significant role of employee whistleblowers in uncovering corporate misdeeds (Bowen et al., 2010; Dey et al., 2019; Dyck et al., 2010). However, whistleblowing is often deterred by the high risk of retaliation employees face. Supporting theories suggest that retaliation costs act as a barrier to reporting misconduct. Heese and Pérez-Cavazos (2021) use the substantial increases in unemployment insurance benefits as a proxy for reduced retaliation costs, finding that lower retaliation costs lead to more employee-initiated workplace safety complaints to regulators, which in turn increase the detection of violations and higher penalties. Following their study, we define our first instrument as UI treatment which equals one if the state-year's unemployment insurance increases at least 10% without a preceding year increase exceeding this percentage. Consistent with Heese and Pérez-Cavazos (2021), our first-stage results reveal that increased unemployment insurance leads to higher workplace safety

violations and associated penalties, which subsequently reduce the likelihood of being targeted for takeovers in the second stage. Additionally, we utilize the enactment of the 2010 SEC whistleblower program as our second instrument. This program, which provides whistleblowers financial awards and expands anti-retaliation protection, encourages employees to report corporate misconducts directly to SEC (Wiedman and Zhu, 2023). We construct a binary variable to identify the years following the program's implementation (post-2010) and observe that both the number and penalties of workplace safety violations rise during this period due to more disclosures. Significantly, our results show that these increases adversely affect the likelihood of firm takeovers, further supporting our initial findings.

In robustness tests, we replicate our analysis using alternative measures of takeover decisions and relax the one-year lag restriction. Specifically, we replace the binary takeover likelihood variable with a continuous measure of transaction value, consistently finding a negative relationship between safety violations and deal values. Additionally, we explore the persistence of these effects over time, finding that while the magnitude of the impact diminishes, it remains significant up to three years following the violations.

We further explore the mechanisms through which workplace safety violations hinder potential acquirors. The first mechanism is that increased labor protection, triggered by the workplace injuries and illness, could reduce the firm's probability of receiving a takeover bid. Chen et al. (2021) indicate that firms with unionized workforce typically maintain inflexible wages and employment contracts. Since acquirers often target firms with violations to enhance efficiency through organizational restructuring, the increased power of labor unions may limit their ability to realize synergistic gains. Additionally, higher levels of unionization may foster potential conflicts between the target's unions and the acquirer's management, increasing uncertainty regarding deal completion and post-merger integration (Tian and Wang, 2021). This ex post threat further discourages potential acquirers. Using union membership and coverage within industries as proxies for labor protection levels, our findings indicate a stronger negative impact of workplace safety violations on takeover likelihood when target firms are under greater labor protection.

The second mechanism relates to firm's information opacity associated with the workplace safety violations. M&A activities inherently involve significant information uncertainty. During the preliminary stages of due diligence and even throughout the negotiations of initial deal terms, acquirors only have limited access to the private information. This limitation places them at an information disadvantage, making it difficult to obtain accurate insights into the operational and profitability of target firms, thereby increasing the risks associated with the acquisition. Prior literature has shown that the enhanced quality of financial disclosures and increased transparency could improve the deal efficiency and acquirer shareholder value (Marquardt and Zur, 2015; Martin and Shalev, 2017; McNichols and Stubben, 2015; Ortiz et al., 2023; Skaife and Wangerin, 2013). However, violated firms often conceal information related to their misconduct (Duong et al., 2024; Raghunandan, 2021), making it challenging for potential acquirers to obtain accurate and reliable information during the decision-making process. The lack of transparency thus likely heighten acquirer's uncertainty regarding the firm's operations, risks, and overall value, thereby reducing the likelihood of such firms receiving takeover bids. We use the dispersion of analysts forecast and magnitude of discretionary accruals as information opacity proxies and find that the adverse effects could be more pronounced for target firms with higher information opacity.

We next examine whether takeover bids for firms with workplace safety violations are related to lower premiums. On the one hand, high information risk stemming from disclosed workplace safety violations increases uncertainty in assessing firm value and thereby adversely affect the premiums offered to targets. On the other hand, acquirors expect higher labor costs and restrictive employee contracts post-acquisition for violated target firms. They may leverage such issues during the merger negotiations to strengthen their bargaining power and negotiate lower premiums. Our empirical results show that target firms involved with workplace safety violations receive lower premiums compared to those without such violations. We further examine the impact of workplace safety violations on acquirors shareholder values. Our results show that the cumulative abnormal returns of bidders around the deal announcement significantly increase if the target firm has workplace safety violations. These findings suggest that acquirors capture greater share of potential merger gains for their shareholders through higher bargaining power.

This paper contributes to two strands of literature. First, it extends the literature on the consequence of workplace safety on corporate's decisions. A large body of literature focuses on the factors that might affect workplace safety, including the firm's financial constraints (Bradley et al., 2018; Cohn and Wardlaw, 2016), the exposure to performance pressure (Caskey and Ozel, 2017), outside monitors and regulators (Bradley et al., 2022; Cheng et al., 2023), stock market listing (Liang et al., 2023), managers incentives and pressure (Haga et al., 2022; Heese and Pérez-Cavazos, 2020; Qian et al., 2023). Three relevant papers explore the potential consequence of safety injuries on firms. Specifically, Coetzee and Van Staden (2011) find that firms in the mining industry tend to disclose more safety related information after workplace safety incidents to maintain their reputation and legitimacy status. Cohn and Wardlaw (2016) argue that workplace injuries may lead to a decline in firm value following the injuries. Similarly, Amin et al. (2021) applied the system generalized method of moments (SGMM) technique and find that workplace accidents are negatively associated with firm performance measured by market to book ratio and Tobin's Q. Our study extends these literature by exploring the effects of workplace safety violations through the market of corporate control.

Second, our study contributes to the literature related to the M&A buy-side target selection process. Existing literature has identified a variety of factors influencing acquisition

decisions, such as information quality (Marquardt and Zur, 2015; Raman et al., 2013), corporate misconduct (Amel-Zadeh and Zhang, 2015; Fu et al., 2023), the presence of shared auditors between acquirers and targets (Dhaliwal et al., 2016), reputation risk (Boone and Uysal, 2020), advisor's industry knowledge (Chang et al., 2016), the internal control environment (Harp and Barnes, 2018). Beyond these financial and external factors influencing merger attempts, some studies have started to examine the impact of human capital such as employee treatment, labor protection, and cultural alignment in the context of mergers and acquisitions (Alimov, 2015; Bereskin et al., 2018; Dessaint et al., 2017; Macias and Pirinsky, 2015). A relevant study is Macias and Pirinsky (2015), which suggests that employee-friendly firms are more likely to protect their employees from takeover threats, resulting in a lower likelihood of being targeted for takeovers. In contrast, we find that noncompliant firms (i.e., firms engage in workplace safety violations) are less likely to attract takeover bids due to heightened information risk and greater resistance from external labor forces. Our findings differ from Macias and Pirinsky (2015) in that their research focusses on KLD scores to quantify employee treatment, whereas our study emphasizes actual violations related to employee mistreatment, which are typically accompanied by huge fines and substantial information uncertainty.

The paper proceeds as follows: Section 2 discusses relevant literature and develops the hypothesis. Section 3 describes the sample construction, variable definition and summarize statistics. Section 4 explains the research design and basic results. Section 5 presents the further analysis and we make a conclusion in Section 6.

#### 2. Literature Review and Hypotheses Development

# 2.1 Literature Review

Workplace safety is a critical ethical concern and a vital component of corporate social performance (CSR), with significant implications for economic outcomes and human welfare. Extensive research has explored factors that improve workplace safety. For instance, Cohn and Wardlaw (2016) find that firms with higher cash flow, cash balances and lower financial leverage exhibit fewer workplace injuries. Caskey and Ozel (2017) report that firms narrowly meeting analyst earnings forecasts suffer more injuries than those that miss or easily beat forecasts through decreased safety investment and increased employee workloads. Outside monitors and regulators, such as analysts, could also shape workplace safety. For example, Bradley et al. (2022) concluded that analyst coverage as effective outside monitors could discipline management from self-serving behaviors and make adequate investments in workplace safety, which lead to lower workplace injuries. Similarly, Liang et al. (2023) find that public firms compared to private firms are involved with less workplace injuries due to strengthen monitoring by media and regulator. However, the literature that provides direct evidence of the effect of workplace safety on firms themselves are limited. Only Cohn & Wardlaw (2016) and Amin et al. (2021) found that workplace injuries are negatively associated with firm performance.

Since workplace safety violations could be treated as an indicator of inadequate employee treatment, another strand of literature regarding the value of employee treatment has been widely explored. Prior literature has generated conflicting conclusions as to whether the employee welfare can benefit firms. Traditional theories view firms as capital-intensive entities primarily focused on cost efficiency and treat employees as other inputs like raw materials. The firm's main objective is to maximize possible productivity while minimizing costs. Therefore, improving employee satisfaction by either higher salaries or lower working hours was synonym of less efficiency, i.e. less profitability. In contrast, modern management theories emphasize the additional value of human capital. They argue that employee well-being could have a positive effect on firms' operational performance, accounting and stock market performance (Edmans, 2011; Faleye and Trahan, 2011; Filbeck, 2001; Gorton and Schmid, 2004). For example, Bae et al. (2011) document that firm with better employee treatment policies experience lower default risk and debt ratios. Edmans (2011) constructed a portfolio of the "100 Best Companies to Work For in America," and found that this portfolio outperformed the industry benchmarks with better long-term returns. In addition, recent studies show that employee-friendly schemes could foster firm innovation (Chen et al., 2016), reduce the stock crash risks (Ben-Nasr and Ghouma, 2018), mitigate material weakness in internal control and financial restatements (Guo et al., 2016).

