

Voice of the Voiceless: How and When Does Organized Labor Deter Managerial Opportunism

Finance Working Paper N° 724/2021

August 2025

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Abstract

This study investigates how and when organized labor may prevent opportunistic behavior by management. We find that companies with organized labor experience significant reductions in abnormal dollar profits of insider trades. Supplementary analysis reveals that the impact of organized labor also extends to other forms of managerial misconduct, such as illegal insider trading, corporate accounting fraud, and stock option backdating. The restraining effects of labor unions on insider trading profits are particularly evident in insider sales and in companies with poor employee relations. Furthermore, a decline in opportunistic managerial actions correlates with improved firm productivity and performance. These findings highlight the potential aspect of employee governance, which aligns employee interests with the benefit of shareholders.

Keywords: Managerial Opportunism; Labor Unions; Employees; Insider Trading; Accounting Fraud

JEL Classifications: G14, G31, J51, M54

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ABSTRACT

This study investigates how and when organized labor may prevent opportunistic behavior by management. We find that companies with organized labor experience significant reductions in abnormal dollar profits of insider trades. Supplementary analysis reveals that the impact of organized labor also extends to other forms of managerial misconduct, such as illegal insider trading, corporate accounting fraud, and stock option backdating. The restraining effects of labor unions on insider trading profits are particularly evident in insider sales and in companies with poor employee relations. Furthermore, a decline in opportunistic managerial actions correlates with improved firm productivity and performance. These findings highlight the potential aspect of employee governance, which aligns employee interests to the benefit of shareholders.

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1. Introduction

Over the past decade, corporate governance has gradually shifted from shareholder primacy to stakeholder primacy, a change that has gained traction in both business and political circles. A notable example occurred in August 2019 when 181 CEOs of major US companies endorsed a new Statement on the Purpose of a Corporation, asserting that “companies should deliver long-term value to all of their stakeholders,” with a specific recognition of employees as vital internal stakeholders. During this period, various legislative proposals were introduced, including the Accountable Capitalism Act of 2018 and the Reward Work Act of 2019, which advocated worker representation on corporate boards.¹ While there is no overarching law mandating worker representation on US corporate boards, this emerging paradigm emphasizes stakeholder governance, offering opportunities for increased employee involvement in corporate decision-making. Considering the notable gap between the advocacy for and implementation of employee governance, it becomes crucial to explore whether and how employee governance can be effectively operationalized within the US business context.

In the absence of worker representation on corporate boards, this study focuses on labor unionization as an increasingly important mechanism for collective labor action in the US. As of 2022, union membership in the US reached over 16 million, an increase of 200,000 from 2021 ([Shierholz, Poydock, and McNicholas, 2023](#)). In the same year, the National Labor Relations Board (NLRB), a federal agency responsible for overseeing and enforcing labor laws, reports that the number of cases handled by the Field Offices went up by 23% compared to 2021,² the biggest jump in percentage since 1959 ([NLRB, 2023](#)). This resurgence in organized labor prompts us to study its role in corporate landscape from a new angle. We explore whether and under what circumstances organized labor can assume a governing role in shaping managerial conduct. Our starting point is grounded in agency cost theory ([Jensen and Meckling, 1976](#)), which posits that managers may divert company resources for their personal gain. This self-serving behavior can significantly af-

¹The Accountable Capitalism Act of 2018 (S.3348, 115th Congress) proposes that 40% of board seats be elected by employees and requires a federal corporate charter that would give directors a duty of generating a general public benefit to a corporation’s stakeholders. The Reward Work Act of 2019 (S.915, 116th Congress) proposes that workers elect one-third of board seats.

²The Field Offices dealt with 16,720 cases in 2021, and this rose to 20,498 cases in 2022. That is 3,778 more cases in just one year.

fect the value of contributions made by not only shareholders but also employees. Given their significant involvement in the production process and stakes in the firm’s resources, employees are incentivized to monitor managers to safeguard their investment in firm-specific human capital. Furthermore, employees have access to internal information, which can provide them with insights into managerial practices and behaviors. This insider perspective can enable employees to observe and potentially address managerial misconduct or misbehavior issues. These arguments characterize employees as a potential mechanism for internal control, implying that organized labor can help curb managerial opportunism and enhance overall corporate governance. However, the concept of employee governance raises two critical questions: first, why would employees focus on corporate governance if their rewards are not closely tied to firm performance; and second, why would managers consider employee input when their incentives are usually set by shareholders and boards, not by the employees.

To address the first question, our argument rests on two factors that influence the value of employees’ human capital contributions. First, employees typically have a stable income during periods of firm profitability but face potential wage cuts and layoffs if the company’s performance declines or it nears bankruptcy. This situation motivates employees to closely monitor managerial actions to minimize their risk of job loss and income reduction. Second, through collective bargaining, organized labor often seeks wage hikes and better employment benefits, including improved working conditions. By actively overseeing managerial decisions, organized labor gains an informational edge and increased leverage in negotiations with management ([Dyck, Morse, and Zingales, 2010](#); [Babenko and Sen, 2016](#)). Consequently, organized labor is likely to intensify governance efforts in negotiations for improved working conditions. In exploring the second question, we analyze the incentive structures of managers, which include not only the possibility of misappropriating firm resources but also receiving a portion of the firm’s profits through bonuses and equity ownership ([Nikolov and Whited, 2014](#)). While managers may be tempted to engage in opportunistic behavior to increase their personal gains, such actions can lead to employee dissatisfaction and feelings of injustice, causing a deterioration in the employer-employee relationship. This can lead employees to reduce their efforts, decrease productivity, and demand more costly labor contracts, resulting in weakened firm performance and erosion of various aspects of managers’ private benefits. Therefore,

it is essential for managers to engage in employee governance, strengthening workforce relationships and securing cost-effective labor agreements, ultimately enhancing the firm’s profitability.

Our analysis employs insider trading as a key proxy for managerial opportunism, inspired by the American Federation of Labor and Congress of Industrial Organizations’ (AFL-CIO’s) stance against unethical insider trading by corporate executives. Specifically, in their letter to the SEC dated April 1, 2022, the AFL-CIO endorsed reforms to curb executives’ misuse of Rule 10b5-1 for opportunistic trading based on nonpublic information.³ Additionally, in October 2017, the AFL-CIO called for an SEC investigation into significant trades by Navient Corp insiders, executed strategically before a congressional committee exposed potential regulatory evasion by the company. While labor unions typically focus on a variety of corporate practices, including wages, payouts, risk-taking, and leverage, the AFL-CIO’s recent proactive efforts against opportunistic insider trading underscore its importance. Our study is the first to examine managerial opportunistic behavior through insider trades.

Based on a sample of 4,681 unique firms from 1996 to 2017, we find abnormal dollar profits from insider trading to be lower in unionized than non-unionized firms, even after controlling for various firm-specific variables that predict insider trading activity. In economic terms, an average insider makes \$8,481 less profit (i.e., 23.60% of the mean dollar profit) in a unionized than non-unionized firm over a 20-trading day window after the transaction, or almost \$53,000 less if the event window is extended to 120 trading days.⁴ The effect of organized labor is strongest for notably large insider trading profits. The quantile regression analysis further reveals that the presence of unionized labor force leads to a decline of \$15,328 in dollar trading profits for highly profitable insider transactions over a 20-day window. In terms of the insider trade informativeness, the future stock return predictability by insider net purchases in unionized firms falls substantially by at least 28.6% relative to that of non-unionized firms over the one- to six-month window irrespective of how future stock returns are estimated. Our results remain robust and economically significant when employing alternative measures of informed insider trading, such as the net purchase scaled by the total number of insider trades (Lakonishok and Lee, 2001), the frequency of insider trading, and

³<https://www.sec.gov/comments/s7-20-21/s72021-20122170-278208.pdf>.

⁴The large difference in the 120-trading day window is in accord with the “short-swing” rule that discourages profit-seeking insiders from making profits within six months following the trade.

the proportion of insider trades prior to earnings announcements ([Ali and Hirshleifer, 2017](#)).

Our base results could be subject to an alternative interpretation, implying that insiders strategically reduce their informed trading to create an intentionally opaque information environment ([Bova, 2013](#); [Chung, Lee, Lee, and Sohn, 2015](#); [Huang, Jiang, Lie, and Que, 2017](#)). However, this interpretation seems less plausible considering three additional tests. First, our results remain consistent even when excluding labor contract negotiation years, a time when managers might change their trading strategy in response to union demands. Second, organized labor significantly diminishes other opportunism measures, such as illegal insider trading, fraudulent financial reporting, and backdating stock options. These robustness test results align better with organized labor’s disciplinary role than with the idea of insiders gaining bargaining power through costly litigation threats. Finally, our baseline findings hold across firms with various information environments, reducing the likelihood that insiders strategically trade stock to obscure corporate information.

Next, we employ two identification strategies to establish the causal effect of organized labor. We recognize the challenge posed by the potential endogeneity of labor union status, making it difficult to separate causal effects from other unobserved confounding factors. To address this concern, we conduct two tests. First, we apply a stacked difference-in-differences design (DiD) that leverages exogenous variation created by state-level adoption of Right-to-Work (RTW) laws, which have been shown to substantially reduce union density upon implementation ([Matsa, 2010](#); [Murphy, 2022](#)). Our findings indicate that abnormal insider trading profits increase in firms headquartered in states that adopted RTW laws, compared with those companies located in states without such legislation. Second, we employ an instrumental variable (IV) approach and instrument firm-level labor unionization rate with the proportion of female workers employed in heavy work occupations for a given industry using the 2SLS regression estimation model. The adverse effect of labor unions on insider trading profits remain robust in the IV estimation. The results from the two identification tests reinforce our primary evidence, suggesting that the dampening effect of organized labor on managerial opportunism is causal.

We further explore the conditions under which organized labor effectively curtails managerial opportunistic actions. The results reveal a more pronounced impact of organized labor on insider sales than insider buys, aligning with labor’s collective monitoring of negative signals about busi-

ness prospects. Furthermore, the influence of organized labor is notably robust when the returns on employees' firm-specific human investments are at risk, particularly in firms where employee mistreatment is more prevalent or where employee retirement benefits are underfunded. We also provide suggestive evidence on organized labor's strategies to monitor and discipline corporate managers. Our additional analyses indicate that unions influence management through access to National Labor Relations Board (NLRB) offices, interactions with peer unions, and involvement in union pension activism. These findings emphasize the diverse strategies unions deploy to counteract self-interested managerial behaviors.

Finally, we aim to understand why managers are concerned about employee governance and explore the potential economic benefits associated with it. While the presence of organized labor hurts firm performance, we observe some favorable effects of unionized labor on total factor productivity and firm performance attributed to the mitigation of opportunistic insider trading. Nonetheless, we acknowledge that this evidence may be tempered by the endogenous relations between labor unions, firm performance and insider trading. With this caveat in mind, our study unveils a shareholder advantage of organized labor: improved labor-management relations lead to enhanced firm performance.

Our study contributes to the growing body of literature that explores the governance role of labor. Complementing prior studies on the worker representation on corporate boards in the non-US context (e.g., [Blandhol, Mogstad, Nilsson, and Vestad, 2020](#) and [Jäger, Schoefer, and Heining, 2021](#)), we highlight the positive role of labor unions as an effective internal governance mechanism that controls managerial self-interest in the US. While previous research ([Rajan and Zingales, 1998](#); [Zingales, 2000](#); [Dyck, Morse, and Zingales, 2010](#)) suggests that employees can influence governance and limit managerial opportunism for shareholder benefit, empirical evidence has been mixed on the US sample. Some studies show that organized labor can either induce firms to implement strategic actions to preserve their bargaining power over unionized labor ([Chyz, Leung, Li, and Rui, 2013](#); [Huang, Jiang, Lie, and Que, 2017](#)) or prioritize employee over shareholder interests ([Fal-
eye, Mehrotra, and Morck, 2006](#); [Agrawal, 2012](#); [Matsusaka, Ozbas, and Yi, 2019](#)). Our research connects organized labor with reduced insider trading and other opportunistic behaviors, highlighting its role in preventing managerial entrenchment and boosting shareholder value. Importantly,

we also identify specific conditions that enhance employee monitoring and influence managerial reactions to labor in corporate governance. In a broader context, our work contributes to the expanding field of corporate culture studies (Guiso, Sapienza, and Zingales, 2015; Li, Mai, Shen, and Yan, 2021; Graham, Grennan, Harvey, and Rajgopal, 2022) by underscoring the significance of employees as key internal nonfinancial stakeholders in shaping corporate culture.

Our research introduces a new key factor influencing insider trading. Previous research (e.g., Fidrmuc, Goergen, and Renneboog, 2006; Bricker and Markarian, 2015; Massa, Qian, Xu, and Zhang, 2015; Ellul and Panayides, 2018) shows the roles of various stakeholders, including institutional investors, short sellers, and security analysts, in driving the informativeness of reported insider trading. All this evidence is based on percentage returns of reported insider trading. However, our work concentrates on the monetary profits of insiders (Cziraki and Gider, 2021), which are more noticeable to unionized employees with limited investment knowledge. We also emphasize organized labor’s significant role in reducing illegal insider trading, thereby enhancing financial market transparency (Ahern, 2017; Kacperczyk and Pagnotta, 2019).⁵ Our findings suggest that employees can serve as effective internal monitors against illicit trading.

The paper proceeds as follows: Section 2 reviews the literature and formulates our hypotheses. Section 3 describes our sample selection and research design. Section 4 presents the results. Section 5 examines why and how organized labor navigates managerial opportunism. Section 6 evaluates the economic benefits of opportunistic managerial actions. The final section concludes.

2. Related Literature and Hypothesis Development

2.1. Unionized Labor as a Governance Actor

Ample research in labor economics (e.g., Chiles and Stewart, 1993; Vedder and Gallaway, 2002) often portrays organized labor as an implicit tax, arguing that unions demand higher wages without corresponding increases in productivity, potentially undermining firm performance. Maksimovic and Yang (2023), for example, show that unionized plants experience higher rates of closure, lower

⁵Kacperczyk and Pagnotta (2019) report that the mean and median illegal profits per trader are \$757,127 and \$44,318, respectively, indicating the economic significance of curbing illegal trades.

investment, and slower employment growth despite higher wages and benefits. Consistent with this view, several studies highlight strategic corporate responses to limit unions’ rent-seeking behavior. [Klasa, Maxwell, and Ortiz-Molina \(2009\)](#) observe reduced cash holdings in highly unionized industries, suggesting firms shield resources from unions. [Chyz, Leung, Li, and Rui \(2013\)](#) find less tax aggressiveness in unionized firms, likely to reduce union access to tax-derived gains. [Huang, Jiang, Lie, and Que \(2017\)](#) document lower executive compensation during labor negotiations, consistent with managerial attempts to manage union dynamics.