More broadly, corporate social responsibility (CSR), of which employee treatment is a key dimension, has been found to correlate with takeover market. Aktas et al. (2011) find that stock market bonuses acquirers that make investments on socially and environmentally responsible firms and that the acquirer social and environmental performance has increased in post-acquisition. However, considering the CSR investment efficiency and the existence of optimal level of specific investment behavior, Wang et al. (2021) found that the acquirer purchasing a firm with overinvestment in CSR could experience lower market reactions and poor financial performance of post-acquisition.

Besides the effect on acquiror returns, several literature relate the CSR performance to the takeover decisions. The general argument is that overinvesting on CSR could be viewed as managerial actions in the name of social responsibility, in which the bidders can takeover to reduce the CSR for higher profits (Baron, 2007; Hart and Zingales, 2017). In contrast, Fairhurst and Greene (2022) suggest that the takeover market perform as a corrective mechanisms for firms with both lowest and highest CSR scores. Other studies focus on the extent to the matched level of CSR between acquirors and targets (Bereskin et al., 2018; Boone and Uysal, 2020). For instance, Bereskin et al. (2018) show that firms with similar CSR levels are more likely to

merge due to easier post-integration. While previous literature regarding employee-oriented CSR mainly use the KLD measurement of employee treatment, such research can only confirm safety and health system concerns, which may not be a reliable indicator of actual safety and health performance (i.e., recorded workplace illnesses and injuries).

Workplace safety violations are associated with financial penalties enforced by the regulators and may trigger labor strikes, particularly when these violations result in severe injuries or fatalities. Such events not only place a financial burden on the firm but also reduce its operational efficiency (Cohn and Wardlaw, 2016). Moreover, safety violations can contribute to a perception among employees of being undervalued, which may discourage them from developing firm-specific knowledge, ultimately decreasing labor productivity and firm profitability in a long run (Akerlof, 1982; Rajan and Zingales, 2000). Further, the workplace safety violations could incur additional costs, such as litigation, demands for higher wages by workers, challenges in securing contracts, shifts in investor sentiments and firm reputation, and difficulties in attracting and retaining competent staff (Caskey and Ozel, 2017) and these costs could be substantial.

#### 2.2 Hypotheses Development

Workplace safety violations signal poor employee treatment, financial burdens, and operational inefficiencies, which may deter potential acquirers. Violations also contribute to negative employee perceptions, reducing productivity and profitability over time. Additionally, these issues introduce information opacity, complicating due diligence and increasing uncertainty in the valuation process. Consequently, we hypothesize:

# H1: Firms with workplace safety violations are less likely to receive takeover bids.

However, violated firms might be perceived as poorly managed which may attract acquirors to address mismanagement and gain values from restoring them to potentials. Additionally, the revelation of such misconduct may also decrease firm's market value, offering acquirers an opportunity to purchase at a lower price. From this perspective, bidders may be more inclined to target these firms.

Prior literature has suggested that unionization could reduce the firm's takeover exposure and merger gains. Tian and Wang (2021) examine the unionization status of US target firms and find that target firms narrowly approving unionization ballots are less likely to receive takeover bids. Alimov (2015) focuses exclusively on cross-border acquisitions and find that stricter employment protection in the target's country correlates with an increase in crossborder M&A transactions, especially when the bidders' country has more flexible labor market regulation. Similarly, Dessaint et al. (2017) use a global context and apply a difference in difference methodology based on the passage of national labor regulation reforms and observe that employees protection is correlated with a noticeable reduction in both the frequency and volume of merger and acquisitions. We predict that employees in violated firms would appeal support from labor unions, which raises the possibility of disputes between the unions and the acquiror management that might significantly increase the uncertainty of deal completion and undermines post-merger integration (Tian and Wang, 2021), and thereby reduce the attractiveness for acquirors:

H2: The effect of workplace safety violations on takeover probability is more pronounced in firms with higher labor unions.

M&A has been viewed as activities under great uncertainty. In the preliminary phase of the due diligence, acquirers primarily rely on public information to assess the value of potential targets. Even during negotiations of the initial deal terms, the acquirer's access to private information remains restricted. Prior literature has widely emphasized the importance of information quality in the takeover market. For example, Kravet and Shevlin (2010) indicate that the lack of transparency not only escalates the uncertainty but also raises the cost of adverse selection in the acquisition process, making opaque firms less appealing. Ortiz *et al.*, (2023)

focus on the private firms and find that mandatory financial disclosure by the establishment of 2003 European Commission (EC) directive increases the M&A activity by reducing the information frictions in the market of corporate control. The inherent information opacity associated with violated firms introduces additional risks and imposes a greater challenge for evaluating the target value, thus we expect that the information opacity could intensify the negative relationship between workplace safety violations and takeover probability:

H3: The effect of workplace safety violations on takeover probability is more pronounced in firms with higher information opacity.

# **3** Sample Construction and Summary Statistics

### 3.1 Sample Construction

We gather historical records of workplace safety violations from Violation Tracker, a comprehensive database on federal agency enforcement actions. This database is chosen for its extensive coverage and reliability in tracking enforcement actions across multiple federal agencies (Cheng et al., 2023; Zaman et al., 2021).<sup>3</sup> A violation is classified as workplace safety-related if it is enforced by the Occupational Safety and Health Administration (OSHA), a reliable authority due to its comprehensive mandate to ensure safe working conditions and its extensive enforcement capabilities. OSHA conducts random inspections of censored firms or initiate investigations in response to serious accidents, whistleblowing, and referrals. Firms that fail to comply with OSHA standards are fined. Workplace safety inspections are conducted at the establishment level, and we then aggregate these violations to the firm level by assigning each establishment's records to its parent firm, resulting in a firm-year level violation dataset.

<sup>&</sup>lt;sup>3</sup> Federal penalty data from *Violation Tracker* is published by the non-profit organization *Good Jobs First* and could be found at <u>https://violationtracker.goodjobsfirst.org/</u>. The database includes various types of violations broadly defined as environmental, product, and workplace violations inspected by various agencies. Our study focuses specifically on workplace violations.

Next, we extract firm-year observations from the CRSP/Compustat merged dataset for the period of 2000 to 2021 and merge them with the violation data. Firms in the financial industry (SICs 6000–6999) and utilities (SICs 4900–4999) are excluded due to different regulations and reporting standards. We also remove observations with missing values for control variables used in regression analyses, resulting in a sample of 73,556 firms-years observations, including 4,852 unites with workplace safety violations.

Since firms with and without workplace safety violations may differ systematically in certain characteristics, we construct a propensity score matched sample to control for such differences.<sup>4</sup> Specifically, we estimate the propensity scores of committing workplace safety violations based on observable firm characteristics for each firm-year. For each violated firm-year (treatment), we match one non-violated firm-year (control) using the nearest neighbor propensity score matching without replacement and with a 0.05 caliper requirement. This procedure yields a final matched sample of 4,819 treatment-control pairs.

Finally, we merge the matched sample with takeover data to examine whether workplace safety violations influence the likelihood of receiving a takeover bid. If a firm receives a takeover bid within the following fiscal year, we identify the occurrence of takeover deals. We collect completed M&A transactions from Securities Data Company (SDC) Platinum database that meet the following criteria: (1) the acquirer initially owns less than 50% of the target firm and seeks to acquire more than 50% of the target firm, (2) both the acquirer and target are publicly traded, (3) deals types includes merger, acquisitions of major interests, and acquisitions of assets, and (4) the target firms are based in the US.

We further test the effects on takeover premiums and acquiror shareholder returns using another sample. Starting with the takeover deals, if the target firm gets involved with workplace

<sup>&</sup>lt;sup>4</sup> We also test the main research hypotheses based on the pooling sample and provide the regression results in Appendix B.2.

safety violations one year prior to the deal based on our workplace safety violations dataset, then we define the firm's safety violation as 1, and 0 otherwise. Our regression analysis for these tests are based on 918 takeover deals or smaller samples, relying on the availability of additional information required for respective analysis.

#### 3.2 Variable Definitions

The primary variable of interest in our study is *Violation*, defined as the natural logarithm of one plus the number of violations (Num\_Vio) and the natural logarithm of one plus the total penalty of violations (Val\_Vio).<sup>5</sup> Following Amel-Zadeh and Zhang (2015), we include several control variables that might impact takeover likelihood: the natural logarithm of total assets (SIZE), book-to-market ratio (BM), earnings per share to price per share at the fiscal-year end (EP), operating income before depreciation to total assets ratio (ROA), annual sales growth (SGROW), the total of long- and short-term debt scaled by total assets (LEVERAGE), property, plant and equipment to total assets ratio (TANG), cash and short-term investments and receivables to total assets ratio (LIQUIDITY), a growth-resource dummy variable (GRDUMMY), and the percentage of institutional ownership (INST) as a proxy for effective monitoring. Control variables are measured at the fiscal year end preceding the M&A announcement, and all continuous variables are winsorized at the 1st and 99th percentiles.

#### 3.3 Summary Statistics

Panel A of Table 1 presents the univariate analysis comparing key characteristics of the matched treatment and control firms. This summary indicates the comparability of the two groups across major dimensions. As shown in Panel A, none of the differences are statistically significant. Panel B of Table 1 displays the distribution of estimated propensity scores across percentiles after matching, and we observe no discernible variation between matched firm

<sup>&</sup>lt;sup>5</sup> These variables are defined by following Cheng et al. (2022). Logarithmic transformations are used to reduce the skewness of these variables and to mitigate the impact of extreme values, allowing for a more normalized distribution in the regression analysis.

pairs. Overall, these diagnostic tests suggest that the matched non-violated and violated firms are comparable after the propensity score matching process.

[Insert Table 1 here]

# 4. Main Findings

#### 4.1 Baseline Results

To investigate the impact of workplace safety violations on a firm's likelihood of being acquired, we employ the following logit regression model:

$$Takeover_{i,t} = \beta_0 + \beta_1 Violation_{i,t-1} + \beta_i Controls_{i,t-1} + FEs + \varepsilon_{i,t}$$
(1)

where *i* and *t* represents the firm and year, respectively. The dependent variable, *Takeover*<sub>*i*,*t*</sub>, equals to 1 if firm *i* receives a takeover bid in a given year *t*, and 0 otherwise. The main independent variable, *Violation*, captures both the number of violations (Num\_Vio) and the value of penalties (Val\_Vio) incurred by a firm annually. Measuring both the number of violations and the value of penalties provides a more nuanced understanding of the severity of workplace safety issues, as it captures not only the frequency but also the financial impact of these violations. Due to the high frequency of investigations, workplace safety violations are often detected. For firms without a record in the Violation Tracker database, we assume they have no safety-related violations. *Controls*<sub>*i*,*t*-1</sub> represents the set of control variables that may influence a firm's takeover likelihood, as described in Section 3.2. Lastly, year and industry fixed effects are included to control for unobserved heterogeneity over time and across industries. Standard errors are clustered at the firm level to account for potential correlations in the error terms within firms over time.

Table 2 reports the results of Logit regressions, examining the effect of prior safety violations on the takeover probability. The coefficients on Num\_Vio and Val\_Vio are negative

and statistically significant across all the specifications, indicating that the presence of workplace safety violations reduce the likelihood of being acquired.

Specifically, after accounting for year and industry fixed effects, the probability of being target decreases by 0.526 and 0.057 for a 1% increase in the number of violations and a 1% increase in the value of penalties, respectively.

# [Insert Table 2 here]

## 4.2 Endogeneity tests

To mitigate the issue of omitted variables that may simultaneously affect both the likelihood of takeover and the probability of workplace safety violations, we adopt a two-stage instrumental variable (IV) probit analysis. This approach extracts of the exogenous component of firms' safety violation and examines its impact on acquisition probability.

The first instrumental variable is based on changes in state-level unemployment insurance (UI) benefits. Unemployment insurance in the U.S. provides temporary income to eligible workers, varying across states. Previous studies (Dou et al., 2016; Heese and Pérez-Cavazos, 2021) suggest that a large increase in UI benefits (at least 10%) is known to employees, reducing the perceived cost of job loss and thus encouraging employee whistleblowing on workplace safety violations. Such whistleblowing can trigger OSHA inspections and result in additional violations and penalties. This instrument is considered unrelated to the likelihood of a firm being chosen as a takeover target.<sup>6</sup>

Following Heese and Pérez-Cavazos (2021), we calculate UI as the product of weekly benefits and the number of eligible weeks and identify state-year events with at least a 10% increase in UI benefits without a similar increase in the prior year. The difference-in-

<sup>&</sup>lt;sup>6</sup> The instrumental variables used must satisfy two conditions: *relevance*, meaning they must explain variations in safety violations, and *exclusion restriction*, meaning they must not directly affect the likelihood of a firm being targeted for takeover.

differences (DID) approach is applied to examine the effect of UI increases on safety violations and penalties, as it allows for comparing changes over time between treated and control groups, thereby helping to control for unobserved factors that may influence both safety violations and penalties. The first-stage regression model is:

$$Violation_{i,t} = \beta_0 + \beta_1 Treatment_{i,t} + \beta_i Controls_{i,t} + FEs +$$
(2)

where the dependent variable, *Violation*, is defined before as *Num\_Vio* and *Val\_Vio*. The primary explanatory variable, *Treatment*, equals to 1 if the firm is in a state experiencing a UI benefits increase of at least 10%, and 0 otherwise.

Columns (1) and (3) of Table 3 show the first-stage regression results. The coefficient on *Treatment* is positive and statistically significant for both measures of Violation, consistent with prior research showing that increased UI benefits reduce the cost of retaliation and encourage employee complaints. Columns (2) and (4) present the second-stage regression results, where the likelihood of a takeover is regressed on the predicted value of workplace safety violations, with control variables included. The negative coefficients for predicted violations indicate that workplace safety violations reduce the probability of a takeover.

#### [Insert Table 3 here]

The second instrumental variable used is a year dummy for the enactment of the SEC Whistleblower Program in 2010. This program impacted workplace safety violations by encouraging greater whistleblowing through financial incentives and protections, leading to an increase in reported violations, without directly affecting the firm's likelihood of being a takeover target. This program, launched under the Dodd-Frank Act, incentivized reporting of legal violations by offering financial rewards for information leading to successful enforcement actions. The program also strengthened protections against retaliation. Its implementation likely increased employees' willingness to report safety violations, leading to a rise in reported incidents after 2010. The program is assumed to have no direct impact on the likelihood of a

corporate takeover, making it an appropriate instrument for evaluating the effect of safety violations on takeover probabilities. We use a year dummy, *After\_2010*, to assess whether firms reported more workplace safety violations after the program's implementation.

Table 4 displays the IV results using the SEC Whistleblower Program as the instrument. The positive coefficients on *After\_2010* confirm that increased employee protection encourages whistleblowing, leading to greater public disclosure of workplace safety violations. The negative coefficients in the second stage suggest that firms with more safety violations are less likely to become takeover targets.

# [Insert Table 4 here]

#### 4.3 Robustness tests

To further validate the effect of workplace safety violations on takeover decisions, we replace the dependent variable with transaction values (defined as the natural logarithm of one plus the transaction value) and conduct an OLS regression with the same controls as in the baseline model. Using transaction values as an alternative dependent variable helps assess the economic magnitude of the effect, adding robustness to our analysis by examining how safety violations impact the valuation of M&A deals. Table 5 shows that the coefficients for *Num\_Vio* and *Val\_Vio* are statistically significant and negative across all specifications. Specifically, after controlling for year and industry fixed effects, a 1% increase in the number of violations or penalties results in a 0.069% and 0.009% decrease in transaction value, respectively.

# [Insert Table 5 here]

We also extend the temporal parameters beyond the initial one-year lag to explore the persistence of the effect of safety violations on M&A deals over longer horizons. Specifically, we redefine the dependent variable, *Takeover*, to capture transactions occurring within a two-year or three-year period after safety violations. Extending the temporal window helps assess the persistence of the effect of safety violations, providing insight into how long these issues

continue to influence acquisition likelihood. As shown in Table 6, the negative impact of safety violations on takeover likelihood persists, though the effect diminishes over time. The coefficient for *Num\_Vio* on takeover probability decreases from 0.526 to 0.358, while the coefficient for *Val\_Vio* declines from 0.057 to 0.042. This weakening effect aligns with the idea that the market's memory of negative events fades, gradually reducing their influence on firm value and strategic decisions.

# [Insert Table 6]

# 5. Further Analyses

# 5.1 Mechanism Tests

The results presented above suggest that workplace safety violations have a causal effect on the likelihood of a takeover. To further investigate the potential mechanisms driving this effect, such as labor protection and information opacity, we conduct cross-sectional tests. First, we examine the role of labor protection in influencing the impact of workplace safety violations on takeover decisions by using the industry union membership. This database provides annual estimates of union membership by census industry codes, compiled from the Current Population Survey. To determine whether an industry has high or low union membership, we match the corresponding NAICS industry codes to census industry codes, obtaining union membership data for each industry from 2003 to 2021. We exclude data prior to 2003 due to differing census industry definitions, which could impact the consistency and comparability of union membership data over time and then merge this dataset with our baseline PSM matched sample.

We follow previous literatures (Ahmad and Lambert, 2019; Kallousa et al., 2023) to classify firms with high union membership or coverage as those with values above the median. If union membership supports employees in organizing strikes or issuing lawsuits, thereby limiting the bidder's ability to restore operational efficiency (e.g., through increased labor disputes or resistance to cost-cutting measures), acquirers may be less likely to pursue firms with violations. Table 7 reports the estimation results. The significantly negative coefficients of the interaction terms suggest that the impact of safety violations on M&A likelihood is more pronounced for firms in industries with higher union membership. This finding supports the view that acquirers are concerned about labor-related costs and prefer targets with lower labor friction from less unionized environments.