However, we contend that unionization can enhance corporate governance and managerial oversight. Workers, like shareholders, seek returns on their investment in human capital. Employee welfare often deteriorates due to management misconduct, leading to job losses and wage cuts. For example, [Choi and Gipper \(2021\)](#) find employees at fraud-involved firms lose about 50% of their annual wages, with increased turnover post-fraud. Unlike shareholders, who can diversify stock holdings, employees cannot diversify their firm-specific investments, making them more motivated to oversee management to safeguard their jobs and earnings.

Organized labor is uniquely positioned to monitor managerial misconduct due to its internal access and lower costs in detecting indiscretions. Employees often encounter critical information through daily activities and interactions. Prior research shows that employees are crucial in detecting corporate wrongdoing ([Bowen, 2010](#); [Dyck, Morse, and Zingales, 2010](#)), suggesting the pivotal role of employees in exposing corporate malfeasance and their company stock purchases often forecast future stock performance ([Babenko and Sen, 2016](#)). Unionized workers, as a collective, face lower risks of retaliation when reporting misconduct, unlike individual employees who often face termination or demotion after whistleblowing.⁶ This is evident on the website of the American Federation of Labor and Congress of Industrial Organizations, the largest federation of unions in the United States, where the “corporate greed” section sheds light on dubious corporate and managerial actions. Moreover, organized labor may seek bargaining leverage by exposing managerial misconduct. This oversight does not eliminate insiders’ access to private information, but it may curb their ability to exploit that advantage, thereby limiting self-serving behavior and reinforcing

⁶According to [Dyck, Morse, and Zingales \(2010\)](#), in 82% of the whistleblower cases involving employees in their study, the whistleblowers were either terminated, forced to resign, or had their roles significantly altered after exposing corporate fraud.

internal discipline.

To directly assess labor’s role in constraining managerial opportunism, we focus on opportunistic insider trading, proxied by the dollar profits from insider transactions, as our primary measure of managerial opportunism. Conceptually, this measure offers a distinct advantage in addressing the joint hypothesis problem that complicates prior studies on labor’s governance role. Employees hold both explicit claims on a firm’s cash flows, such as wages, pensions, and stock ownership, and implicit claims such as expectations of job security and fair treatment. These claims incentivize employees to monitor managerial behavior. However, firm-level outcomes such as executive pay or investment policy often reflect strategic adjustments by management and the board, which may preempt or co-opt employee influence in favor of shareholder interests.

While prior research finds that labor unions are associated with reductions in executive compensation (Huang, Jiang, Lie, and Que, 2017), cash holdings (Klasa, Maxwell, and Ortiz-Molina, 2009), and tax aggressiveness (Chyz, Leung, Li, and Rui, 2013), such findings are frequently interpreted as optimizing firm value rather than as evidence of labor’s disciplinary effect on management. In other words, these studies face difficulty in disentangling the conflicting interests between employees and shareholders from those between employees and managers when studying firm-level policies. To circumvent this limitation, we center our analysis on insider trading, a personal, discretionary action that reflects managerial self-interest and potential ethical lapses (Ali and Hirshleifer, 2017). Insider trading is broadly viewed as detrimental by all stakeholders, including employees, and is observable in real time via SEC Form 4 filings, enabling external monitoring by market participants such as labor unions. Our measure of abnormal insider trading profits, which combines trade size and abnormal returns (Cziraki and Gider, 2021), is both economically salient and accessible. It aligns with the monitoring interests of employees, who are more likely to notice and respond to large, highly profitable trades than to minor infractions. This focus enables us to isolate the governance channel through which labor oversight may operate. For robustness, we also examine other dimensions of managerial misconduct, including illegal insider trading (Ahern, 2017), corporate fraud (Davidson, Dey, and Smith, 2015), and options backdating (Biggerstaff, Cicero, and Puckett, 2015), to provide a more comprehensive analysis.

Based on these discussions, we hypothesize a direct link between managerial opportunism,

proxied by abnormal insider trading profits, and labor unionization, as follows.

Hypothesis 1: Unionized employees are associated with reduced dollar profits of insider trading.

There may also be alternative explanations justifying a dynamic association between the presence of unionized employees and insider trading profitability. Unions may at times overlook opportunistic insider trading and instead leverage it as a bargaining chip to strengthen their negotiating position relative to management, particularly when employee benefits are under pressure. In such settings, union monitoring may become more selective or tactical rather than uniformly disciplinary.

2.2. Why Managers Care about Unionized Employee Governance

We postulate that while employees cannot appoint or reward managers, managers should still recognize the disciplinary role of unionized employees and reduce their opportunistic insider trading to cultivate a beneficial relationship for firm performance. Economic theory (Nikolov and Whited, 2014) suggests that managers gain from both remuneration and rent extraction. Limiting insider trading not only reduces their rent extraction but also enhances managerial credibility and trust with employees. Conversely, opportunistic insider trading implicitly raises manager compensation, risking employee demoralization due to perceived inequity (Akerlof and Yellen, 1990; Charness and Kuhn, 2007; De Vito and Gomez, 2022).⁷

Such perceptions can be particularly detrimental in unionized settings, where negative responses could include work stoppages or challenging labor negotiations, thereby affecting productivity and performance (Mas, 2008). Therefore, aligning with unionized employee governance is strategically beneficial for managers, offering improved firm performance, increased remuneration, and job stability. These discussions lead to the following hypothesis:

Hypothesis 2: Unionized firms with restrained opportunistic insider trading exhibit improved financial performance.

⁷The equity theory in Akerlof and Yellen (1990) predicts a negative relation between within-firm pay inequality and firm performance based on workers' demotivation induced by sentiments of unfairness. Charness and Kuhn (2007) model a worker's effort as a function of her salary and her salary relative to coworkers and conclude that firms must design an optimal dispersion of salaries to induce workers' effort and maximize profits. De Vito and Gomez (2022) postulate that unionized workers dislike pay inequality more strongly than their non-unionized peers.

3. Data and Descriptive Statistics

3.1. Sample Construction

This study employs data from several different sources: (i) firm-level unionization information from firms’ 10-K filings; (ii) US insider trading data from the Thomson Reuters insider filings database; (iii) establishment-level union election data taken from NLRB; (iv) financial information from Compustat; (v) stock trading information from CRSP; (vi) financial analyst data from the I/B/E/S database; and (vii) institutional ownership data from Thomson Reuters’ Institutional Holdings (13F) database.

Our primary sample intersects these databases with non-missing values for our main variables of interest. We exclude financial and regulated utility firms (SIC codes 4900-4999 and 6000-6900). Our merging of databases yields 504,608 insider transactions from 4,681 unique firms between 1996 and 2017. We then aggregate these transactions at the insider-firm-year level and obtain a final sample of 173,466 observations. The sample period is bounded by the availability of firms’ 10-K filings and insider trading information, and 1996 is the year when a substantial number of firms had their 10-K filings made available through SEC EDGAR. Appendix A depicts the definitions of all the key variables.

3.2. Measuring Collective Labor Voice

Our study employs a firm-level unionization ratio as a proxy for collective labor voice disciplining managerial opportunism. We parse this information from firms’ 10-K filings filed to SEC EDGAR from 1996 to 2017. Following [Hamm, Jung, and Lee \(2017\)](#), our search algorithm first identifies the 10-K filings that contain several keywords or phrases describing firms as having a non-unionized workforce. Examples of these expressions include (i) “None of our employees are subject to/covered by/presented by labor unions;” (ii) “was/were not subject to/covered by/presented by a collective bargaining agreement;” (iii) “not a party to a collective bargaining/labor union;” and (iv) “no union/unionized employees/collective bargaining agreement.” If any of these expressions are present in a firm’s 10-K filings, we consider the firm as non-unionized. We further look into Item 1 of their

filings for the remaining companies, which typically contain information on union memberships. In Item 1, we extract sentences that include variations of keywords such as “union,” “collective(ly) bargain,” “collective bargaining,” “labor/employee/worker organization,” and “work council.”⁸ We then locate the firm-level unionization ratio within these sentences. While most firms explicitly report the fraction of unionized employees, some firms disclose the number of unionized employees. In the latter case, we scale the number of unionized employees reported in the 10-K filing by the total number of employees; this information is downloaded from Compustat.

As shown in Table 1, labor unions are present in approximately 19.8% of our entire sample (34,312 insider-years occur in unionized firms and 139,154 insider-years in non-unionized firms), comparable to the statistics reported in [Hamm, Jung, and Lee \(2017\)](#). In addition, the fraction of unionized employees in union firms is relatively high, with a mean (median) of 0.196 (0.130).

3.3. Measuring Managerial Opportunism

As discussed in Section 2.1, we use the dollar profits of insider trading as the key measure of managerial opportunism. We first retrieve information on insider trading from the Thomson Reuters insider filings database. Following prior literature, we focus on open-market insider transactions (coded as “P” or “S” in the dataset). We then filter out the following types of transactions: (i) “large” shareholders with more than 10 percent of a firm’s stock, (ii) any traded price of less than \$2 or those with less than 100 shares, (iii) any traded price outside the range of daily highs and lows on the transaction date or more than 20% away from the closing price of the day, and (iv) the number of shares traded exceeding the daily trading volume or half of the number of shares outstanding in CRSP. Our primary insider trading measure follows [Cziraki and Gider \(2021\)](#) and assesses managerial opportunism based on insiders’ inflation-adjusted dollar profits, expressed in 2017 US dollars, in 20 trading days following their trades. Specifically, we first calculate cumulative abnormal stock returns over 20 days after the transaction date per insider trade using [Carhart’s \(1997\)](#) four-factor model as our return benchmark, where the factor loadings are estimated based

⁸We exclude certain cases where the word “union” does not refer to labor unions. Examples are the European Union, Soviet Union, credit union, union squares, and union banks.

on daily stock returns data for the 250 days preceding the trade.⁹ The abnormal returns on insider sales are multiplied by -1 to facilitate the comparison with insider purchases. We then multiply the trade’s percentage return by its dollar trading volume (i.e., the number of shares traded times the transaction price) to obtain the dollar profits per trade. Following [Cziraki and Gider \(2021\)](#), we aggregate insider trading profits to the insider-year level to construct $DProfits_{20}$ to account for a specific type of insider trading strategy characterized by frequent trading with small profits per trade. $DProfits_{20}$, in essence, captures the dollar capital gains after purchases and losses avoided by selling shares and thus reflects the information contained in insider trades. Based on prior studies, corporate insiders earn high abnormal returns at horizons of 20 days or shorter (e.g., [Jeng, Metrick, and Zeckhauser, 2003](#); [Fidrmuc, Goergen, and Renneboog, 2006](#); [Ravina and Sapienza, 2010](#); [Cohen, Malloy, and Pomorski, 2012](#)). Further, by focusing on trading profits within a short window of 20 trading days, this measure captures the salience of insider activity to employees, who may be less sophisticated investors but are attentive to significant insider trades with high returns and large volumes.

To ensure robustness, we also employ several alternative insider trading measures. The first one, $DProfits_{120}$, estimates insider trading dollar profits over 120 trading days after the transaction date to accommodate the “short-swing” rule that might prevent insiders from reversing their positions and earning profits on a round-trip transaction within a six-month interval. The second measure, $\#Trades$, assesses the frequency of insider trades, computed as the count number of trades made by an insider in a given year. The third and fourth alternative measures, $\#Trades_p$ and $Trades_p$, represent the count and indicator variables for highly profitable insider trades executed within a given year, respectively. For these constructs, we define a trade as significantly profitable if its estimated abnormal dollar profit falls within the top 20% of the sample distribution. Using these proxies tackles concerns that average dollar profits may be skewed by frequent but low-margin transactions.¹⁰ The last measure employs [Ali and Hirshleifer’s \(2017\)](#) approach that defines insiders

⁹In untabulated results, we also validate the robustness of our findings using market- and [Fama and French’s \(1993\)](#) three-factor model.

¹⁰In untabulated results, we also modify $DProfits_{20}$ such that it retains its value for significantly profitable trades and is set to zero otherwise. As an alternative approach, we restrict the sample to insider-firm-years with at least one significant trade. In both cases, our results remain qualitatively consistent with our main findings. We would like to thank an anonymous referee for raising this point and suggesting potential directions to strengthen the robustness of our analysis.

as opportunistic managers if they make high profits from their trading prior to quarterly earnings announcements (QEA). We calculate the profits of pre-QEA insider trades during the 21 trading days but excluding the two days before QEA. Insiders are ranked into quintiles based on all their past pre-QEA trades' average profitability, measured by market-adjusted abnormal stock returns in the five-day window centered at QEA. Our firm-level opportunism measure, *Quintile 5 Insiders*, is computed as the ratio of the number of insiders whose pre-QEA profits are in the top quintile (Quintile 5) to the total number of insiders.

Table 1 reports the distribution of insider trading dollar profits. The mean (median) values of $DProfits_{20}$ are \$23,256 (\$1,733) for unionized and \$39,073 (\$2,840) for non-unionized firms. The p -values associated with their mean and median differences (Columns (12)-(13)) suggest that the abnormal dollar profits are significantly lower in unionized than in non-unionized firms. On-line Appendix Table OA1 shows similar patterns in alternative opportunism measures, including $DProfits_{120}$, $\#Trades$, and *Quintile 5 Insiders*.

3.4. Control Variables

Drawn from prior insider trading literature (e.g., [Lakonishok and Lee, 2001](#); [Ke, Huddart, and Petroni, 2003](#)), we employ a list of firm-specific characteristics shown to affect insider trading of their company stock. For example, insiders can trade in liquid stocks and adopt a contrarian trading strategy based on their private information about mispricing errors. We use share turnover as a proxy for stock market liquidity (*Turnover*), computed as the daily trading volume divided by the number of shares outstanding in the previous year. We use the recent stock return (*Return*) to control for the contrarian belief of insider trades and compute *Return* as a buy-and-hold stock return over the 240-trading day period ending one day before the first insider transaction in a given calendar year. We also consider the variation in information asymmetry by controlling for institutional ownership (*IO*) and analyst coverage (*Analyst*). *IO* is the proportion of a firm's previous year's shares held by institutional investors, whereas *Analyst* is the number of analysts following a company during the last year. Besides equity investors, debtholders can also monitor management and influence information asymmetry. Thus, we control for the implicit debt effect using financial leverage (*Leverage*), measured as the sum of long-term debt and current liabilities

scaled by the previous year’s total assets. Lastly, our analyses also control for firm size (*Size*, computed as the natural log of the previous year’s stock market capitalization) and book-to-market equity ratio (*BM*, computed as the book value of common equity to market capitalization). To alleviate the concern of outliers, we winsorize all continuous variables at the top and bottom 1% of the sample distribution.

As seen in Table 1, unionized firms tend to be less liquid and have a lower past-year return than non-unionized firms. However, unionized firms have lower analyst coverage, greater institutional ownership, more leverage, a higher book-to-market ratio, and larger market capitalization than their non-unionized peers. The Pearson correlation coefficients of the main variables reported in Table OA2 of the Online Appendix indicate that none of the variable pairs are highly correlated. Except for the correlation between *Analyst* and *Size* of 0.776, the correlation coefficients are mostly below 50%, mitigating the multicollinearity concern.