# [Insert Table 7 here]

Next, we investigate whether information opacity influences the effect of workplace safety violations on takeover decisions. Information opacity magnifies uncertainty regarding the extent, severity, and financial implications of safety violations, making it difficult for acquirers to fully understand the risks involved. This increases the perceived risk and complicates due diligence, ultimately reducing the attractiveness of the target. Limited information prevents acquirers from accurately assessing risks associated with these violations, complicating the valuation process and reducing the attractiveness of the target. We measure information opacity using two proxies: (1) the dispersion of analysts' forecasts, calculated as the inter-analyst standard deviation of forecasts deflated by stock price (Lang and Lundholm, 1996), which captures the variation in market expectations and reflects uncertainty, and (2) the magnitude of discretionary accruals, estimated using the Kothari et al. (2005) model (Bhattacharya et al., 2013), which indicates the level of earnings management and provides insight into the transparency of financial reporting.

Firms are classified into high or low information opacity groups based on whether their information opacity measure is above or below the sample median for each year. We then interact our main variable of interest, Violation, with the information opacity measures (Infor). Table 8 reports the results of this analysis. Across all proxies, the coefficients on the interaction

term are negative and statistically significant, indicating that the negative effect of safety violations on M&A likelihood is more pronounced for firms with higher information opacity.

### [Insert Table 8 here]

# 5.2 Premiums and Market Reactions

Our findings thus far indicate that firms with workplace safety violations are less likely to be chosen as takeover targets. We now explore whether these violations influence the terms of M&A deals, such as premiums or deal conditions, and the subsequent value creation. Disclosed safety issues can indicate improper organizational practices or inefficient processes. Acquirers may pursue disciplinary takeovers to address such inefficiencies, but due to the potential costs of safety violations, acquirers might exploit these issues to enhance their bargaining power during negotiations. Existing literature suggests that acquirers' bargaining power significantly impacts takeover outcomes (Aktas et al., 2011; Boone and Mulherin, 2007). For instance, Gelman et al. (2021) find that powerful firms adversely affect investment advisor misconduct due to employment stability, while Ghannam et al. (2019) show that acquirers with influential non-executive chairs negotiate lower takeover premiums and achieve higher returns.

We hypothesize that firms with safety violations are acquired at lower premiums due to the perceived risk and increased negotiating leverage of acquirers, allowing them to extract additional gains. To test this, we evaluate whether bidders tender lower premiums for target firms with workplace safety violations. Takeover premium is defined as the ratio of the bidder's offer price to the target's stock price before the deal announcement. Using data from SDC, we employ three premium measures: relative to stock price four weeks, one week, and one day prior to the announcement. The following model estimates the effect of workplace safety violations on takeover premiums:

$$Premium_i = \beta_0 + \beta_1 Violation_i + \beta_i Controls_i + FEs + \varepsilon_i$$
(3)

where *Premium* represents the takeover premium at different time points before the announcement: four weeks, one week and one day. The key variable of interest is *Violation*, measured as *Num\_Vio* and *Val\_Vio*. We expect a negative coefficient on *Violation*, indicating leveraged bargaining power resulting in lower premiums.

In line with previous studies (Boone and Uysal, 2020; Dhaliwal et al., 2016), we include a set of control variables: acquirer sales (A\_SALE), the relative size (transaction value to acquirer total assets ratio, RELATIVE\_SIZE), market-to-book ratio for both acquirer and target (A\_MB, T\_MB), profitability (A\_ROA, T\_ROA), book leverage (A\_LEVERAGE, T\_LEVERAGE), and stock return (A\_STOCK\_RETURN, T\_STOCK\_RETURN) for both acquirer and target. Deal characteristics associated with bid premiums are also controlled, including form of payment (STOCK\_ONLY), deal attitude (HOSTILE), industry cross-over (CROSS\_IND), multiple bidders (MBID), termination clauses (TERM), and tender offers (TENDER). Definitions are provided in the appendix for clarity.

Table 9 presents the estimated effects on deal premiums. Across all specifications, the coefficients for Violation are negative and statistically significant. Specifically, a 1% increase in the number of violations or penalties leads to a reduction in premiums ranging from 0.145 to 0.014 percentage points. These results support our hypothesis that bidders have increased negotiating leverage due to the target firm's workplace safety violations, enabling acquirers to secure lower premiums.

# [Insert Table 9 here]

We also examine whether the target firm's record of workplace safety violations affects returns to acquirer shareholders, as this provides insight into how these violations influence the financial benefits that acquirers can realize from the transaction. Thus, we assess the effect of Violation on bidders' cumulative abnormal returns (CARs). Consistent with prior studies (Boone and Uysal, 2020), we use the market model to calculate expected returns, defining abnormal returns as deviations from these expectations. Our estimation window spans 200 trading days, from 205 days to 5 days before the bid announcement ([-205, -6]). We then calculate CARs for acquiring firms over the 3-day window around the announcement ([-1, 1]). This 3-day window is chosen because it captures the immediate market reaction to the announcement, reflecting investors' assessment of the merger's impact on the acquirer's value. The following model is employed, with controls consistent with Eq. (3):

$$CAR(-1,1)_{i} = \beta_{0} + \beta_{1} Violation_{i} + \beta_{i} Controls_{i} + FEs + \varepsilon_{i}$$
(4)

Table 10 presents the results for bidder returns. The coefficients on both *Num\_Vio* and *Val\_Vio* are statistically positive, indicating that bidders leverage safety violations as a negotiating tool to achieve higher returns by securing lower premiums. Specifically, for every 1% increase in the number of violations and penalty value, acquirer returns increase by an average of 3.3 basis points and 0.3 basis points, respectively. Control variable coefficients align with prior literature, with relative size, acquirer sales, and hostile deals negatively associated with acquirer abnormal return, while tender offers show a positive association with acquirer returns at announcement.

# [Insert Table 10 here]

## 5.3 Post-Merger Safety Performance

Finally, we investigate whether acquirers improve workplace safety after acquiring target firms with violations, as this can have significant implications for long-term value creation. Improved safety performance can reduce future liabilities, enhance employee morale, and ultimately contribute to sustained operational efficiency. Caskey and Ozel (2017) suggest that managers can impair workplace safety by either cutting safety expenditures or increasing employee workloads. Following their study, we use abnormal discretionary expenses per employee (AbnDiscExp) to measure safety expenditures. Specifically, *AbnDiscExp* is estimated as the residual from the following model, estimated for firm i in year t within each two-digit SIC code/year group with at least 15 observations. Selling, general, and administrative expenses (SG&A) include costs related to workplace safety:

$$\frac{SGA_{i,t}}{Emp_{i,t-1}} = \beta_0 + \beta_1 \cdot \frac{1}{Emp_{i,t-1}} + \beta_2 \cdot \frac{Sales_{i,t-1}}{Emp_{i,t-1}} + \varepsilon_{it}$$
(5)

Figure 1 illustrates the variations in average safety expenses during the three years before and after acquisitions of target firms, distinguishing between those with or without safety violations. The key observation is that acquirers of targets with safety violations tend to increase safety expenditures post-merger, whereas those acquiring targets without violations tend to decrease such expenditures. These results align with our predictions, indicating that acquirers devote more resources to improving workplace safety after taking over firms with a history of violations.

#### 6. Conclusion

This paper reveals that workplace safety violations significantly decrease the likelihood of a takeover, highlighting the critical role of labor practices in corporate acquisition decisions. Our analysis shows that firms with workplace safety violations are less likely to be acquired compared to those without such violations. By leveraging the staggered increases in state-level unemployment insurance benefits and the enactment of the 2010 SEC whistleblower program as exogenous shocks to workplace safety violations, we consistently identify a negative impact of both the number of violations and the value of penalties on takeover probability.

We find that the adverse effects of workplace safety violations on acquisition likelihood are particularly pronounced for firms with higher information asymmetry and stronger unionization, as greater information gaps make it difficult for acquirers to assess risks, while stronger unions may increase potential labor restructuring costs. This supports the view that acquirers are concerned with information quality, as it affects their ability to accurately evaluate risks and make informed decisions, and with potential labor restructuring costs, which can significantly impact the financial and operational integration of the target firm postacquisition. Furthermore, our analysis indicates that deals involving targets with workplace safety violations are associated with lower premiums and higher abnormal returns around the announcement date. This outcome gives acquirers a strategic advantage by allowing them to secure deals at a lower cost while simultaneously boosting shareholder value through increased returns. This suggests that acquirers leverage these violations to negotiate lower premiums, thereby enhancing their returns.

Overall, our research provides new insights into how workplace safety violations reduce acquisition likelihood, impact deal premiums, and influence acquirer returns, thereby shaping dynamics within the corporate control market. Our findings align with previous literature emphasizing the importance of human capital in the M&A target selection process (Chen et al., 2021; Lee et al., 2018). However, unlike earlier studies, our research specifically examines workplace safety violations as a direct indicator of labor frictions and the quality of employee treatment post-merger, providing a novel approach to understanding how these violations affect integration and operational efficiency in acquisitions. This approach offers evidence on the tangible economic consequences of employee relations. Additionally, our findings imply that regulatory bodies should consider implementing stricter workplace safety standards and enhancing enforcement mechanisms, as these measures could mitigate the broader economic impacts of workplace safety violations and influence the corporate control market positively.

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#### Table 1. Propensity score matching analysis

This table reports the comparison between the treatment and control firms' characteristics. For each treated violated firm-year, we perform one-to-one nearest neighbor propensity score matching, without replacement and with a 0.05 caliper on a set of observable firm characteristics. The sample consists of 4,819 pairs of violated and non-violated firm-years and the sample period is 2000-2021. Panel A presents the univariate comparisons (balance tests) between the characteristics of the treatment firms and control firms during the same year and their corresponding p-values. Panel B reports the distribution of estimated propensity scores after the matching procedure. All variables are defined in Appendix Table 1. All continuous variables are winsorized at 1 percent and 99 percent.

		Trea	atment	Со	ntrol		
Variables	N	Mean	Std. Dev.	Mean	Std. Dev.	Diff.	p-value of Diff.
SIZE	4819	8.439	1.587	8.453	1.718	-0.014	0.683
BM	4819	0.529	0.453	0.540	0.496	-0.011	0.260
EP	4819	0.014	0.236	0.016	0.196	-0.001	0.738
T_ROA	4819	0.135	0.071	0.134	0.081	0.001	0.710
SGEOW	4819	0.087	0.238	0.080	0.238	0.007	0.149
T_LEVERAGE	4819	0.285	0.165	0.289	0.177	-0.004	0.290
TANG	4819	0.320	0.203	0.321	0.265	-0.001	0.771
LIQUIDITY	4819	0.220	0.129	0.219	0.149	0.000	0.911
GRDUMMY	4819	0.347	0.476	0.337	0.473	0.010	0.293
INST_OWN	4819	0.690	0.297	0.684	0.320	0.005	0.393

Panel A: Differences in Firm Characteristics

Panel B: Estimated Propensity Score Distributions

Percentiles	10th	25th	40th	60th	75th	90th
Treatment	0.037	0.079	0.127	0.195	0.265	0.359
Control	0.037	0.079	0.127	0.195	0.266	0.359

#### Table 2. Baseline regression of takeover likelihood

This table reports the regression results of logit model that examine how workplace safety violations affects takeover likelihood. The dependent variable is the target dummy, which equals 1 if the firm receive a takeover bid and 0 otherwise. The main independent variables are Num\_Vio and Val\_Vio, which are the natural logarithm of one plus the number of workplace safety violations and total penalty of violations, respectively. All variables are defined in Appendix Table 1. Columns (1) and (4) only include the main variable and controls, columns (2) and (5) include year fixed effects, and columns (3) and (6) add industry fixed effects. The loss of observation is due to no variation in the target dummy for certain industries. Standard errors adjusted for firm-level clustering and robust t-statistics are displayed in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Num_Vio	-0.717***	-0.710***	-0.526***			
	(-4.049)	(-3.971)	(-2.778)			
Val_Vio				-0.075***	-0.075***	-0.057***
				(-4.502)	(-4.466)	(-3.079)
SIZE	-0.110**	-0.091*	-0.170***	-0.120**	-0.100*	-0.176***
	(-2.101)	(-1.664)	(-3.114)	(-2.322)	(-1.850)	(-3.271)
BM	-0.012	-0.029	-0.122	-0.011	-0.026	-0.120
	(-0.062)	(-0.141)	(-0.585)	(-0.059)	(-0.127)	(-0.580)
EP	0.372	0.368	0.535	0.372	0.374	0.538
	(0.749)	(0.794)	(0.990)	(0.744)	(0.796)	(0.985)
T_ROA	0.148	-0.145	-0.168	0.127	-0.163	-0.187
	(0.143)	(-0.136)	(-0.163)	(0.124)	(-0.155)	(-0.182)
SGROW	0.261	0.224	0.063	0.255	0.220	0.064
	(0.876)	(0.723)	(0.197)	(0.853)	(0.709)	(0.201)
T_LEVERAGE	0.799*	0.895*	1.004**	0.797*	0.895*	0.997**
	(1.768)	(1.942)	(2.147)	(1.770)	(1.948)	(2.132)
TANG	-0.294	-0.297	-0.550	-0.295	-0.301	-0.550
	(-0.746)	(-0.769)	(-1.013)	(-0.751)	(-0.780)	(-1.011)
LIQUIDITY	0.672	0.700	0.585	0.669	0.702	0.588
	(1.211)	(1.286)	(0.933)	(1.212)	(1.297)	(0.942)
GRDUMMY	-0.070	-0.057	-0.078	-0.072	-0.061	-0.080
	(-0.411)	(-0.335)	(-0.445)	(-0.427)	(-0.356)	(-0.457)
INST_OWN	2.175***	2.279***	2.505***	2.162***	2.268***	2.488***
	(6.381)	(6.265)	(6.829)	(6.353)	(6.247)	(6.794)
Constant	-4.758***	-4.485***	-3.531***	-4.631***	-4.370***	-3.454***
	(-6.974)	(-5.982)	(-3.280)	(-6.843)	(-5.863)	(-3.209)
Year FE	No	Yes	Yes	No	Yes	Yes
Industry FE	No	No	Yes	No	No	Yes
Observations	9,638	9,638	9,032	9,638	9,638	9,032
Pseudo R2	0.0481	0.0696	0.0949	0.0488	0.0705	0.0954

#### Table 3. Endogeneity tests: UI treatment

This table reports the IV(instrument variable) probit regression results to address the omitted variables concerns. The instrument variable is the increase rate in state-level unemployment insurance. UI treatment equals one if the state-year's unemployment insurance increases at least 10% while not following an increase greater than 10% in unemployment benefits in the prior year. Violation as dependent variable in the second stage are measured by the number of violations and amount of penalties. All variables are defined in Appendix Table 1. Standard errors adjusted for firm-level clustering and robust t-statistics are displayed in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	Num	_Vio	Val_Vio		
	Violation	Takeover	Violation	Takeover	
	(1)	(2)	(3)	(4)	
Treatment	0.013***		0.106**		
	(2.839)		(2.561)		
VIOLATION		-3.231***		-0.357***	
		(-4.124)		(-4.504)	
SIZE	0.045***	0.094	0.408***	0.096	
	(14.147)	(1.339)	(17.192)	(1.423)	
BM	-0.019***	-0.022	-0.181***	-0.026	
	(-4.790)	(-0.479)	(-5.381)	(-0.598)	
EP	-0.004	-0.036	-0.034	-0.034	
	(-1.065)	(-1.346)	(-0.980)	(-1.292)	
T_ROA	-0.090***	-0.244**	-0.777***	-0.235**	
	(-7.564)	(-2.141)	(-7.679)	(-2.214)	
SGROW	-0.002	-0.026	-0.035**	-0.030*	
	(-1.552)	(-1.543)	(-2.431)	(-1.868)	
T_LEVERAGE	-0.060***	-0.002	-0.536***	-0.012	
	(-3.912)	(-0.010)	(-4.045)	(-0.065)	
TANG	0.059***	0.191**	0.507***	0.183**	
	(2.821)	(2.097)	(3.041)	(2.231)	
LIQUIDITY	0.018	0.127*	0.058	0.087	
	(1.318)	(1.890)	(0.532)	(1.273)	
GRDUMMY	0.006*	0.049**	0.037	0.042*	
	(1.917)	(2.218)	(1.361)	(1.801)	
INST_OWN	-0.022**	0.442	-0.109	0.445	
	(-2.220)	(1.267)	(-1.382)	(1.287)	
Constant	-0.268***	-2.217***	-2.369***	-2.126***	
	(-7.838)	(-3.185)	(-7.986)	(-2.927)	
Year FE	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	
State FE	Yes	Yes	Yes	Yes	
Observations	52,129	52,129	52,129	52,129	

#### Table 4. Endogeneity tests: The 2010 SEC Whistleblower program

The instrument variable is the year dummy of establishment of 2010 SEC whistleblower program. After 2010 is a dummy variable that equals 1 if the year is after 2010. Violation as dependent variable in the second stage are measured by the number of violations and amount of penalties. All variables are defined in Appendix Table 1. Standard errors adjusted for firm-level clustering and robust t-statistics are displayed in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	Num_Vio		Val_Vio		
	Violation	Takeover	Violation	Takeover	
	(1)	(2)	(3)	(4)	
After_2010	0.090**		0.683*		
	-2.336		-1.891		
VIOLATION		-1.966***		-0.226***	
		(-30.386)		(-46.479)	
SIZE	0.059***	0.092***	0.255***	0.038*	
	-6.391	-3.83	-4.066	-1.794	
BM	-0.032	-0.077*	-0.342**	-0.090**	
	(-1.591)	(-1.758)	(-2.151)	(-2.243)	
EP	-0.092***	-0.118	-0.820***	-0.13	
	(-3.046)	(-1.370)	(-3.047)	(-1.548)	
T_ROA	0.112	0.175	0.211	0.01	
	-0.942	-0.682	-0.219	-0.041	
SGROW	0.090***	0.177***	0.827***	0.187***	
	-3.371	-2.818	-3.487	-3.072	
T_LEVERAGE	-0.107*	-0.082	-1.246**	-0.169	
	(-1.669)	(-0.559)	(-2.347)	(-1.177)	
TANG	0.120*	0.164	0.796	0.117	
	-1.74	-1.109	-1.475	-0.869	
LIQUIDITY	0.204**	0.456**	1.679**	0.430**	
	-2.254	-2.476	-2.331	-2.554	
GRDUMMY	0.032**	0.053	0.181	0.033	
	-2.173	-1.561	-1.485	-1.038	
INST_OWN	-0.024	0.23	-0.409	0.151	
	(-0.645)	-1.456	(-1.334)	-0.958	
Constant	-0.328*	-1.102***	0.204	-0.362	
	(-1.748)	(-2.580)	-0.12	(-0.788)	
Year FE	Yes	Yes	Yes	Yes	
Industry FE	Yes	Yes	Yes	Yes	
State FE	No	No	No	No	
Observations	9,032	9,032	9,032	9,032	