4. Organized Labor and Managerial Opportunism

4.1. The Governance Footprint of Organized Labor

In this section, we assess how labor unions impact insider trading profits using the following baseline regression model:

$$\begin{aligned} Opportunism_{i,j,t} = & \alpha_0 + \beta_1 Labor_{i,t-1} + \beta_2 Turnover_{i,t-1} + \beta_3 Return_{i,t-1} + \beta_4 Analyst_{i,t-1} \\ & + \beta_5 IO_{i,t-1} + \beta_6 Leverage_{i,t-1} + \beta_7 Size_{i,t-1} + \beta_8 BM_{i,t-1} + \epsilon_{i,j,t} \end{aligned} \quad (1)$$

where the subscripts i , j , and t index firms, insiders, and year of insider transactions, respectively. *Opportunism* denotes the dollar profits of insider trading (*DProfits*₂₀). *Labor* _{$i,t-1$} is alternatively measured by a one-year lagged unionization ratio (*Union*) and a binary variable (*UDummy*) for whether a firm is unionized. We select an extensive set of control variables, including stock turnover (*Turnover*), previous stock return (*Return*), analyst coverage (*Analyst*), institutional ownership (*IO*), financial leverage (*Leverage*), firm size (*Size*), and book-to-market ratio (*BM*). All our specifications include two-digit SIC industry and year fixed effects, unless otherwise indicated, and their

standard errors are adjusted for heteroskedasticity and firm-level clustering. Eq. (1) is estimated at the insider-year level, and Table 2 reports its results.

The table highlights a significant finding. In Panel A, we use an OLS regression model to estimate Eq. (1) and find that organized labor is strongly and negatively correlated with insider trading profitability. For example, when we include predetermined firm-specific variables as well as industry and year fixed effects, the coefficient for *Union* is -22.267 with a t-value of -3.55 (Column (1)). The negative *Union* impact on insider trading profits remains consistent even after adjusting for potential fluctuations in unobservable industry characteristics by controlling for the *Industry*×*Year* fixed effects (Column (3)). It is plausible that the mere presence of a union, rather than the extent of unionization, may drive managerial behavior. To explore this further, we introduce a dummy variable, *UDummy*. Columns (2) and (4) indicate that the coefficient on *UDummy* is negative and statistically significant, corroborating the negative impact of labor unions on insider trading profits. In economic terms, an average insider in unionized firms profits approximately \$8,481 less (i.e., 23.60% of the mean dollar profit) within a 20-trading day period post-transaction (Column 2). This deficit grows to \$53,567 over a longer 120-trading day span (Column 6), suggesting that this increased trading window significantly lessens the effect of the short-swing profit rule on corporate insiders.

The control variable results in Panel A align with those of previous literature. A positive correlation between *Turnover* and *DProfits*₂₀ implies that trading profits are higher for more liquid stocks. Additionally, lagged stock returns show a positive correlation with insider trading profits.¹¹ Insiders tend to have higher profitability in firms with less institutional ownership, consistent with [Huddart and Ke \(2007\)](#)’s findings that institutional investors can discipline insider trading activities. Firms with significant borrowings show decreased trading profits, underscoring the disciplinary role of debtholders. Moreover, larger firms and those with lower book-to-market ratios experience increased dollar profits from insider trades, aligning with the findings of [Frankel and Li \(2004\)](#) and [Massa, Qian, Xu, and Zhang \(2015\)](#).

¹¹The coefficient on *Return* in Table 2 is difficult to interpret directly, since insider purchases and sales are pooled, and profits from sales are multiplied by -1 . In the disaggregated analysis (Table 8), we find that *Return* is statistically insignificant for insider purchases but significantly positive for insider sales. This pattern is broadly consistent with the notion that insiders tend to buy after poor stock performance and sell following price increases. This investor behavior is commonly interpreted as contrarian trading ([Piotroski and Roulstone, 2005](#)).

Additionally, we argue that the ability of organized labor to monitor corporate insiders depends on the prominence of insider trades. Unlike shareholders, who often possess sophisticated investment skills, organized labor is more likely to exert influence on notably profitable insider trades. To test this conjecture, we conduct quantile regressions to analyze the relationship between organized labor and the distribution of insider trading profitability. Panel B displays these quantile regression results alongside the OLS regression estimates from Columns (1)-(2) of Panel A, facilitating easy comparison. The median effects (Columns (5) and (6)) align with the OLS estimates in terms of direction for both *Union* and *UDummy*, though they are less pronounced. This suggests that the impact of organized labor is more significant in cases of larger insider profits. The quantile regression results at the 10th (Columns (3) and (4)) and 90th quantile (Columns (7) and (8)) of $DProfits_{20}$ yield consistent findings. For the right tail of the $DProfits_{20}$ distribution, the coefficient estimates of both *Union* and *UDummy* are almost two times the OLS effects. In terms of economic significance, in unionized firms, insider trading profitability declines by \$15,328 compared to non-unionized firms for highly profitable insider transactions. In contrast, the estimated coefficients are positive for the left tail of the distribution. These findings support our argument that organized labor plays an effective role in restraining salient insider transactions.

In summary, our baseline regression findings support the first hypothesis that organized labor curbs managerial opportunism, as evidenced by the dollar profits from insider trading. Given the consistency of our results across various regression models, we will focus on reporting outcomes from models that include industry and year fixed effects in our subsequent analyses.

4.2. Market Implications

We explore the market implications of our baseline findings. Building on previous research suggesting that insider trades offer valuable insights and can predict future stock performance (Lakonishok and Lee, 2001, Cohen, Malloy, and Pomorski, 2012, and Ali and Hirshleifer, 2017), we provide a market-oriented viewpoint on the economic importance of employee involvement in corporate governance. Our focus is to contrast the ability of insider trades to predict stock returns

in unionized and non-unionized firms, using the following model.

$$\begin{aligned} \text{Future Return}_{i,t+1 \rightarrow t+k} = & \alpha_0 + \beta_1 \text{Union}_{i,t} \times \text{NPR}_{i,t} + \beta_2 \text{Union}_{i,t} + \beta_3 \text{NPR}_{i,t} + \gamma' X_{i,t} \\ & + \epsilon_{i,t+1 \rightarrow t+k} \end{aligned} \quad (2)$$

In Eq. (2), we regress future stock returns (i.e., one-, three- or six-month future returns) on insider net purchase ratio, NPR , and its interaction with Union , along with firm characteristic controls ($X_{i,t}$). The observations are at monthly intervals. NPR is computed as the number of insider purchases minus sales, scaled by the total number of insider trades in the previous six months. Panel A of Table 3 summarizes the estimation results of Eq. (2); the dependent variables are raw returns in Columns (1)-(3), market-adjusted excess returns in Columns (4)-(6), and industry-adjusted excess returns in Columns (7)-(9). Our main variable of interest is the interaction between Union and NPR , whose coefficient is negative and statistically significant at conventional levels, irrespective of how stock returns are computed and the investment horizon. Thus, the presence of labor unions significantly diminishes the return predictability of insider trades, indicating a restraint on insiders' inclination and capability to trade based on private information. Consistent with prior insider trading studies, we observe a positive coefficient for NPR across all model estimations, which suggests that insider trades are predictive of future stock returns. The negative coefficient on Union is consistent with the view that labor unions raise wages without a corresponding increase in productivity, thereby reducing firm performance (e.g., [Chiles and Stewart, 1993](#); [Vedder and Gallaway, 2002](#); [Maksimovic and Yang, 2023](#)).

We further evaluate Eq. (2) by replacing Union with UDummy in Panel B. The results highlight that UDummy significantly influences future stock returns. For instance, in Column (1), the coefficient of NPR stands at 0.007 (t -value = 15.26) and the coefficient of $\text{UDummy} \times \text{NPR}$ is -0.002 (t -value = -2.17), indicating a 28.60% reduction ($=0.002/0.007$) in the predictive power of insider trades' returns. This decline in predictive ability is more pronounced over extended periods, such as three and six months, especially for unionized firms. For a six-month period, unionized firms demonstrate a 35% weaker return predictability from insider trades compared to their non-unionized counterparts. The negative influence of unionization becomes even more pronounced in analyses of excess stock returns. For market-adjusted excess returns, the predictive power of

insider trades in unionized firms diminishes by 33% to 46% as the return horizon stretches from one to six months. Comparable reductions are observed for industry-adjusted excess returns. Overall, when examining the percentage return of insider trading, our analysis also suggests the considerable economic effect of organized labor in curtailing insider trading gains.

4.3. Additional Tests

This subsection presents several robustness tests. Specifically, we re-examine the primary analysis using different metrics for opportunistic insider trading, more control variables, and an industry-level unionization rate, and rule out an alternative interpretation that our evidence reflects managerial strategy. We also perform several tests to establish the causal effect of organized labor on managerial opportunism. The findings are detailed in Tables 4 and 5.

4.3.1. *Alternative measures of opportunistic insider trading*

We employ numerous alternative insider trading measures: $\#Trades$, $\#Trades_P$, $Trades_P$, and *Quintile 5 Insiders*, as previously described in Section 3.3. Since $\#Trades$ and $\#Trades_P$ are non-negative count variables, we use a Poisson pseudo-maximum likelihood (PPML) estimator for our baseline model re-estimation. For *Quintile 5 Insiders*, which is determined at the firm level and has bounded values, we employ a Tobit regression. The results reported in Columns (1)-(4) of Table 4 consistently indicate a negative relationship between *Union* and these alternative insider trading measures, further reinforcing our primary finding.

4.3.2. *Additional Control Variables*

One might argue that our key finding is influenced by the directors' governance role or the market for corporate control that aligns management and shareholder interests. To rule out these possibilities, we incorporate three widely studied corporate governance variables, including board size (*BoardSize*), board independence (*BoardInd*), and the takeover index (*Takeover Index*), into our model. Board characteristics are available from the Institutional Shareholder Services (ISS)

database, and the takeover index is from [Cain, McKeon, and Solomon \(2016\)](#).¹² *BoardSize* is defined as the natural log of the number of directors in a given year, whereas *BoardInd* is the proportion of independent directors. *Takeover Index* is constructed based on 17 takeover laws and court decisions. As shown in Column (5), even after accounting for board characteristics and anti-takeover measures, the *Union* coefficient remains negative and statistically significant, albeit on a smaller sample, confirming that organized labor plays a significant role in reducing opportunistic insider trading.

4.3.3. *Alternative Measure of Organized Labor*

We also repeat our baseline analysis using the industry-level unionization data. We follow [Hilary \(2006\)](#) and [Hamm, Jung, and Lee \(2017\)](#) to generate the firm-level unionization rate from the product of the proportion of union members in a firm’s industry and labor intensity, where labor intensity refers to the total number of employees scaled by total assets. The industry unionization ratio is available from the Union Membership and Coverage Database.¹³ Column (6) shows a negative and statistically significant coefficient of *UnionInd* on insider trading profitability, strengthening our baseline finding.

4.3.4. *Alternative interpretation: Labor Governance or Managerial Strategy*

Prior literature suggests that managers might take strategic actions to obscure information, aiming for a better bargaining position against labor unions ([Bova, 2013](#); [Chung, Lee, Lee, and Sohn, 2015](#)). Given that informed insider trading can signal company information to unions, insiders might intentionally reduce their trades and trading profits to conceal this information. We rule out this alternative interpretation with three sets of tests: (1) we replicate our core results by excluding years of labor contract negotiation; (2) we re-evaluate the effect of unions using different

¹²The takeover index is constructed from takeover laws, aggregate capital liquidity, and firm age; all these characteristics are beyond a firm’s control. Thus, it is a more exogenous measure of a firm’s governance quality than other well-known governance indices that are built almost exclusively on firm-level takeover provisions such as the G- and E-index.

¹³The Union Membership and Coverage Database, available at www.unionstats.com, contains information on the industry-specific union membership obtained from the monthly Current Population Survey by the Bureau of Labor Statistics (BLS). The database, constructed by Barry Hirsch (Andrew Young School of Policy Studies, Georgia State University), David Macpherson (Department of Economics, Trinity University), and William Even (Department of Economics, Miami University), was created in 2002 and is updated annually.

measures of managerial opportunism; and (3) we examine the effects of unions in varying corporate information settings. Table 5 reports the results of these tests.

The first test is motivated by the prior findings that managers often implement strategic corporate policies to keep information from unions, especially during labor contract negotiation years. Contrary to the strategic insider trading explanation, in Column (1) of the table, we still find a negative and significant relationship between *Union* and abnormal insider trading profits, even after removing insider trading transactions that occurred during labor contract negotiation times. In the second set of tests, we assess the influence of organized labor on three other indicators of managerial opportunistic behavior, focusing on firms with known managerial misconduct, such as illegal insider trading, financial fraud, and stock option backdating. Specifically, *Illegal Insider Trades* is tallied from illegal insider trade data according to Ahern (2017) and defined as the number of illegal insider trades in a given firm-year.¹⁴ Column (2) indicates a negative and significant correlation between *Union* and *Illegal Insider Trades*. Corporate financial fraud is another adverse outcome of unconstrained managerial opportunism with ramifications on employee welfare. Following Liu (2016), *Financial Fraud* is a binary variable that denotes if a firm encounters specific financial discrepancies within a year, including receiving an SEC Accounting and Auditing Enforcement Release (AAER),¹⁵ facing a securities class-action lawsuit,¹⁶ or announcing a financial restatement according to the US General Accounting Office and deemed irregular by Hennes, Leone, and Miller (2008) (1996–2006). Column (3) displays a notably negative relationship between *Union* and *Financial Fraud*. We also evaluate *Option Backdating*, a dummy variable that signifies if an insider’s option grant’s strike price in a given year is the month’s lowest. Column (4) supports our main finding. In sum, the frequency of several opportunistic managerial behaviors, encompassing significant corporate frauds, decreases in unionized firms. While the disclosed insider trading could be seen as a strategic action, the collective evidence makes it difficult to attribute the observed effect of organized labor solely to the strategic efforts of corporate insiders concealing information from employees.

Our final test examines the persistence of organized labor-induced decreased insider trading

¹⁴We thank Kenneth Ahern for providing this data: <http://faculty.marshall.usc.edu/Kenneth-Ahern/>.

¹⁵AAER dataset is sourced from Dechow, Ge, Larson, and Sloan (2011).

¹⁶Such information is obtained from the Stanford Securities Class Action Clearinghouse database (1995–2019).

profits on subsamples of firms with varying levels of information asymmetry. If managers aim to conceal information from unions, the impact of the *Union* variable should be most evident in a more opaque corporate information environment. To discern this, we divide our sample based on the median values of four distinct measures of information asymmetry: (1) *Discretionary Accruals* is the residual value from the estimated accruals model in [Larcker and Richardson \(2004\)](#); (2) *Management Forecasts* is the natural logarithm of one plus the number of earnings forecasts provided by management multiplied by (-1);¹⁷ (3) *Bid-ask Spread* is the average effective spread estimated using the model of [Abdi and Ranaldo \(2017\)](#);¹⁸ and (4) *Forecast Dispersion* is the standard deviation of analysts' earnings per share (EPS) forecasts divided by the absolute value of the mean EPS forecast. A higher value of these proxies indicates a more opaque information environment. Table 6 reports that the *Union* coefficient on insider trading dollar profits remains consistently negative and significant across the different measures of information asymmetry. While the coefficient estimates of *Union* vary across different information asymmetry proxies due to sampling variability across the subsamples, the *p*-values associated with the χ^2 -tests for the differences in the *Union* coefficients between the *High* and *Low* subsamples are consistently greater than 0.10. These results suggest that the strategic managerial behavior to preserve their information advantage over labor unions may not drive our baseline results.

4.4. Identification Strategies

So far, we have identified a negative correlation between opportunistic insider trading and the presence of labor unions. However, this relationship could be influenced by omitted confounding variables or reverse causation from insider opportunism to unionization. For instance, opportunistic

¹⁷Admittedly, discretionary accruals and management earnings forecasts may not be direct measures of information asymmetry. Yet, drawing on prior research, high discretionary accruals are indicative of earnings management (e.g., [Leuz, Nanda, Wysocki, 2003](#) and [Haw, Hu, and Hwang, 2004](#)), suggesting that managers may be withholding information and thereby increasing asymmetry faced by other market participants ([Bhattacharya, Desai, and Venkataraman, 2013](#)). As for management forecasts, managers have incentives to disclose forward-looking information to guide expectations and preempt litigation ([Skinner, 1997](#)). These voluntary disclosures are often accompanied by contextual information ([Baginski, Hassell, and Kimbrough, 2004](#)), which helps reduce the information gap between managers and the market.

¹⁸The bid-ask effective spread builds on daily high and low prices and the close price. We use the two-day corrected version of this measure because the authors suggest that it exhibits a higher correlation with their high-frequency effective spread benchmarks. *Bid-ask Spread* is computed using the following equations: Bid-ask Spread = $(\frac{1}{N}) \sum_{t=1}^N \sqrt{\max(4(c_t - v_t)(c_t - v_{t+1}), 0)}$ and $v_t = \frac{l_t + h_t}{2}$, where c_t , l_t and h_t are close, low and high log-prices on day t , respectively. N is the number of trading days in a year.

insider trades might signal an information disparity between employees and management, fostering feelings of injustice and driving employees to unionize. This section implements two strategies to address these potential endogeneity issues.

The first identification strategy, inspired by [Matsa \(2010\)](#) and [Murphy \(2022\)](#), utilizes the adoption of the RTW laws across states as an exogenous change to firm-level unionization ratio. The RTW legislation prevents agreements between employers and unions that mandate employees to join or fund union representation. This legislation diminishes union funds and introduces a free-rider issue, where employees reap union benefits without paying dues. Consequently, studies have shown that the RTW law dampens the appeal of union participation, weakening union power. We hypothesize that this would decrease union density in firms within RTW states (the treatment group) and possibly lead to a rise in insider trading profits post-adoption.

We employ a stacked difference-in-differences (DiD) framework ([Baker, Larcker, and Wang, 2022](#)) to test our hypothesis with data from 1996 to 2017. According to National Right-to-Work Committee, states adopting RTW laws during our sample period are Oklahoma (2001), Indiana (2012), and Michigan (2013).¹⁹ To select the control group, we first match each RTW state with five closely matched non-RTW states based on their union density statistics obtained from the Union Membership and Coverage Database. The treatment sample consists of companies headquartered in the RTW-adopting states. Each treatment firm is matched to all firms from comparable non-RTW states to form the control group. In this way, each RTW adoption defines an event cohort, comprising both treated and control companies around the time of the RTW adoption. Our sample focuses on three years before and after each RTW adoption, allowing us to detect changes in insider trading and apply the following DiD setting:

The treatment sample includes firms headquartered in the RTW-adopting states. Each treatment firm is matched to all firms from comparable non-RTW states to form the control group. In this way, each RTW adoption defines an event cohort comprising both treated and control firms around the time of the law’s enactment. We focus on a six-year window – three years before and after each RTW adoption – to capture changes in insider trading and implement the following DiD

¹⁹Of note, Wisconsin has also adopted RTW law since 2015. Yet, as your DiD analysis examines opportunistic insider trading activities within a three-year window before and after the law’s adoption, we exclude firms headquartered in Wisconsin from both the treatment and control groups in our empirical tests.

framework.

$$\begin{aligned}
Opportunism_{j,c,t}^i = & \alpha_0 + \beta_1 RTW_{i,c} \times Post_{c,t} + \beta_2 \times RTW_{i,c} + \beta_3 \times Post_{c,t} + \Lambda' X_{t-1}^i \\
& + \gamma_{j,c} + \varphi_{industry,t,c} + \delta_{state,t} + \epsilon_{j,c,t}^i
\end{aligned} \tag{3}$$

$Opportunism_{j,c,t}^i$ represents the dollar profits an insider j of firm i cohort c could earn within 20 trading days from the transaction day. $RTW_{i,c}$ is an indicator for firms located in RTW-adopted states within cohort c , while $Post_{c,t}$ indicates observations after RTW adoption. For control firms, $Post_{c,t}$ is a counterfactual indicator and is coded based on the corresponding treatment firm's state RTW adoption. X_{t-1}^i is a control variables vector from our baseline Eq.(1). The key interaction is between RTW and $Post$. We control for insider-cohort, industry-year-cohort, and state-cohort fixed effects in the estimation processes to account for time-varying and heterogeneous treatment effects across cohorts. Columns (1) and (3) of Table 7 report the estimation results of Eq.(3) using different sets of control firms: Column (1) considers control firms from both not-yet-treated and never-treated states, while Column (3) includes only those from states that have never adopted RTW laws during our sample period. The results consistently show a positive, significant coefficient of $RTW \times Post$, indicating a rise in insider trading profits in treatment firms post-RTW adoption.

The validity of the DiD analysis hinges on the parallel trends assumption, which requires that treated and control firms exhibit no differential trends in insider trading activities prior to the regulatory changes. To formally assess this assumption, we replace the $Post$ indicator with a series of six time dummies, each capturing a specific year relative to the RTW adoption ($t=-3$ to $t=3$). The dummy for the adoption year ($t = 0$) is excluded and serves as the reference point. The results, presented in Columns (2) (depicted in Figure 1) and (4) of Table 7, reveal no statistically significant differences in insider trading profits between treated and control firms during the pre-treatment period. This supports the validity of the parallel trends assumption and suggests that the observed increase in insider trading profits is attributable to the enactment of RTW laws.

For robustness, we also use an IV approach, instrumenting firm unionization with the industry-level proportion of female workers in heavy-work occupations (*HeavyWork*). Derived from BLS data, heavy-work occupations includes (1) natural resources, construction, maintenance, and (2)

production, transportation, and material moving. We define a variable, *HeavyWork*, as the ratio of female workers in these occupations to total industry employment, based on two-digit NAICS codes. This instrument acknowledges women’s significant presence in unionized, physically demanding occupations (Jones, Schmitt, and Woo, 2014). We expect firms operating in industries with higher female participation in heavy-work roles to exhibit greater unionization, while there is no clear theoretical or empirical link between this sector-wide characteristic and firm-level managerial opportunism.²⁰ Results in Online Appendix Table OA3 show a positive and significant coefficient on *Heavywork* in the first-stage estimation. After accounting for endogeneity, the coefficient on $\widehat{Union}$ remains negative and significant.

5. Organized Labor Navigating Managerial Opportunism

In this section, we explore circumstances that might decrease employee benefits or payoffs. These conditions could encourage organized labor to closely watch a manager’s actions, preventing opportunistic behaviors. We narrow our focus to two specific scenarios: (1) Analyzing company prospects through insider trading; and (2) Examining circumstances suggestive of discriminatory behavior towards employees. We then investigate how unionized employees can help deter managerial opportunism.

5.1. Interpreting Company Trajectories via Insider Trading

A priori, it is unclear how labor unions influence insider purchases and sales, respectively. On one hand, insider trading is viewed as a significant informational event, offering employees a window into a company’s prospects. Since employees are vested in the firm’s success, they may be particularly attuned to insider trading patterns as indicators of firm risk. Moreover, labor unions often monitor insider activity that could affect employee welfare. It is thus plausible that organized labor would

²⁰We conduct several diagnostic tests to ensure the validity of the IV approach. First, we perform the Kleibergen-Paap LM test to confirm that our IV satisfies the relevance criterion. While an overidentification test to evaluate the exclusion restriction is impossible given we only have one instrumental variable. We use an alternative test to assess the exclusion restriction. We regress $DProfits_{20}$ on the instrument along with our baseline set of control variables. This allows us to examine whether our instrument, *HeavyWork*, is directly correlated with the outcome variable. The untabulated results show no statistically meaningful association between $DProfits_{20}$ and *HeavyWork*, indicating that *HeavyWork* satisfies the exclusion restriction. Furthermore, the p -value of the Hausman test falls below 5%, suggesting that the 2SLS regression is more fitting than OLS.

focus more closely on insider sales of company stock than on insider purchases. On the other hand, many prior studies (e.g., [Lakonishok and Lee, 2001](#); [Jeng, Metrick, and Zeckhauser, 2003](#)) have shown that insider sales are often not motivated by private information and carry greater legal risk than purchases. As such, labor union monitoring may be more effective in deterring opportunistic insider purchases than sales.

To evaluate the vigilance of organized labor in monitoring signals of potential corporate issues empirically, we separate our sample into transactions involving insider sales and purchases. The findings are presented in Table 8. While we consistently find a negative association of *Union* with both insider sales and purchases, the absolute value of the *Union* coefficient is notably higher for insider sales compared to insider buys, as confirmed by the χ^2 test shown at the bottom of the table. These results hold when substituting *Union* with *UDummy* in the final two columns of the table. Such findings underscore the specific information context in which organized labor intensifies its oversight of managerial actions to glean insights into firm risk.

5.2. Scenarios Suggestive of Unfair Employee Practices

Unions are primarily tasked with negotiating protective contracts for their members. Their management monitoring intensifies when these members' human capital investment is at risk. To test whether this situation prompts employee governance actions, we draw from the literature to identify measures focusing on employee benefits. Prior studies ([Cohn and Wardlaw, 2016](#); [Caskey and Ozel, 2017](#)) indicate that insufficient investments in workplace safety lead to injuries and violations of labor laws, adversely affecting employee well-being. As such, labor unions are likely to intensify their monitoring of firms that underinvest in their workforce. We measure labor investment as the natural logarithm of industry-adjusted production output per employee ($Production/Employee_{ind}$). Higher values indicate lower labor investment, implying a larger workload per employee for a given production output. We incorporate this variable and its interaction with *Union* into our equation. Column (1) of Table 9 reveals a significantly negative coefficient on $Union \times Production/Employee_{ind}$, aligning with the notion that the labor deterrent effect on insider trading is more pronounced in firms with lower workforce investment.

We further use firms' labor law violations as a measure of employee mistreatment. Such viola-

tions signal potential unfair treatment of employees, warranting increased scrutiny by labor unions. Similar to [Li and Raghunandan \(2021\)](#), we employ the employment-related misconduct information from the Good Jobs First’s Violation Tracker database covering a broad range of labor sanctions from multiple federal agencies.²¹ From this data, 914 of our sample firms recorded 25,520 labor offenses. We denote a firm with any labor law violation in a year with the indicator *Violation*. Column (2) of the table shows that firms with numerous labor law violations see a heightened negative impact of organized labor on insider trading profits.

Finally, we assess labor monitoring based on an employer’s pension contributions, a vital employee benefit. The US predominantly has two employer pension types: defined benefit (DB) and defined contribution (DC) plans. In DB plans, employers bear investment risks and ensure funds are available for retiree benefits. Conversely, in DC plans, these risks fall on employees. Consequently, stronger labor monitoring is anticipated in firms with poorly funded DB pensions. Following [Gaertner, Lynch, and Vernon \(2020\)](#), we determine abnormal pension contributions for DB firms, comparing annual and expected contributions, scaled by previous year’s total assets (*Pension Contribution*). For ease of interpretation, *Pension Contribution* is multiplied by 100. Column (3) reveals that organized labor curtails managerial opportunism more in firms underfunding DB pensions.²² Taken together, the results in Table 9 suggest that organized labor’s governance is conditional, focusing on curbing managerial missteps when employee interests are at stake.

5.3. Curtailing Opportunistic Behavior in Management

How does organized labor curtail opportunistic insider trading? Although internal labor movements within firms are largely unobservable, our analysis offers insight into labor’s influence over management via external connections. Notably, these external ties may manifest through: (i) their links to federal agencies safeguarding employee rights and bettering work conditions; (ii) collabo-

²¹Violation Tracker covers sanctions from agencies including the NLRB, Employee Benefits Security Administration, Equal Employment Opportunity Commission, and more.

²²We acknowledge that lower-than-expected pension expenses may reflect adjustments to previously overfunded pension plans, where firms had made contributions exceeding anticipated levels. As such, our existing measure might not be a good proxy for pension underfunding. To mitigate this concern, we run a robustness check using the average abnormal pension contribution in the past three and five years as proxies for pension funding status. The alternative measures built over a long time horizon help smooth out the short-term fluctuations, offering a more informative indication of a firm’s pension funding status. Notably, our results remain largely unchanged with these alternative measures.

rations with fellow unionized firms; and (iii) union pension funds.

The NLRB is an independent federal agency that enforces the National Labor Relations Act (NLRA), which safeguards private sector employees’ rights to organize, bargain collectively, and take concerted action.²³ To fulfill its mission, the NLRB disseminates educational resources, legal guidance, and case precedents. We posit that proximity to NLRB offices lowers the informational and procedural costs for union members seeking to assert their rights, file charges, or mobilize responses to perceived managerial misconduct. Supporting this view, [Holmes \(1998\)](#) finds union activity to be historically stronger in the northern U.S., where 32 of 48 NLRB regional offices are located. In our setting, proximity is thus expected to enhance unions’ governance role by increasing the union-led scrutiny. We test this idea by marking firms within 100 miles of an NLRB local office with a *NLRB* dummy variable. We expand our baseline analysis to include *NLRB* and its interaction with *Union*. Column (1) of Table 10 shows a negative and marginally significant $Union \times NLRB$ coefficient, indicating that proximity to an NLRB office amplifies the union’s role in reducing insider trading.

We also investigate how inter-union communication influences managerial behavior. Key alliances, like the AFL-CIO and Change to Win Federation, allow unions to share information, especially among local or industry peers. We quantify this with two metrics: the number of unionized industry counterparts (*#Industry Peers*) and those within 100 miles of a company’s headquarters (*#Local Peers*). Columns (2) and (3) reveal that when unions and their peers communicate, it significantly reduces the information advantage of insiders and curtails their profitable trading.