#### Table 5. Transaction values of acquisitions

This table reports the regression results of liner model that examine how workplace safety violations affects takeover transaction value. The dependent variable is the logarithm of one plus the transaction value. The main independent variables are Num\_Vio and Val\_Vio, which are the natural logarithm of one plus the number of workplace safety violations and total penalty of violations, respectively. All variables are defined in Appendix Table 1. Columns (1) and (4) only include the main variable and controls, columns (2) and (5) include year fixed effects, and columns (3) and (6) add industry fixed effects. The loss of observation is due to no variation in the target dummy for certain industries. Standard errors adjusted for firm-level clustering and robust t-statistics are displayed in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Num_Vio	-0.099***	-0.097***	-0.069***			
	(-5.141)	(-5.065)	(-3.216)			
Val_Vio				-0.012***	-0.012***	-0.009***
				(-5.184)	(-5.162)	(-3.397)
SIZE	-0.002	0.001	-0.013*	-0.005	-0.002	-0.015**
	(-0.244)	(0.149)	(-1.848)	(-0.740)	(-0.297)	(-2.139)
BM	-0.005	-0.005	-0.016	-0.006	-0.005	-0.017
	(-0.223)	(-0.189)	(-0.636)	(-0.246)	(-0.215)	(-0.669)
EP	0.026	0.033	0.037	0.025	0.032	0.036
	(0.735)	(0.909)	(0.999)	(0.720)	(0.894)	(0.973)
T_ROA	0.058	0.006	-0.048	0.050	-0.002	-0.054
	(0.344)	(0.037)	(-0.267)	(0.299)	(-0.014)	(-0.296)
SGROW	0.040	0.034	0.019	0.040	0.034	0.020
	(0.796)	(0.650)	(0.358)	(0.800)	(0.660)	(0.380)
T_LEVERAGE	0.134*	0.153**	0.199**	0.133*	0.153**	0.196**
	(1.811)	(2.009)	(2.533)	(1.800)	(2.005)	(2.494)
TANG	-0.066	-0.063	-0.113	-0.068	-0.065	-0.115
	(-1.093)	(-1.046)	(-1.427)	(-1.127)	(-1.084)	(-1.447)
LIQUIDITY	0.101	0.115	0.113	0.103	0.116	0.113
	(0.988)	(1.129)	(0.969)	(1.003)	(1.142)	(0.971)
GRDUMMY	-0.008	-0.006	-0.006	-0.008	-0.006	-0.006
	(-0.289)	(-0.209)	(-0.207)	(-0.300)	(-0.224)	(-0.231)
INST_OWN	0.235***	0.249***	0.283***	0.233***	0.248***	0.281***
	(8.337)	(8.091)	(8.395)	(8.288)	(8.064)	(8.372)
Constant	0.013	-0.023	0.081	0.054	0.017	0.109
	(0.159)	(-0.277)	(0.926)	(0.685)	(0.208)	(1.264)
Year FE	No	Yes	Yes	No	Yes	Yes
Industry FE	No	No	Yes	No	No	Yes
Observations	9,638	9,638	9,518	9,638	9,638	9,518
R2	0.007	0.011	0.017	0.008	0.012	0.018

#### Table 6. Longer windows for acquisitions

This table reports the robustness tests of logit model that examine the dynamic effects of workplace safety violations on takeover likelihood. These tests extend the window following the disclosed workplace safety violations from one year in baseline model to two and three years. The dependent variable is the target dummy, which equals 1 if the firm receive a takeover bid in the following two years (three years), and 0 otherwise. The main independent variables are Num\_Vio and Val\_Vio, which are the natural logarithm of one plus the number of workplace safety violations and total penalty of violations, respectively. All variables are defined in Appendix Table 1. Standard errors adjusted for firm-level clustering and robust t-statistics are displayed in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Num_Vio	-0.573***	-0.564***	-0.358**			
	(-3.816)	(-3.763)	(-2.338)			
Val_Vio				-0.063***	-0.062***	-0.042***
				(-4.523)	(-4.483)	(-2.811)
Constant	-3.140***	-2.955***	-2.723***	-3.027***	-2.850***	-2.664***
	(-5.837)	(-4.969)	(-2.756)	(-5.675)	(-4.821)	(-2.698)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	No	Yes	Yes
Industry FE	No	No	Yes	No	No	Yes
Observations	9,638	9,638	9,058	9,638	9,638	9,058
Pseudo R2	0.0526	0.0696	0.0981	0.0538	0.0709	0.0987

Panel A: Two-year Lag

Panel B: Three-year Lag

	(1)	(2)	(3)	(4)	(5)	(6)
Num_Vio	-0.566***	-0.562***	-0.333**			
	(-4.022)	(-3.986)	(-2.405)			
Val_Vio				-0.061***	-0.060***	-0.037***
				(-4.663)	(-4.625)	(-2.719)
Constant	-2.475***	-2.501***	-1.887*	-2.364***	-2.395***	-1.827*
	(-5.113)	(-4.520)	(-1.881)	(-4.935)	(-4.360)	(-1.820)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	No	Yes	Yes
Industry FE	No	No	Yes	No	No	Yes
Observations	9,638	9,638	9,351	9,638	9,638	9,351
Pseudo R2	0.108	0.108	0.108	0.108	0.108	0.108

#### Table 7. The union power channel

This table tests the relation between workplace safety violations, union power and takeover probability in the panel regression of Eq. (1). The dependent variable is the target dummy, which equals 1 if the firm is a takeover target and 0 otherwise. Union power is measured by two proxies. Union\_Mermbership is percent of employed workers who are union members. Union\_coverage is the percent of employed workers who are covered by a collective bargaining agreement. High union power groups depend on whether the firm's union power measure is above (below) the sample yearly median value of the sample. All variables are defined in Appendix Table A.1. Year and industry indicators based on Fama French 48 industry classifications control for year and industry fixed effects. Standard errors are clustered at the target level. t-Statistics are reported in parentheses. The p-values are given in parenthesis. \*\*\*, \*\* and \* stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Union_Membership		Union_C	Coverage
	(1)	(2)	(3)	(4)
High_Proxy * Num_Vio	-1.047**		-0.975**	
	(-2.553)		(-2.402)	
High_Proxy * Val_Vio		-0.106***		-0.099***
		(-2.818)		(-2.631)
High_Proxy	0.452	0.491	0.348	0.379
	(1.295)	(1.404)	(1.038)	(1.132)
Num_Vio	-0.187		-0.219	
	(-0.742)		(-0.865)	
Val_Vio		-0.017		-0.021
		(-0.665)		(-0.798)
SIZE	-0.147**	-0.155**	-0.146**	-0.155**
	(-2.407)	(-2.553)	(-2.407)	(-2.556)
BM	-0.063	-0.067	-0.060	-0.064
	(-0.268)	(-0.286)	(-0.257)	(-0.274)
EP	0.480	0.480	0.481	0.483
	(0.871)	(0.861)	(0.879)	(0.873)
T_ROA	0.073	0.065	0.110	0.103
	(0.062)	(0.055)	(0.093)	(0.087)
SGROW	0.019	0.018	0.018	0.016
	(0.051)	(0.047)	(0.047)	(0.043)
T_LEVERAGE	0.652	0.645	0.656	0.648
	(1.222)	(1.208)	(1.229)	(1.214)
TANG	-0.453	-0.458	-0.443	-0.448
	(-0.766)	(-0.771)	(-0.751)	(-0.757)
LIQUIDITY	0.696	0.698	0.699	0.700
	(1.038)	(1.045)	(1.043)	(1.049)
GRDUMMY	-0.089	-0.090	-0.088	-0.088
	(-0.457)	(-0.462)	(-0.449)	(-0.452)
INST_OWN	2.410***	2.396***	2.405***	2.390***
	(5.981)	(5.951)	(5.968)	(5.937)
Constant	-4.268***	-4.190***	-4.264***	-4.180***
	(-3.655)	(-3.582)	(-3.659)	(-3.581)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	6,935	6,935	6,935	6,935
Pseudo R2	0.1072	0.1071	0.1065	0.1063