Unions can impact corporate governance via union pension funds. For example, [Schwab and Thomas \(1998\)](#) show that union funds often align with shareholders in countering unethical managerial practices. However, contrasting views (e.g., [Agrawal, 2012](#)) suggest that unions might prioritize worker interests over shareholder value.²⁴ To assess union fund activism, we combine proxy voting data of union-affiliated funds from the ISS database, starting from 2006 due to data availability,

²³<https://www.law.cornell.edu/uscode/text/29/157>

²⁴[Agrawal \(2012\)](#) documents evidence in support of a contradicting argument that union pension funds may advance worker interests instead of maximizing shareholder value. They report that AFL-CIO-affiliated shareholders are more opposed to directors when the AFL-CIO labor organization represents a firm’s workers. Such union opposition is associated with adverse valuation effects. Our evidence, however, is more in line with [Schwab and Thomas \(1998\)](#) on the aligned interests between union funds and other institutional investors.

with our sample. Our analysis includes a *Union Shareholder Activism* variable, denoting if a union pension fund made a shareholder proposal in the prior year. Results in Column (4) of Table 10 display a significantly negative coefficient for $Union \times Union\ Shareholder\ Activism$, suggesting that unions actively participate in governance, reinforcing their oversight role through pension funds.

6. Firm Productivity and Performance

Thus far, we have presented evidence of how organized labor governance mitigates managerial opportunism. In this section, we perform additional analyses to gain insight into firm-level consequences as a result of union monitoring. Specifically, we test the second hypothesis, as stated in H2, that managers of unionized firms may limit trading on inside information to improve relations with their employees, benefiting the firm’s performance.

Prior research has long recognized the negative effects of labor unions on firm performance (e.g., [Chiles and Stewart, 1993](#); [Vedder and Gallaway, 2002](#); [Maksimovic and Yang, 2023](#)). Our study complements this literature by exploring the potential economic benefits of unions through their governance role in restraining managerial opportunism. Given that reduced contracting frictions and improved labor relations can enhance firm productivity ([Edmans, 2011](#)), we anticipate that unions’ disciplinary influence may help mitigate some of their adverse effects by curbing self-dealing behavior among managers, though we interpret these findings with due caution. To verify our hypothesis and examine the real effect of labor unions, we follow [Faleye, Mehrotra, and Morck \(2006\)](#) and estimate total factor productivity based on the following Cobb-Douglas production function:

$$Y_{i,t} = AL_{i,t}^{\alpha} K_{i,t}^{\beta}, \quad (4)$$

where $Y_{i,t}$ is sales generated by firm i in year t , L is the number of employees, K is net property, plant, and equipment, and A , α , and β are parameters. We take the log transformation on both sides of the equation to facilitate the regression analysis. Our measure of the firm-level total factor productivity is the resulting residual from estimating the log-transformed production function of Eq. (4). We then examine the effect of organized labor on total factor productivity conditional on

restrained insider opportunism using the following model.

$$\begin{aligned} Factor\ Productivity_{i,t} = & \alpha_0 + \beta_1 Union_{i,t-1} \times DProfits_{20,i,j,t-1} + \beta_2 Union_{i,t-1} \\ & + \beta_3 DProfits_{20,i,j,t-1} + \gamma' X_{i,t-1} + \epsilon_{i,t} \end{aligned} \quad (5)$$

In Table 11, Column (1) presents the results from Eq. (5). We observe a significantly negative coefficient for *Union*, which is consistent with existing studies suggesting labor unions might adversely affect firm productivity. However, the interaction between *Union* and insider trading profit is also negative and significant at the 1% level (t -value = -2.78), implying that the reduced managerial opportunism effectively improves firm productivity in unionized firms. We also investigate the real effect of organized labor on firm performance from a shareholder’s perspective. To do so, we replace the dependent variable in Eq. (5) with measures of market-driven and accounting-based firm performance, namely, Tobin’s Q (*Tobin’s Q*), sales growth (*Sales Growth*) and return on assets (*Return on Assets*). In the Tobin’s Q regression presented in Column (2) of the table, the interaction term $Union \times DProfit_{20}$ has a coefficient of -0.001 with a t -value of -5.12. Similar patterns are observed when using sales growth and return on assets as dependent variables in Columns (3) and (4). In all these models, the negative and statistically significant coefficient of the interaction term underscores the positive influence of organized labor, due to its role in curbing opportunistic managerial behavior.

We refrain from making causal inferences from this set of analyses, given the absence of clear exogenous shocks that affect firm performance solely through insider trading profits. Nevertheless, we conduct additional tests to examine whether reduced labor costs may serve as a channel linking mitigated insider trading to improved performance. Using various measures of stock market reactions around union contract renewals, as well as changes in labor costs as indicators of labor-management relations, we find evidence of more positive market reactions to contract renewals and reduced labor costs in firms with lower insider trading profits (Online Appendix Table OA4).²⁵ This evidence supports the view that unions can reduce labor costs and enhance firm performance. In summary, our results suggest that organized labor positively enhances shareholder value by reining in managerial misconduct and boosting firm performance, aligning with the prediction in H2.

²⁵See Online Appendix Section A for further details on labor union contract renewals.

7. Conclusion

This paper explores the role of employee involvement in corporate governance, specifically focusing on the influence of organized labor, a crucial internal stakeholder, on opportunistic managerial actions within the US context. Our extensive analysis reveals a consistent negative link between organized labor and measures of managerial opportunism, including abnormal profits from insider trading, predictability of stock returns based on insider information, illicit insider trading, accounting fraud, and stock option backdating.

Cross-sectional analyses show that the disciplining effect of organized labor is more pronounced when employees are positioned to gather information on firm risks or when they advocate for employee benefits. Managers may adapt their behaviors in response to organized labor’s influence, driven by potential economic benefits tied to improved firm performance. Supporting this view, we find that decreased managerial opportunistic behavior in unionized firms is associated with a moderate increase in company productivity and performance. Our findings underscore the pivotal governance role of organized labor. When it aligns with promoting employee welfare, it serves as a bulwark against managerial entrenchment and delivers value to shareholders. While this study focuses on opportunistic insider trading, exploring how broader dimensions of corporate governance are influenced by organized labor represents a valuable direction for future research.

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Figure 1
Dynamic Effects of State-Level Adoption of Right-to-Work Laws on Opportunistic Insider Trading

This figure displays the dynamic effects of state-level RTW law adoption on corporate insiders' dollar trading profits. To estimate the dynamic effects, we replace $RTW \times Post$ indicator in our stacked DiD regression in Column (1) of Table 7 with interaction terms between the RTW indicator and event year indicators from $t-3$ to $t+3$ around the event year t , taking event year t as our reference group. In this figure, we plot the estimated interaction coefficients (as reported in Column (2) Table 7) and their associated 90% confidence interval.

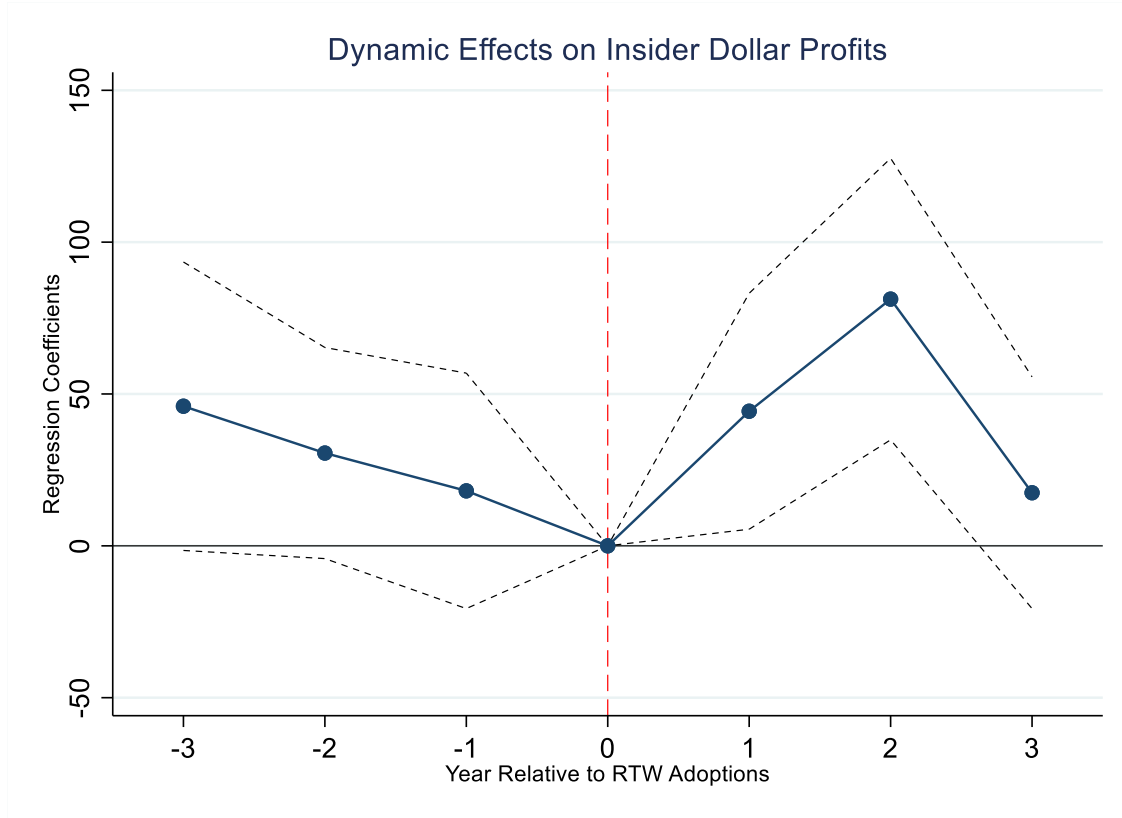


Table 1
Descriptive Statistics

This table reports descriptive statistics of key variables in our empirical analysis. The full sample consists of 170,114 insider-years during the period 1997 – 2017. *DProfits₂₀* is the [Carhart's \(1997\)](#) risk-adjusted abnormal returns over the window [1, 20] relative to the insider transaction date multiplied by the trade value, aggregated at the insider-year level. *#Trades* is the number of transactions aggregated at the insider-year level. *Union* denotes the firm-level unionization ratio. *Turnover* is the daily trading volume. *Return* is prior stock return. *Analyst* is the number of analyst forecasts. *IO* is institutional ownership. *Leverage* is financial leverage. *Size* is firm size. *BM* is book-to-market ratio. All variables are defined in Appendix A. We report the mean (*Mean*), median (*Median*), and standard deviation (*StdDev*) of main variables for the full sample in Columns (1)-(3), as well as the number of observations (*NObs*), *Mean*, *Median*, and *StdDev* for those of the unionized firms in Columns (4)-(7) and non-unionized firms in Columns (8)-(11). Column (12) reports the *p*-values of *t*-tests of the mean difference, whereas Column (13) presents those of Wilcoxon tests of the median difference between unionized and non-unionized variables. The continuous variables are winsorized at the top and bottom 1% of the sample distribution.

Variable	Full Sample			Unionized Firms			Non-Unionized Firms			p-value			
	Mean	Median	StdDev	NObs	Mean	Median	StdDev	NObs	Mean	Median	StdDev	(5)-(9)	(6)-(10)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
<i>Collective Labor Voice</i>													
Union	0.039	0.000	0.116	34,312	0.196	0.130	0.191	139,154	0.000	0.000	0.000	0.000	0.000
<i>Inside Trading Variable</i>													
DProfit ₂₀ (in \$'000)	35.944	2.591	194.771	34,312	23.256	1.733	160.515	139,154	39.073	2.840	202.207	0.000	0.000
#Trades	2.729	2.000	3.165	34,312	2.243	1.000	2.486	139,154	2.849	2.000	3.300	0.000	0.000
<i>Firm-Specific Control Variables</i>													
Turnover	0.961	0.756	0.750	34,312	0.828	0.670	0.621	139,154	0.994	0.778	0.775	0.000	0.000
Return	0.271	0.153	0.637	34,312	0.237	0.154	0.532	139,154	0.279	0.153	0.660	0.000	0.675
Analyst	10.280	8.083	7.861	34,312	10.070	8.750	6.811	139,154	10.332	7.917	8.098	0.000	0.000
IO	0.392	0.364	0.385	34,312	0.467	0.593	0.395	139,154	0.373	0.299	0.380	0.000	0.000
Leverage	0.204	0.177	0.191	34,312	0.287	0.270	0.173	139,154	0.184	0.145	0.190	0.000	0.000
Size	14.296	14.170	1.803	34,312	14.656	14.621	1.651	139,154	14.207	14.052	1.828	0.000	0.000
BM	0.418	0.347	0.318	34,312	0.484	0.417	0.331	139,154	0.402	0.329	0.313	0.000	0.000

Table 2
Effects of Organized Labor on Insider Trading Opportunism

This table presents the OLS regression results of the following baseline equation:

$$\begin{aligned} Opportunism_{i,j,t} = & \alpha_0 + \beta_1 Labor_{i,t-1} + \beta_2 Turnover_{i,t-1} + \beta_3 Return_{i,t-1} + \beta_4 Analyst_{i,t-1} \\ & + \beta_5 IO_{i,t-1} + \beta_6 Leverage_{i,t-1} + \beta_7 Size_{i,t-1} + \beta_8 BM_{i,t-1} + \epsilon_{i,j,t} \end{aligned}$$

where *Opportunism* represents the abnormal dollar profits earned by a corporate insider over 20 (120) trading days after the trade in a given year, denoted as *DProfits*₂₀ and *DProfits*₁₂₀, respectively. *Labor* is alternatively measured by the firm's unionization ratio (*Union*) and a binary variable (*UDummy*) for whether the firm is unionized. The list of control variables includes *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. These variables are defined in Appendix A. Industry and year fixed effects are also included. Panel A of this table presents the OLS regression results, whereas Panel B displays the quantile regression effects of organized labor on insider trading profitability at the tenth quantile, median, and ninetieth quantile of the distribution, along with unreported other control variables. All regressions are estimated at the insider-year level. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the statistical significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Panel A: Baseline Regressions						
Variable	<i>DProfits</i> ₂₀				<i>DProfits</i> ₁₂₀	
	(1)	(2)	(3)	(4)	(5)	(6)
Union	-22.267*** (-3.55)		-22.581*** (-3.56)		-113.203*** (-3.29)	
UDummy		-8.481*** (-4.22)		-8.459*** (-4.30)		-53.567*** (-5.25)
Turnover	14.695*** (9.34)	14.568*** (9.25)	14.185*** (8.87)	14.045*** (8.78)	105.146*** (11.71)	104.252*** (11.62)
Return	17.997*** (9.00)	17.953*** (8.98)	17.859*** (8.91)	17.805*** (8.89)	119.974*** (11.60)	119.781*** (11.59)
Analyst	-0.655*** (-2.96)	-0.686*** (-3.10)	-0.534** (-2.33)	-0.566** (-2.47)	-4.009*** (-3.53)	-4.223*** (-3.72)
IO	-6.093*** (-2.61)	-5.924** (-2.54)	-6.272*** (-2.70)	-6.110*** (-2.63)	-27.060** (-2.01)	-25.610* (-1.91)
Leverage	-13.651*** (-2.73)	-12.240** (-2.44)	-13.159*** (-2.63)	-11.727** (-2.33)	-124.787*** (-4.74)	-114.207*** (-4.31)
Size	8.732*** (8.92)	8.950*** (9.02)	8.242*** (8.39)	8.464*** (8.49)	53.050*** (9.55)	54.607*** (9.68)
BM	-22.594*** (-9.39)	-21.882*** (-9.12)	-22.327*** (-9.12)	-21.589*** (-8.81)	-176.781*** (-13.03)	-171.578*** (-12.68)
NObs	173,466	173,466	173,466	173,466	173,466	173,466
Adj. <i>R</i> ²	0.021	0.021	0.029	0.029	0.044	0.044
Industry FE	Yes	Yes	No	No	Yes	Yes
Year FE	Yes	Yes	No	No	Yes	Yes
Industry × Year FE	No	No	Yes	Yes	No	No