#### Table 8. The Information opacity channel

This table tests the relation between workplace safety violations, information opacity, and takeover probability in the panel regression of Eq. (1). The dependent variable is the target dummy, which equals 1 if the firm is a takeover target and 0 otherwise. Information opacity is measured by three proxies. Dispersion is the cross-sectional standard deviation of individual analysts' annual forecasts for a given firm scaled by price at current year. Accruals is calculated as absolute value of discretionary accruals of the firm's financial statements based on Kothari et al. (2005) model. High information asymmetry groups depend on whether the firm's information asymmetry measure is above (below) the sample yearly median value of the sample. All variables are defined in Appendix Table A.1. Standard errors are clustered at the firm level. t-Statistics are reported in parentheses. The p-values are given in parenthesis. \*\*\*, \*\* and \* stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Dispersion		Acc	ruals
	(1)	(2)	(3)	(4)
High_Proxy * Num_Vio	-0.974***		-0.993**	
	(-2.758)		(-2.324)	
High_Proxy * Val_Vio		-0.094***		-0.109***
		(-2.645)		(-2.841)
High_Proxy	0.723***	0.735***	0.108	0.155
	(3.358)	(3.276)	(0.505)	(0.697)
Num_Vio	-0.102		-0.147	
	(-0.430)		(-0.675)	
Val_Vio		-0.009		-0.011
		(-0.328)		(-0.467)
SIZE	-0.144***	-0.151***	-0.176***	-0.181***
	(-2.620)	(-2.765)	(-3.213)	(-3.340)
BM	-0.198	-0.196	-0.160	-0.157
	(-0.757)	(-0.753)	(-0.774)	(-0.764)
EP	0.311	0.308	0.447	0.441
	(0.528)	(0.517)	(0.819)	(0.797)
T_ROA	0.072	0.058	-0.027	-0.039
	(0.068)	(0.056)	(-0.026)	(-0.038)
SGROW	-0.024	-0.023	0.073	0.079
	(-0.074)	(-0.072)	(0.222)	(0.238)
T_LEVERAGE	0.787	0.795	0.936**	0.939**
	(1.614)	(1.628)	(1.982)	(1.991)
TANG	-0.701	-0.705	-0.650	-0.652
	(-1.267)	(-1.273)	(-1.189)	(-1.190)
LIQUIDITY	0.392	0.400	0.598	0.601
	(0.599)	(0.615)	(0.951)	(0.957)
GRDUMMY	-0.028	-0.031	-0.112	-0.116
	(-0.158)	(-0.175)	(-0.632)	(-0.651)
INST_OWN	2.087***	2.073***	2.490***	2.475***
	(4.717)	(4.677)	(6.681)	(6.658)
Constant	-3.443***	-3.390***	-2.843***	-2.802***
	(-2.995)	(-2.960)	(-2.891)	(-2.852)
Year FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	7,533	7,533	8,743	8,743
Pseudo R2	0.0931	0.0928	0.0994	0.1011

#### **Table 9. Premium effects**

This table reports the regression results of deal premiums on workplace safety related violations. The dependent variable is Premium, which is the percentage difference between the bid price offered and the target's trading price four weeks prior, one week prior and one day prior, as calculated by SDC. The main independent variables are Num\_Vio and Val\_Vio, which are the natural logarithm of one plus the number of workplace safety violations and total penalty of violations, respectively. All variables are defined in Appendix Table 1. Year and industry indicators based on Fama French 48 industry classifications control for year and industry fixed effects. Standard errors are clustered at the target level. t-Statistics are reported in parentheses. The p-values are given in parenthesis. \*\*\*, \*\* and \* stand for statistical significance at the 1%, 5% and 10% level, respectively.

	Prer	n4wk	Prem1wk		Prem1day	
	(1)	(2)	(1)	(2)	(1)	(2)
Num_Vio	-0.145***		-0.159***		-0.133***	
	(-2.812)		(-3.565)		(-3.059)	
Val Vio		-0.014**		-0.017***		-0.013***
—		(-2.289)		(-3.384)		(-2.757)
A MB	0.004	0.004	0.002	0.002	0.002	0.002
—	(0.902)	(0.907)	(0.684)	(0.689)	(0.611)	(0.615)
RELATIVE SIZE	-0.037***	-0.037***	-0.033***	-0.032***	-0.035**	-0.035**
—	(-2.877)	(-2.870)	(-2.754)	(-2.711)	(-2.581)	(-2.557)
A ROA	0.570**	0.573**	0.326	0.328	0.331	0.333
_	(2.084)	(2.094)	(1.422)	(1.431)	(1.268)	(1.277)
A_STOCK_RETURN	0.099**	0.099**	0.076*	0.076*	0.075*	0.075*
	(2.351)	(2.345)	(1.930)	(1.918)	(1.898)	(1.891)
A_LEVERAGE	-0.046	-0.047	-0.067	-0.067	-0.050	-0.051
	(-0.359)	(-0.367)	(-0.607)	(-0.613)	(-0.436)	(-0.442)
A_SALE	-0.010	-0.010	-0.012	-0.012	-0.016	-0.016
	(-0.683)	(-0.686)	(-1.132)	(-1.110)	(-1.414)	(-1.403)
T_MB	-0.004	-0.004	-0.006***	-0.006***	-0.005**	-0.005**
	(-1.197)	(-1.187)	(-2.593)	(-2.592)	(-2.173)	(-2.167)
T_ROA	-0.677***	-0.677***	-0.396***	-0.396***	-0.362***	-0.361***
	(-2.934)	(-2.934)	(-3.466)	(-3.466)	(-2.958)	(-2.957)
T_STOCK_RETURN	-0.034	-0.034	-0.033	-0.033	-0.033	-0.033
	(-1.304)	(-1.305)	(-1.351)	(-1.354)	(-1.318)	(-1.320)
T_LEVERAGE	-0.133	-0.132	-0.074	-0.074	-0.102	-0.101
	(-1.110)	(-1.105)	(-0.832)	(-0.827)	(-1.185)	(-1.179)
CROSS_IND	-0.062*	-0.061*	-0.038	-0.036	-0.048*	-0.047*
	(-1.924)	(-1.881)	(-1.486)	(-1.427)	(-1.819)	(-1.772)
HOST	0.150	0.152	0.194	0.195	-0.008	-0.007
	(0.453)	(0.455)	(0.692)	(0.691)	(-0.040)	(-0.036)
STOCK_ONLY	-0.042	-0.042	-0.042	-0.041	-0.017	-0.017
	(-0.570)	(-0.567)	(-0.987)	(-0.975)	(-0.385)	(-0.378)
TENDER	0.072	0.073	0.102***	0.103***	0.117***	0.117***
	(1.189)	(1.197)	(2.764)	(2.787)	(3.007)	(3.024)
MBID	0.280***	0.279***	0.146*	0.145*	0.177**	0.176**
	(2.623)	(2.612)	(1.962)	(1.951)	(2.107)	(2.099)
TERM	-0.146	-0.146	-0.006	-0.006	-0.031	-0.031
	(-0.963)	(-0.962)	(-0.097)	(-0.093)	(-0.408)	(-0.405)
Constant	0.586***	0.585***	0.453***	0.451***	0.476***	0.475***
	(2.647)	(2.637)	(4.404)	(4.386)	(4.207)	(4.197)
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	884	884	884	884	884	884
R-squared	0.198	0.198	0.252	0.252	0.233	0.232

#### Table 10 Acquirer shareholder return effects

This table reports the regression results of acquirer returns around the announcement date. The dependent variable CAR (-1,1) is the cumulative abnormal returns to acquirers which are calculated over a three-day event window (one day before and one day after the announcement date). The benchmark returns are obtained from a 200-day estimation window [-205,-6] in which the market returns are the value-weighted index of returns for the combined New York Stock Exchange, American Stock Exchange, and NASDAQ. All variables are defined in Appendix Table 1. Year and industry indicators based on Fama French 48 industry classifications control for year and industry fixed effects. Standard errors are clustered at the target level. t-Statistics are reported in parentheses. The p-values are given in parenthesis. \*\*\*, \*\* and \* stand for statistical significance at the 1%, 5% and 10% level, respectively.

	CAR(-1,1)	CAR(-1,1)
Num_Vio	0.033**	
	(2.003)	
Val_Vio		0.003**
		(2.152)
A_MB	-0.001	-0.001
	(-1.062)	(-1.068)
RELATIVE_SIZE	-0.009***	-0.009***
	(-4.946)	(-4.984)
A_ROA	0.070*	0.069*
	(1.873)	(1.861)
A_STOCK_RETURN	0.003	0.003
	(0.495)	(0.511)
A_LEVERAGE	0.001	0.001
	(0.046)	(0.053)
A_SALE	-0.003**	-0.003**
	(-1.971)	(-2.003)
T_MB	-0.000	-0.000
	(-0.352)	(-0.363)
T_ROA	0.007	0.007
	(0.447)	(0.444)
T_STOCK_RETURN	-0.000	-0.000
	(-0.036)	(-0.032)
T_LEVERAGE	-0.002	-0.002
	(-0.142)	(-0.140)
CROSS_IND	-0.010*	-0.010*
	(-1.803)	(-1.853)
HOST	-0.018**	-0.018**
	(-2.154)	(-2.177)
STOCK_ONLY	0.013	0.013
	(0.448)	(0.438)
TENDER	0.010*	0.010*
	(1.875)	(1.836)
MBID	0.012	0.012
	(1.126)	(1.151)
TERM	0.006	0.006
	(0.702)	(0.694)
Constant	-0.009	-0.009
	(-0.645)	(-0.613)
Year FE	Yes	Yes
Industry FE	Yes	Yes
#Observations	912	912
R-squared	0.177	0.177

# Figure 1 Post-merger workplace safety performance

This figure presents the variations in safety expenses before and after acquisitions between targets with or without prior safety violations. The safety investment is measured by abnormal discretionary expenses per employee.