Table 2 - Continued

Panel B: Quantile Regressions								
Variable	<i>DProfits₂₀</i>							
	OLS		10th quantile		Median		90th quantile	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Union	-22.267*** (-3.55)		5.006** (2.20)		-0.865*** (-3.98)		-28.519*** (-5.00)	
UDummy		-8.481*** (-4.22)		1.390* (1.68)		-0.696*** (-8.56)		-15.328*** (-7.34)
NObs	173,466	173,466	173,466	173,466	173,466	173,466	173,466	173,466
Pseudo R^2	0.021	0.021	0.035	0.035	0.002	0.002	0.063	0.064
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3
Return Predictability of Insider Trades in Unionized Versus Non-Unionized Firms

This table reports the regression results of future stock returns over the one-month, three-month, and six-month horizon on the interaction term between the organized labor variable (*Labor*) and insider net purchase ratio (*NPR*) as specified in the following equation:

$$\text{Future Return}_{i,t+1 \rightarrow t+k} = \alpha_0 + \beta_1 \text{Labor}_{i,t} \times \text{NPR}_{i,t} + \beta_2 \text{Labor}_{i,t} + \beta_3 \text{NPR}_{i,t} + \gamma' X_{i,t} + \epsilon_{i,t+1 \rightarrow t+k}$$

where future stock returns, *Future Return*, are measured by raw stock returns in Columns (1)-(3), market-adjusted excess returns in Columns (4)-(6) and industry-adjusted excess returns in Columns (7)-(9). *NPR* is computed as the number of insider buys less the number of insider sales in the previous six months, scaled by the total number of insider trades. *Labor* is alternatively measured by the firm's unionization ratio (*Union*) in Panel A and a binary variable, *UDummy*, in Panel B. The observations are at monthly intervals. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols **, *, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Panel A: Interaction between Insider Net Purchase Ratio (NPR) and Union

Variable	Raw Returns			Market-Adjusted Excess Returns			Industry-Adjusted Excess Returns		
	1-Month	3-Month	6-Month	1-Month	3-Month	6-Month	1-Month	3-Month	6-Month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Union × NPR	-0.005** (-2.30)	-0.029** (-2.15)	-0.038** (-1.99)	-0.006*** (-2.59)	-0.027** (-2.16)	-0.035** (-1.99)	-0.006*** (-2.96)	-0.021* (-1.93)	-0.027* (-1.83)
NPR	0.007*** (16.08)	0.024*** (11.54)	0.033*** (10.79)	0.005*** (13.54)	0.018*** (8.91)	0.023*** (8.07)	0.004*** (11.09)	0.013*** (7.22)	0.014*** (5.78)
Union	-0.006** (-2.48)	-0.024* (-1.75)	-0.028 (-1.45)	-0.006** (-2.29)	-0.020 (-1.55)	-0.025 (-1.41)	-0.005** (-2.11)	-0.014 (-1.19)	-0.019 (-1.22)
NObs	375,773	375,773	375,773	375,773	375,773	375,773	375,773	375,773	375,773
Adj. R ²	0.016	0.030	0.064	0.008	0.022	0.030	0.006	0.019	0.022
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3 – Continued
Return Predictability of Insider Trades in Unionized Versus Non-Unionized Firms

Panel B: Interaction between Insider Net Purchase Ratio (NPR) and $UDummy$									
Variable	Raw Returns			Market-Adjusted Excess Returns			Industry-Adjusted Excess Returns		
	1-Month	3-Month	6-Month	1-Month	3-Month	6-Month	1-Month	3-Month	6-Month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
$UDummy \times NPR$	-0.002** (-2.17)	-0.009** (-2.22)	-0.012* (-1.92)	-0.002** (-2.36)	-0.008** (-2.02)	-0.011* (-1.82)	-0.002*** (-2.86)	-0.007** (-1.97)	-0.009* (-1.83)
NPR	0.007*** (15.26)	0.025*** (11.10)	0.034*** (10.31)	0.006*** (12.88)	0.018*** (8.58)	0.024*** (7.74)	0.004*** (10.70)	0.013*** (6.99)	0.015*** (5.61)
$UDummy$	-0.002** (-2.40)	-0.009** (-2.22)	-0.008 (-1.41)	-0.002** (-2.23)	-0.007* (-1.83)	-0.007 (-1.21)	-0.002** (-2.30)	-0.006* (-1.67)	-0.006 (-1.25)
NObs	375,773	375,773	375,773	375,773	375,773	375,773	375,773	375,773	375,773
Adj. R^2	0.016	0.030	0.064	0.008	0.022	0.030	0.006	0.019	0.022
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4
Additional Tests

This table performs a series of robustness checks on the negative effect of organized labor on insider trading profitability. In Columns (1)-(3), we use alternative opportunistic insider trading variables to estimate Poisson-Pseudo Maximum Likelihood (PPML) regressions. $\#Trades$ is the count number of stock trades made by an insider in a given year t . $\#Trades_P$ is the count number of highly profitable trades executed by an insider in a given year. $Trades_P$ is a binary indicator that equals one if the insider conducts at least one highly profitable trade within the year and zero otherwise. *Quintile 5 Insiders* is the fraction of insiders whose all past pre-QEA profits are ranked in the top quintile (quintile 5) following [Ali and Hirshleifer's \(2017\)](#) methodology in a Tobit regression. In Column (5), we expand the baseline regression model by including two board characteristic variables(e.g., board size (*BoardSize*) and board independence (*BoardInd*) and the *Takeover Index* developed by [Cain, McKeon, and Solomon \(2016\)](#). In Column (4), we replace *Union* with a new unionization variable, $Union_{Ind}$, which is computed as the product of union members in the firm's industry and the firm's labor intensity, where labor intensity refers to the total number of employees scaled by total assets. The list of unreported control variables includes *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regressions are estimated at the firm-year level in Column (4) and at the insider-year level for the remaining columns. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The t -statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the statistical significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	Alternative Insider Trading Measures				Opportunism = $DProfits_{20}$	
	#Trades	#Trades _P	Trades _P	Quintile 5 Insiders	Additional Controls	Union _{Ind}
	(1)	(2)	(3)	(4)	(5)	(6)
Union	-0.269*** (-4.13)	-0.316*** (-2.63)	-0.220* (-1.76)	-0.071** (-2.21)	-16.757* (-1.89)	
Union _{ind}						-43.765*** (-3.82)
BoardSize					-25.279*** (-4.56)	
BoardInd					-14.386** (-2.27)	
Takeover Index					-105.213*** (-8.28)	
Turnover	0.016 (1.36)	0.180*** (14.48)	0.269*** (16.85)	0.024*** (6.83)	13.879*** (6.58)	14.480*** (9.39)
Return	0.052*** (6.77)	0.174*** (13.93)	0.254*** (16.14)	-0.007** (-1.98)	17.474*** (6.13)	17.837*** (9.08)
Analyst	0.024 (0.94)	0.004 (0.14)	0.005 (0.16)	0.034*** (3.68)	-7.923*** (-2.75)	-6.117*** (-2.74)
IO	0.009*** (4.75)	-0.002 (-0.89)	-0.004* (-1.70)	0.004*** (6.53)	-0.811*** (-2.88)	-0.627*** (-2.89)
Leverage	-0.286*** (-6.14)	-0.471*** (-7.30)	-0.482*** (-6.89)	0.015 (0.96)	-7.887 (-1.12)	-15.823*** (-3.36)
Size	-0.073*** (-9.68)	0.116*** (10.39)	0.200*** (15.28)	-0.026*** (-8.89)	14.118*** (8.93)	8.121*** (8.81)
BM	-0.282*** (-10.77)	-0.835*** (-18.19)	-0.872*** (-18.97)	-0.036*** (-4.26)	-20.476*** (-5.82)	-23.456*** (-10.43)
NObs	173,466	173,466	173,466	34,996	113,669	186,827
Adj./Pseudo R^2	0.023	0.055	0.059	0.044	0.027	0.020
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Table 5
Effects of Organized Labor on Alternative Sample and Opportunism Measures

This table presents the regression results of the following equation:

$$\begin{aligned} Opportunism_{i,j,t} = & \alpha_0 + \beta_1 Union_{i,t-1} + \beta_2 Turnover_{i,t-1} + \beta_3 Return_{i,t-1} + \beta_4 Analyst_{i,t-1} \\ & + \beta_5 IO_{i,t-1} + \beta_6 Leverage_{i,t-1} + \beta_7 Size_{i,t-1} + \beta_8 BM_{i,t-1} + \epsilon_{i,j,t} \end{aligned}$$

where *Opportunism* represents the 20-day abnormal dollar profit (*DProfits*₂₀) and three alternative proxies for managerial opportunism: *Illegal Insider Trades*, *Financial Fraud* and *Option Backdating*. *Illegal Insider Trades* is the number of illegal stock trades by corporate insiders reported in a given year based on Ahern's (2017) data. *Financial Fraud* is an indicator variable that equals one if a firm appears in any of the three financial fraud databases in a given year and zero otherwise. These databases are (1) Accounting and Auditing Enforcement Releases (AAER), (2) Stanford Securities Class Action Clearinghouse (SSCAC), and (3) US Government Accountability Office (GAO) restatements by Hennes, Leone, and Miller (2008). *Option Backdating* is an indicator variable that equals one if the strike price of at least one insider's option grant in a given year is the lowest price of the month, and zero otherwise. *Union* is a firm's unionization rate. The list of control variables includes *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regression in Column (1) of this table is estimated at the insider-year level, while the other models in Columns (2)-(4) are estimated at the firm-year level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the statistical significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	DProfits ₂₀ (1)	Illegal Insider Trades (2)	Financial Fraud (3)	Option Backdating (4)
Union	-21.409*** (-3.41)	-4.409** (-2.43)	-0.464* (-1.79)	-0.463* (-1.66)
Turnover	14.619*** (9.28)	0.563*** (3.17)	0.302*** (13.82)	-0.004 (-0.15)
Return	17.970*** (8.96)	-0.049 (-0.33)	-0.116** (-2.46)	0.037** (2.21)
Analyst	-0.656*** (-2.95)	0.040 (1.61)	-0.002 (-0.46)	0.002 (0.33)
IO	-6.129*** (-2.63)	-0.203 (-0.60)	-0.165** (-2.41)	0.295*** (3.37)
Leverage	-13.742*** (-2.75)	0.190 (0.23)	0.102 (0.95)	-0.295** (-2.44)
Size	8.905*** (9.07)	0.448*** (4.43)	0.163*** (7.69)	0.792*** (28.71)
BM	-22.375*** (-9.29)	-0.131 (-0.30)	-0.000 (-0.28)	0.001*** (5.54)
NObs	172,264	16,320	37,069	37,194
Adj./Pseudo <i>R</i> ²	0.021	0.274	0.081	0.248
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Table 6
The Effects of Labor Unions Conditioning on Firm-Level Information Environment

This table reports the effects of organized labor on insider trading profits for two subsamples of firms with more and less opaque information environments. The information environment assignments are based on the median values of four alternative information asymmetry proxies: (1) *Discretionary Accruals* is the residual value from [Larcker and Richardson's \(2004\)](#) extended accrual model; (2) *Management Forecasts* is the natural logarithm of one plus the number of earnings guidance provided by a firm's management multiplied by (-1); (3) *Bid-ask Spread* is the effective spread estimated using the model of [Abdi and Ranaldo \(2017\)](#); and (4) *Forecast Dispersion* is the standard deviation of analysts' earnings per share (EPS) forecasts divided by the absolute value of the mean EPS forecast. A higher value of these proxies indicates a more opaque information environment. *Union* is a firm's unionization rate. The list of unreported control variables includes *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regressions in this table are estimated at the insider-year level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. We also report the *p*-value of the χ^2 -tests for the statistical differences in the estimated *Union* coefficients between two subsamples. The symbols ***, **, and * denote the statistical significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	Discretionary Accruals		Management Forecasts		Bid-ask Spread		Forecast Dispersion	
	High	Low	High	Low	High	Low	High	Low
Union	-26.533*** (-2.64)	-19.924*** (-2.61)	-30.849*** (-3.73)	-15.825* (-1.78)	-26.194*** (-2.90)	-15.036* (-1.92)	-26.528*** (-3.05)	-17.195* (-1.85)
p -value ($\beta_{Union}[\text{High}] - \beta_{Union}[\text{Low}]$)	0.586		0.195		0.329		0.451	
NObs	85,834	85,841	74,656	98,810	76,194	76,203	85,066	85,066
Adj. R^2	0.022	0.021	0.028	0.017	0.027	0.01	0.031	0.015
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 7

Opportunistic Insider Trading Following State Passage of Right-to-Work (RTW) Laws