Variable	Definition
SIZE	Natural logarithm of firm asset: Ln (AT)
BM	Book to market ratio: CEQ/(PRCC_F*CSHO)
EP	Earnings to price ratio: EPSPX/ PRCC_F
T_ROA	Target's Operating income before depreciation over total assets: OIBDP/AT
A_ROA	Acquiror's Operating income before depreciation over total assets: OIBDP/AT
SGROW	Sales growth rate: $(SALE_t/SALE_{t-1} - 1)$
T_LEVERAGE	Target's Ratio of Long-term debt to its equity: DLTT+DLC/AT
A_LEVERAGE	Acquiror's Ratio of Long-term debt to its equity: DLTT+DLC/AT
TANG	Tangibility of assets: PPEGT/AT
LIQUIDITY	Liquidity: (CHE+RECT)/AT
GRDUMMY	0/1 variable based on SGROW, LIQUIDITY, and LEVERAGE. GRDUMMY has a value of 1 if the firm has a combination of either low SGROW/high LIQUIDITY/low LEVERAGE or high SGROW /low LIQUIDITY/high LEVERAGE. Each variable is defined as "high" if its value for a firm is larger than the average for the sample firms; otherwise, it is defined as "low".
INST_OWN	Percentage of institutional ownership.
A_MB	Acquiror market to book ratio: (PRCC_F*CSHO)/CEQ
A_SALE	Natural logarithm of Acquiror sale: In (SALE)
T_MB	Target market to book ratio: (PRCC_F*CSHO)/CEQ
A_STOCK_RETURN	Target stock price return: (PRCC_ $F_t$ /PRCC_ $F_{t-1} - 1$ )
T_STOCK_RETURN	Acquiror stock price return: (PRCC_ $F_t$ /PRCC_ $F_{t-1} - 1$ )
TERM	Termination fee: =1 if there is a termination fee clause in place, 0 otherwise
RELATIVE_SIZE	Natural logarithm of transaction value relative to the acquirer asset
HOST	Hostile: =1 if takeover bid is classified as hostile, 0 otherwise
CROSS_IND	Cross industry: = 0 if target and acquiror have the same 3-digit SIC, 1 otherwise
MBID	Multiple bidders: =1 if multiple bidders are involved in the takeover process, and 0 if only one bidder is involved.
TENDER	=1 if takeover classified as tender offer, 0 otherwise
STOCK_ONLY	=1 if the deal is paid entirely by stock, 0 otherwise
CAR(-1,1)	cumulative abnormal returns to acquirers which are calculated over a three- day event window (one day before and one day after the announcement date). The benchmark returns are obtained from a 200-day estimation window [-205,-6] in which the market returns are the value-weighted index of returns for the combined New York Stock Exchange, American Stock Exchange, and NASDAQ.
Target	=1 if the firm receive a takeover bid, 0 otherwise
Num_Vio	Natural logarithm of one plus the number of workplace safety violations
Val_Vio	Natural logarithm of one plus the total value penalty of violations

# Appendix A.1 Variable definition

# Appendix A.2 Correlation coefficients

This table presents pairwise correlations of the variables for the PSM sample. Definitions of the variables are provided in the Appendix.A.1.

Variables													
Target	1.000												
Num_Vio	-0.047	1.000											
Val_Vio	-0.050	0.898	1.000										
SIZE	-0.029	0.113	0.020	1.000									
BM	-0.015	-0.024	-0.012	-0.116	1.000								
EP	0.009	0.012	0.001	0.084	-0.377	1.000							
T_ROA	0.000	0.015	0.004	0.013	-0.352	0.298	1.000						
SGROW	0.010	0.020	0.019	-0.024	-0.090	0.135	0.137	1.000					
T_LEVERAGE	0.008	0.014	-0.006	0.179	-0.021	-0.122	-0.157	-0.020	1.000				
TANG	-0.025	0.020	0.004	0.063	0.200	-0.064	0.074	0.002	0.141	1.000			
LIQUIDITY	0.022	-0.038	-0.008	-0.229	-0.120	0.027	0.022	0.005	-0.342	-0.446	1.000		
GRDUMMY	0.001	0.016	0.012	-0.008	-0.046	0.067	-0.006	0.328	0.159	0.023	-0.113	1.000	
INST_OWN	0.065	0.017	0.011	-0.053	-0.161	0.088	0.011	0.015	0.016	-0.133	0.031	0.037	1.000

Appendix	( A.3	Summary	statistics	for the	pooling	sample
		•/				

This table reports the summary statistics of the variables used in our analysis of pooling sample. All variables are defined in Appendix A.1.

	Ν	Mean	SD	P25	Median	P75
Target	73556	0.022	0.147	0.000	0.000	0.000
Num_Vio	73556	0.064	0.264	0.000	0.000	0.000
Val_Vio	73556	0.643	2.433	0.000	0.000	0.000
SIZE	73556	6.321	2.152	4.718	6.248	7.786
BM	73556	0.678	0.702	0.268	0.478	0.816
EP	73556	-0.092	0.423	-0.058	0.029	0.060
T_ROA	73556	0.056	0.187	0.025	0.099	0.154
SGROW	73556	0.161	0.550	-0.040	0.071	0.214
T_LEVERAGE	73556	0.208	0.191	0.019	0.178	0.339
TANG	73556	0.258	0.241	0.071	0.170	0.378
LIQUIDITY	73556	0.353	0.232	0.169	0.300	0.499
GRDUMMY	73556	0.344	0.475	0.000	0.000	1.000
INST_OWN	73556	0.430	0.371	0.006	0.412	0.794

#### Appendix A.4 Regression results of the pooling sample

These tables report the regression results of logit model that examine how workplace safety violations affects takeover likelihood based on the pooled sample without matching. The dependent variable is the target dummy, which equals 1 if the firm receive a takeover bid and 0 otherwise. The main independent variables are Num\_Vio and Val\_Vio, which are the natural logarithm of one plus the number of workplace safety violations and total penalty of violations, respectively. All variables are defined in Appendix Table 1. Columns (1) and (4) only include the main variable and controls, columns (2) and (5) include year fixed effects, and columns (3) and (6) add industry fixed effects. The loss of observation is due to no variation in the target dummy for certain industries. Standard errors adjusted for firm-level clustering and robust t-statistics are displayed in parentheses. \*, \*\*, and \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Num_Vio	-0.575***	-0.537***	-0.338**			
	(-3.804)	(-3.543)	(-2.231)			
Val_Vio				-0.059***	-0.056***	-0.036**
				(-4.137)	(-3.877)	(-2.445)
SIZE	-0.256***	-0.223***	-0.242***	-0.256***	-0.223***	-0.242***
	(-13.584)	(-11.763)	(-12.676)	(-13.618)	(-11.784)	(-12.688)
BM	0.030	0.038	0.094**	0.030	0.038	0.094**
	(0.678)	(0.842)	(2.067)	(0.677)	(0.840)	(2.061)
EP	-0.305***	-0.292***	-0.236***	-0.305***	-0.292***	-0.236***
	(-4.806)	(-4.648)	(-3.586)	(-4.804)	(-4.644)	(-3.588)
T_ROA	0.123	-0.219	-0.177	0.124	-0.219	-0.178
	(0.806)	(-1.403)	(-1.068)	(0.810)	(-1.403)	(-1.072)
SGROW	0.030	0.014	-0.018	0.029	0.013	-0.018
	(0.741)	(0.326)	(-0.410)	(0.728)	(0.314)	(-0.415)
T_LEVERAGE	0.361**	0.504***	0.612***	0.361**	0.505***	0.612***
	(2.309)	(3.263)	(3.909)	(2.315)	(3.271)	(3.908)
TANG	0.082	0.070	-0.037	0.082	0.070	-0.036
	(0.548)	(0.465)	(-0.198)	(0.553)	(0.467)	(-0.195)
LIQUIDITY	0.539***	0.618***	0.305*	0.536***	0.615***	0.304*
	(3.703)	(4.215)	(1.958)	(3.679)	(4.193)	(1.948)
GRDUMMY	0.199***	0.194***	0.167***	0.199***	0.194***	0.166***
	(3.778)	(3.678)	(3.152)	(3.772)	(3.673)	(3.150)
INST_OWN	2.234***	2.467***	2.555***	2.236***	2.469***	2.556***
	(27.755)	(29.912)	(30.326)	(27.803)	(29.961)	(30.360)
Constant	-3.802***	-3.448***	-3.930***	-3.800***	-3.447***	-3.931***
	(-27.251)	(-21.828)	(-6.548)	(-27.277)	(-21.846)	(-6.546)
Year Fixed Effects	No	Yes	Yes	No	Yes	Yes
Industry Fixed Effects	No	No	Yes	No	No	Yes
Observations	73,556	73,556	72,689	73,556	73,556	72,689
Pseudo R2	0.0530	0.0675	0.0784	0.0531	0.0676	0.0784

Boone, A., & Uysal, V. B. (2020). Reputational concerns in the market for corporate control. Journal of Corporate Finance, 61, 101399.