This table reports the stacked difference-in-differences (DiD) regression results of opportunistic insider trading activity on the RTW treatment dummy variable and its interaction with an indicator of periods after the adoption of the RTW law, along with other control variables. The regression model is as below:

$$\begin{aligned} Opportunism_{j,c,t}^i = & \alpha_0 + \beta_1 RTW_{i,c} \times Post_{c,t} + \beta_2 \times RTW_{i,c} + \beta_3 \times Post_{c,t} + \Lambda' X_{t-1}^i + \\ & + \gamma_{j,c} + \varphi_{industry,t,c} + \delta_{state,t} + \epsilon_{j,c,t}^i \end{aligned}$$

where *Opportunism* represents the abnormal dollar profits (*DProfits*₂₀) earned by an insider *j* of firm *i* over 20 trading days after the transaction date in a given year *t*. *RTW* is an indicator that equals one if firm *i* is located in the states within cohort *c* that adopted the RTW law during our sample period and zero otherwise. *Post* is a time indicator that takes the value of one if the insider-year observation is after the adoption of the RTW law within cohort *c* and zero if otherwise. The vector X_{t-1}^i represent firm-level control variables, including *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. In Columns (2) and (4), we replace *Post* with six time dummies (*t*=-3 to *t*=3), each representing a period relative to the adoption year. Insider-cohort, industry-year-cohort, and state-cohort fixed effects are included in the regressions unless otherwise stated. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and insider-level clustered standard errors. The symbols ***, **, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	<i>Opportunism</i> = <i>DProfits</i> ₂₀			
	Not-yet & never-treated		Never-treated	
	(1)	(2)	(3)	(4)
RTW × Post	34.203** (2.49)		45.551*** (3.01)	
RTW × t=-3		45.976 (1.64)		50.186 (1.61)
RTW × t=-2		30.554 (1.49)		14.881 (0.69)
RTW × t=-1		18.105 (0.79)		13.560 (0.52)
RTW × t=1		44.322* (1.93)		42.895* (1.65)
RTW × t=2		81.249*** (2.97)		97.933*** (3.27)
RTW × t=3		17.481 (0.78)		27.134 (1.11)
Turnover	-11.923** (-2.14)	-11.908** (-2.14)	-13.007** (-2.22)	-13.036** (-2.22)
Return	-9.473** (-2.16)	-9.611** (-2.19)	-8.810* (-1.89)	-9.188** (-1.98)
Analyst	-2.737*** (-2.87)	-2.746*** (-2.88)	-2.854*** (-2.89)	-2.859*** (-2.89)
IO	1.456 (0.10)	1.975 (0.13)	-3.555 (-0.24)	-3.204 (-0.21)
Leverage	-28.050 (-1.32)	-26.373 (-1.24)	-30.790 (-1.42)	-29.201 (-1.34)
Size	34.501*** (5.88)	34.606*** (5.88)	35.813*** (5.96)	35.776*** (5.93)
BM	-5.738 (-0.44)	-7.047 (-0.54)	-9.333 (-0.68)	-11.032 (-0.80)
NObs	21,036	21,036	19,052	19,052
Adj. <i>R</i> ²	0.010	0.010	0.018	0.019
Insider × Cohort FE	Yes	Yes	Yes	Yes
Industry × Year × Cohort FE	Yes	Yes	Yes	Yes
State × Cohort FE	Yes	Yes	Yes	Yes

Table 8
The Governance Effect of Organized Labor Conditional on Information Collection

This table reports the governance effect of organized labor conditional on the information content of insider trades. We re-estimate the baseline Eq.(1) for the subsamples of insider sales and purchases. $DProfits_{20_Sell}$ and $DProfits_{20_Buy}$ denote the abnormal dollar profits earned by a corporate insider over 20 trading days after an insider sale and purchase in a given year, respectively. $Union$ is a firm's unionization rate, and $UDummy$ is a binary variable for whether the firm is unionized. The list of control variables includes $Turnover$, $Return$, $Analyst$, IO , $Leverage$, $Size$, and BM . Industry and year fixed effects are also included. The regressions in this table are estimated at the insider-year level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The t -statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the statistical significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	(1) DProfits ₂₀ _Sell	(2) DProfits ₂₀ _Buy	(3) DProfits ₂₀ _Sell	(4) DProfits ₂₀ _Buy
Union	-22.560*** (-2.83)	-5.403** (-2.34)		
UDummy			-9.413*** (-3.73)	-1.569* (-1.89)
Turnover	16.993*** (8.58)	2.239*** (4.59)	16.852*** (8.50)	2.212*** (4.53)
Return	21.341*** (8.40)	0.154 (0.26)	21.300*** (8.39)	0.139 (0.24)
Analyst	-0.911*** (-3.38)	0.138 (1.40)	-0.947*** (-3.52)	0.133 (1.34)
IO	-7.534*** (-2.68)	0.207 (0.20)	-7.306*** (-2.60)	0.213 (0.21)
Leverage	-15.939** (-2.51)	4.467** (2.35)	-14.327** (-2.25)	4.721** (2.49)
Size	9.986*** (7.94)	0.235 (0.68)	10.246*** (8.05)	0.268 (0.78)
BM	-31.241*** (-9.40)	1.086 (1.18)	-30.315*** (-9.15)	1.165 (1.28)
$\beta[Sell] - \beta[Buy]$		-17.157		-7.844
χ^2 -test p -value		0.035		0.003
NObs	143,252	32,903	143,252	32,903
Adj. R^2	0.022	0.009	0.022	0.009
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Table 9
The Governance Effect of Organized Labor Conditional on Employee Treatment

This table reports the effects of organized labor on insider trading conditional on firms' employee treatment:

$$\begin{aligned} \text{Opportunism}_{i,j,t} = & \alpha_0 + \beta_1 \text{Union}_{i,t-1} \times \text{Employee Treatment}_{i,t-1} + \beta_2 \text{Employee Treatment}_{i,t-1} \\ & + \beta_3 \text{Union}_{i,t-1} + \gamma' X_{i,t-1} + \epsilon_{i,j,t} \end{aligned}$$

where *Opportunism* represents the abnormal dollar profits (*DProfits*₂₀) earned by insiders over 20 trading days after the transaction date in a given year. *Employee Treatment* denotes three different variables capturing firm-specific employee treatment. *Production/Employee*_{ind} is the natural log of a firm's industry-adjusted production output scaled by the number of employees, where the firm-level output is computed as the cost of goods sold plus changes in inventories outstanding in a given year. *Violation* is an indicator variable that equals one if a firm committed at least one labor law violation reported in Violation Tracker database and zero otherwise. *Pension Contribution* is the abnormal pension contribution computed as the annual employer contribution minus the expected contribution reported in the previous year's financial statement, scaled by the lagged value of total assets. The unreported control variables (*X*) are *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regressions are estimated at the insider-year level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	<i>Opportunism = DProfits</i> ₂₀		
	(1)	(2)	(3)
Union × Production/Employee _{ind}	-21.941** (-2.01)		
Production/Employee _{ind}	3.662** (2.56)		
Union × Violation		-22.202** (-2.46)	
Violation		-2.512 (-1.12)	
Union × Pension Contribution			22.171** (2.39)
Pension Contribution			-13.557*** (-7.45)
Union	-19.879*** (-3.13)	-17.502*** (-4.13)	-24.424*** (-3.76)
NObs	169,336	173,466	173,466
Adj. <i>R</i> ²	0.021	0.021	0.021
Controls	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Table 10
Labor Unions' External Resources

This table reports the regression results on how unionized labor can exert its influence on managerial opportunism in the following regression:

$$\begin{aligned} Opportunism_{i,j,t} = & \alpha_0 + \beta_1 Union_{i,t-1} \times External\ Resource_{i,t-1} + \beta_2 External\ Resource_{i,t-1} \\ & + \beta_3 Union_{i,t-1} + \gamma' X_{i,t-1} + \epsilon_{i,j,t} \end{aligned}$$

where *Opportunism* represents the abnormal dollar profits (*DProfits*₂₀) earned by insiders over 20 trading days after the transaction date in a given year. *External Resource* denotes three potential tactics that labor unions can mobilize to discourage unethical managerial misconduct through its external networks. These include accessibility to NLRB offices, information exchange with industry/local unionized peers, and union shareholder activism. *NLRB* is an indicator variable that takes the value of one if the company's headquarter is located within 100 miles from NLRB representative offices, and zero otherwise. *#Industry Peers* is the natural log of the number of unionized peer firms in a company's two-digit SIC industry. *#Local Peers* is the natural log of the number of unionized peers within a distance of 100 miles from a company's headquarters. *Union Shareholder Activism* is the count number of shareholder proposals a union pension fund initiated in the previous year. The unreported control variables (*X*) are *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regressions are estimated at the insider-year level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	<i>Opportunism = DProfits</i> ₂₀			
	NLRB Accessibility	Peer Information Exchange		Union Fund Activism
	(1)	(2)	(3)	(4)
Union × NLRB	-17.631*			
	(-1.91)			
NLRB	7.410***			
	(4.78)			
Union × # Industry Peers		-8.414*		
		(-1.79)		
# Industry Peers		0.083		
		(0.03)		
Union × # Local Peers			-5.779**	
			(-2.08)	
# Local Peers			-2.134***	
			(-4.20)	
Union × Union Shareholder Activism				-27.969**
				(-2.02)
Union Shareholder Activism				-5.573*
				(-1.77)
Union	-7.248	5.111	-4.231	-19.035***
	(-0.83)	(0.32)	(-0.42)	(-3.57)
NObs	170,370	166,240	164,303	102,338
Adj. <i>R</i> ²	0.021	0.022	0.021	0.011
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Table 11
Effects of Organized Labor on Firm Productivity and Performance

This table reports the regression results of how organized labor affects firm performance through its restricting effect on opportunistic insider trading based on the following equation:

$$\text{Firm Performance}_{i,t} = \alpha_0 + \beta_1 \text{Union}_{i,t-1} \times \text{Opportunism}_{i,j,t-1} + \beta_2 \text{Opportunism}_{i,j,t-1} + \beta_3 \text{Union}_{i,t-1} + \gamma' X_{i,t-1} + \epsilon_{i,t}$$

where *Opportunism* represents the abnormal dollar profits (*DProfits*₂₀) earned by insiders over 20 trading days after their trades in a given year *t*. We adopt four measures of firm performance as follows: Factor Productivity, Tobin's Q, Sales Growth, and Return on Assets. The control variables (X) are *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regressions are estimated at the insider-year level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The t-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

	Factor Productivity	Tobin's Q	Sales Growth	Return on Assets
Variable	(1)	(2)	(3)	(4)
Union × DProfits ₂₀	-0.000*** (-2.78)	-0.001*** (-5.12)	-0.017*** (-3.45)	-0.005* (-1.85)
Union	-0.062 (-0.83)	-0.831*** (-7.62)	-5.829*** (-3.07)	-3.030** (-2.14)
DProfits ₂₀	0.000*** (8.94)	0.000*** (5.45)	0.010*** (10.35)	0.003*** (4.14)
Turnover	0.117*** (9.02)	0.070*** (2.96)	3.456*** (9.32)	1.048*** (3.77)
Return	0.070*** (8.58)	0.157*** (6.84)	3.606*** (7.65)	2.538*** (7.26)
Analyst	0.004* (1.95)	0.018*** (4.29)	-0.083* (-1.73)	-0.553*** (-14.54)
IO	-0.006 (-0.19)	0.093* (1.84)	-0.706 (-1.16)	0.844 (1.63)
Leverage	-0.352*** (-6.87)	-1.421*** (-12.51)	-2.583* (-1.85)	-4.978*** (-4.25)
Size	-0.024** (-2.35)	-0.055*** (-2.92)	-1.538*** (-6.46)	1.644*** (8.03)
BM	-0.240*** (-7.30)	-2.353*** (-38.55)	-16.909*** (-19.64)	-8.856*** (-13.37)
NObs	168,865	171,972	171,337	171,649
Adj. <i>R</i> ²	0.089	0.377	0.131	0.128
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Appendix A

Variable Definition and Data Source

Variable	Definition and Data Source
Measures of Insider Trading	
DPProfits ₂₀	The Carhart's (1997) risk-adjusted abnormal returns over the window [1, 20] relative to the insider transaction date multiplied by the trade value, aggregated at the insider-year level. (Thomson Reuters insider filings; CSRP)
DPProfits ₁₂₀	The Carhart's (1997) risk-adjusted abnormal returns over the window [1, 120] relative to the insider transaction date multiplied by the trade value, aggregated at the insider-year level. (Thomson Reuters insider filings; CSRP)
#Trades	The number of trades by a corporate insider in a given year. (Thomson Reuters insider filings)
Quintile 5 Insiders	Fraction of insiders whose all past pre-QEA trading profits are ranked in top quintile (quintile 5) following Ali and Hirshleifer's (2017) method. (Thomson Reuters insider filings)
NPR	The number of insider buys less the number of insider sales in the previous six months, scaled by the total number of insider trades. (Thomson Reuters insider filings)
Alternative Opportunism Measures	
Illegal Insider Trades	The number of illegal insider cases in a given firm-year. (Ahern, 2017)
Financial Fraud	A dummy variable that equals one if the firm appears in any of the three financial fraud databases in a given year and zero otherwise. These databases include (1) AAER, (2) US GAO, and (3) SSCAC. (Dechow, Ge, Larson, and Sloan, 2011 , Hennes, Leone, and Miller, 2008 and SSCAC)
Option Backdating	A dummy variable that equals one if the strike price of at least one insider's option grant in a given year is the lowest price of the month, and zero otherwise. (Thomson Reuter's Insider Filing Data Files)
Proxies for Organized Labor	
Union	The proportion of unionized employees divided by the total number of employees at the end of the previous year. (SEC 10-K filings)
UDummy	A dummy variable that takes a value of one if the firm is unionized and zero if otherwise. (SEC 10-K filings)
Union _{Ind}	Product of the proportion of union members in the firm's industry and the firm's labor intensity, where labor intensity refers to the total number of employees scaled by total assets. (Union membership and coverage)
Identification Strategy Variables	
RTW	An binary indicator that equals one if a firm is located in the states adopting RTW laws during our sample period and zero otherwise. (National Right-to-Work Committee's website)
Post	A binary indicator that takes the value of one for insider-year observations is after the adoption of the RTW law and zero if otherwise.
Employee Treatment Variables	
Production/Employee _{ind}	The natural logarithm of a firm's industry-adjusted production output scaled by the number of employees, where the output is computed as the cost of goods sold plus changes in inventories outstanding. (Compustat)
Violation	An indicator variable that equals one if a firm committed at least one labor law violation and zero otherwise. (Violation Tracker)
Pension Contribution	The annual employer pension contribution minus the expected contribution reported in the prior year's financial statement, scaled by the lagged book value of assets and multiplied by 100. (Compustat)

Appendix A - Continued

Variable Definition and Data Source

Variable	Definition and Data Source
Union Tactic Variables	
NLRB	A dummy variable that takes the value of one if the firm is located within 100 miles from the NLRB representative offices, and zero otherwise. (NLRB, NBER)
#Industry Peers	The natural log of the number of two-digit SIC industry peers. (Compustat)
#Local Peers	The natural log of the number of unionized peers within a distance of 100 miles from a company's headquarters. (SEC 10-K filings, Compustat, and NBER)
Union Shareholder Activism	The count number of shareholder proposals a union pension fund initiated in the previous year. (ISS)
Economic Consequence Variables	
Factor Productivity	The residuals from estimating the log-transformed Cobb-Douglas production function: $Y_{i,t} = AL_{i,t}^{\beta} K_{i,t}^{\alpha}$, where L is the number of employees, and K is net property, plant and equipment. (Compustat)
Tobin's Q	The sum of the market value of equity and book value of debt divided by total assets. (Compustat)
Sales Growth	The percentage change in a firm's sales. (Compustat)
Return on Assets	Earnings before interest, taxes, depreciation and amortization expenses scaled by total assets. (Compustat)
Control Variables	
Turnover	Daily trading volume divided by the number of shares outstanding across all trading days in the previous year. (CRSP)
Return	Buy-and-hold stock return over the 240-trading day period ending one day before the first insider transaction in a given year. (CRSP)
IO	The proportion of shares held by institutional investors at the end of the previous year. (Thomson Reuters institutional holdings (13F))
Analyst	The number of analysts following the company at the end of the previous year. (I/B/E/S)
Leverage	The sum of long-term debt and current liabilities scaled by total assets in the previous year. (Compustat)
Size	The natural log of stock market capitalization in the previous year. (Compustat)
BM	The book value of common equity to market capitalization. (Compustat)
BoardSize	The natural log of the number of directors on board. (ISS)
BoardInd	The proportion of independent directors. (ISS)
Takeover Index	Cain, McKeon, and Solomon's (2016) takeover index constructed based on 17 takeover laws and court decisions. (Cain, McKeon, and Solomon, 2016)
Other Variables	
Future Return $_{i,t+1 \rightarrow t+k}$	Future stock returns over one-, three- and six-month horizon estimated using raw, market-adjusted and industry-adjusted stock returns. (CSRP)
Information Asymmetry Variables	
Discretionary Accruals	The residual value estimated from the accrual model in Larcker and Richardson (2004) . (Compustat)
Management Forecasts	The natural logarithm of the number of earnings forecasts provided by a firm's management. (I/B/E/S)
Bid-ask Spread	The effective bid-ask spread using Abdi and Ranaldo's (2017) estimation model. (CSRP)
Forecast Dispersion	The standard deviation of earnings per share (EPS) forecasts divided by the mean ESP forecast. (I/B/E/S)

Internet Appendix

to Accompany

Voice of the Voiceless: How and When Does Organized
Labor Deter Management Opportunism?

Section A: Managerial Opportunism and Labor Relations

Information on expiration of labor contracts was taken from the BNA Labor Plus database maintained by the Bureau of National Affairs. Under the National Labor Relations Act of 1935, firms with union contracts are required to file notices of contract expiration with the Federal Mediation and Conciliation Service (FMCS). These filings contain information including employer name, labor union name, contract expiration and notice dates, and the number of employees involved in the collective bargaining. Unfortunately, like other labor studies, the year of the labor contract negotiations is unavailable. Prior literature (Aobdia and Cheng, 2018) suggests that employers and unions view the current contract expiration date as a deadline to reach a new contract. Cramton and Tracy (1992) and Rich and Tracy (2004) show that most new agreements are finalized within a three-month window around the expiration of the current contracts. Based on such patterns, we assume the start date of a new labor contract to coincide with the expiration date of the previous labor contract. We examine the cumulative abnormal stock returns over the windows $[-60, 20]$ and $[-120, 20]$ without knowing the labor contract renewal dates.

Using the BNA Labor Plus database, we identify 381 union contracts across 142 unionized firms that expired during our sample period. On average, approximately 18 labor contracts are renewed each year over this period. We assess if managers restricting insider trades can improve labor contract negotiation outcomes. We test this by using the following model, based on the premise that stronger stock market reactions indicate better negotiation outcomes for the firm, its managers, and shareholders:

$$\begin{aligned} \text{Market Reaction}_{i,j,s,t} = & \alpha_0 + \beta_1 \text{Union}_{i,t-1} \times \text{DProfits}_{20,i,j,s} + \beta_2 \text{Union}_{i,t-1} + \beta_3 \text{DProfits}_{20,i,j,s} \\ & + \gamma' X_{i,t-1} + \epsilon_{i,j,s,t} \end{aligned} \quad (\text{A.1})$$

where i , j , s , and t denote firm, insider, negotiation event, and year, respectively. *Market Reaction* represents the cumulative abnormal stock returns (CAR) over the windows $[-60, 20]$ and $[-120, 20]$ centered on the contract expiration date 0. These windows are selected based on the notion that market knowledge of negotiation outcomes emerges around contract expiration, even though negotiations start earlier.²⁶ The abnormal return is computed as the difference between the raw and expected returns based on either the market model or the Carhart (1997) four-factor model using daily stock returns from day -500 to day -250 relative to the labor contract expiration date. DProfits_{20} measures the aggregate 20-day dollar profits from insider trades over the 250 days preceding the contract expiration date, and X is the vector of control variables specified in Eq. (1). The model is estimated at the insider-negotiation event level. Our focus is on the coefficient of $\text{Union} \times \text{DProfits}_{20}$, denoted by β_1 . Columns (1)-(4) of Table 11 consistently show negative and statistically significant β_1 estimates across different event windows and abnormal return measures,

²⁶We assume that the stock market is unaware of the negotiation outcomes until near the contract approval date (<https://www.shrm.org/hr-today/news/hr-magazine/pages/0105tyler.aspx>). Still, our findings hold even with an alternative event window spanning a full year before contract expiration.

suggesting a stronger market response for unionized firms with lower insider dollar profits.

Our analysis further employs a more direct measure of labor costs, proxied by the selling, general, and administrative (SG&A) expenses during negotiations. We define a new variable, $\Delta(SG\&A/Emp)$, as the change in industry-adjusted SG&A expenses per employee for the four quarters before and after the contract expiration. A positive value signifies rising labor costs post-new contract. Re-estimating Eq. (A.1) with $\Delta(SG\&A/Emp)_{ind}$ as the dependent variable, Column (5) of Table OA4 shows a positive coefficient for $Union \times DProfits_{20}$. Similar outcomes are seen when SG&A expense is scaled by sales in Column (6). The overall results suggest that unionized firms with less insider trading profit see reduced labor costs after renegotiations.

Section B: Tables

Table OA1
Summary Statistics of Other Opportunism Measures

This table reports the summary statistics of alternative opportunism measures used in this paper. $DProfits_{120}$ is the abnormal dollar profits earned by insiders over 60 trading days from their trades, aggregated at the insider-year level. *Quintile 5 Insiders* is the fraction of insiders whose all past pre-QEA profits are ranked in the top quintile (quintile 5) following [Ali and Hirschleifer's \(2017\)](#) methodology in a Tobit regression... *Illegal Insider Trades* is the number of illegal insider trading in a given firm-year according to Ahern (2017). *Financial Fraud* is an indicator variable that equals one if a firm experiences one of the three events in a given year: (1) the firm receives an SEC Accounting and Auditing Enforcement Release (AAER); (2) the firm-year is subject to a securities class-action lawsuit in SSCAC, and (3) a firm is classified as having financial misstatement irregularities by [Hennes, Leone, and Miller \(2008\)](#). *Option Backdating* is defined as a dummy variable that equals one if the strike price of at least one insider's option grant in a given year is the lowest price of the month and zero otherwise. Column (12) reports the p -values of t -tests of the mean difference, whereas Column (13) presents those of Wilcoxon tests of the median difference between unionized and non-unionized variables. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	Full Sample			Unionized Firms			Non-unionized Firms			p -value		
	Mean	Median	StdDev	NObs	Mean	Median	StdDev	NObs	Mean	Median	StdDev	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(5)-(9) (12) (6)-(10) (13)
Dprofit ₁₂₀ (\$'000)	240.099	16.435	908.580	34,312	150.794	11.770	688.751	139,154	262.120	17.860	953.757	0.000
Quintile 5 Insiders	0.033	0.000	0.089	6,608	0.023	0.000	0.074	28,388	0.036	0.000	0.092	0.000
Illegal Insider Trades	0.017	0.000	0.326	5,953	0.009	0.000	0.219	24,594	0.019	0.000	0.347	0.018
Financial Fraud	0.057	0.000	0.232	9,694	0.047	0.000	0.211	30,361	0.060	0.000	0.238	0.000
Option Backdating	0.040	0.000	0.196	9,694	0.033	0.000	0.180	30,361	0.043	0.000	0.202	0.002

Table OA2
Correlation Matrix

This table reports the correlation coefficients between key variables at the insider trade level. $DProfits_{20}$ is the [Carhart \(1997\)](#)'s risk-adjusted abnormal returns over the window [1, 20] relative to the insider transaction date multiplied by the trade value, aggregated at the insider-year level. $\#Trades$ is the number of transactions aggregated at the insider-year level. $Union$ denotes firm-level unionization ratio. $Turnover$ is daily trading volume. $Return$ is prior stock return. $Analyst$ is the number of analyst forecasts. IO is institutional ownership. $Leverage$ is financial leverage. $Size$ is firm size. BM is book-to-market ratio. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The sample period is from 1996 to 2017.

Variable	Union	DProfits ₂₀	#Trades	Turnover	Return	Analyst	IO	Leverage	Size
DProfits ₂₀	-0.024***								
#Trades	-0.057***	0.157***							
Turnover	-0.050***	0.062***	0.037***						
Return	-0.009***	0.066***	0.039***	0.031***					
Analyst	0.005**	0.046***	-0.007***	0.269***	-0.068***				
IO	0.094***	-0.010***	-0.000	0.079***	-0.039***	0.121***			
Leverage	0.166***	-0.017***	-0.072***	-0.043***	-0.059***	0.060***	0.124***		
Size	0.081***	0.060***	-0.038***	0.114***	0.013***	0.776***	0.185***	0.113***	
BM	0.075***	-0.069***	-0.062***	-0.060***	-0.197***	-0.240***	-0.078***	-0.041***	-0.385***

Table OA3
Instrumental Variable Analysis – 2SLS Regressions

This table reports the estimation results from the following 2SLS regressions.

$$\begin{aligned} \text{1st-Stage: } Union_{i,t} &= \alpha_0 + \beta_1 Heavywork_{k,t} + \gamma' X_{i,t} + \epsilon_{i,t}, \\ \text{2nd-Stage: } Opportunism_{i,j,t+1} &= \alpha_0 + \beta_1 \widehat{Union}_{i,t} + \gamma' X_{i,t} + \epsilon_{i,j,t}. \end{aligned}$$

In the first stage regression, we regress the firm-level unionization ratio, *Union*, on an instrumental variable, *Heavywork*, as well as other firm characteristic variables. In the second stage, we then regress the insider dollar profit (*DProfits*₂₀) on $\widehat{Union}$ estimated from the first stage regression. *Heavywork* denotes the proportion of female workers employed in heavy work occupations for a given industry where heavy work occupations comprise (1) natural resources, construction, and maintenance occupations and (2) production, transportation, and material moving occupations. This information is from the Bureau of Labor Statistics. *Opportunism* represents the abnormal dollar profits (*DProfits*₂₀) earned by each insider over 20 trading days after their trades in a given year. The list of control variables includes stock trading turnover (*Turnover*), prior stock return (*Return*), number of analyst forecasts (*Analyst*), institutional ownership (*IO*), financial leverage (*Leverage*), firm size (*Size*), and book-to-market (*BM*). Industry and year fixed effects are also included. All the variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The *t*-statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	1st-Stage	2nd-Stage
	(1)	(2)
$\widehat{Union}$		-299.515** (-2.06)
HeavyWork	0.129*** (2.85)	
Turnover	-0.001 (-0.36)	15.276*** (8.61)
Return	0.005*** (2.64)	17.994*** (8.08)
Analyst	-0.002*** (-5.12)	-1.232*** (-3.16)
IO	0.023*** (3.69)	1.270 (0.30)
Leverage	0.088*** (7.94)	7.400 (0.56)
Size	0.014*** (6.36)	11.771*** (4.92)
BM	0.051*** (6.75)	-9.886 (-1.29)
NObs	143,751	143,751
Adj. R^2	0.061	0.016
Year FE	Yes	Yes
Kleibergen-Paap LM test <i>p</i> -value	0.004	
Hausman <i>p</i> -value	0.000	

Table OA4
Managerial Opportunism and Labor Relations Around Union Contract Renewals

This table presents the regression results of labor relations, revealed by stock market reactions and changes in labor costs around union contract renewals, on opportunistic insider trading conditioning on a firm's unionization rate using the following regression model:

$$\begin{aligned} Labor\ Relations_{i,j,s,t} = & \alpha_0 + \beta_1 Union_{i,t-1} \times Opportunism_{i,j,s} + \beta_2 Union_{i,t-1} + \beta_3 Opportunism_{i,j,s} \\ & + \gamma' X_{i,t-1} + \epsilon_{i,j,s,t} \end{aligned}$$

where the subscripts i , j , t , and s denote firms, insiders, years, and negotiation events, respectively. *Labor Relations* in Columns (1) to (4) is measured by the cumulative abnormal stock returns over the windows $[-60, 20]$ and $[-120, 20]$ surrounding the labor contract expiration dates. The daily abnormal return is computed as a firm's raw return minus the expected return, where the expected return is estimated based on the market or Carhart's (1997) four-factor model using the estimation window from day -500 to day -250. In Columns (5) and (6), we proxy labor relations using changes in selling, general, and administrative expenses during the four quarters before and after the union contract expiration dates. $\Delta(SG\&A/Emp)_{ind}$ ($\Delta(SG\&A/Sales)_{ind}$) is the average industry-adjusted ratio of SG&A to the number of employees (to sales) over the four quarters after the negotiation dates minus that over the four quarters before the negotiation dates. *Opportunism* represents the aggregate 20-day dollar profits ($DProfits_{20}$) earned by insiders from their trades over the period starting from day -250 and ending one day before the negotiation date. The control variables (X) are *Turnover*, *Return*, *Analyst*, *IO*, *Leverage*, *Size*, and *BM*. Industry and year fixed effects are also included. The regressions are estimated at the insider-negotiation event level. All variables are defined in Appendix A. The continuous variables are winsorized at the top and bottom 1% of the sample distribution. The t -statistics in parentheses are based on heteroskedasticity-consistent and firm-level clustered standard errors. The symbols ***, **, and * denote the significance at 1%, 5%, and 10% levels, respectively. NObs is the number of observations. The sample period is from 1996 to 2017.

Variable	Market Reaction				Labor Costs	
	$[-60, 20]_{market}$	$[-60, 20]_{4F}$	$[-120, 20]_{market}$	$[-120, 20]_{4F}$	$\Delta(SG\&A/Emp)_{ind}$	$\Delta(SG\&A/Sales)_{ind}$
	(1)	(2)	(3)	(4)	(5)	(6)
Union $\times$ DProfits ₂₀	-0.035* (-1.92)	-0.030* (-1.76)	-0.046** (-2.38)	-0.049** (-2.50)	0.010** (2.10)	0.002* (1.67)
Union	-7.364*** (-4.01)	-7.502*** (-4.02)	-7.588*** (-2.70)	-12.760*** (-4.93)	-0.831 (-0.72)	-0.104 (-0.40)
DProfits ₂₀	0.002 (0.38)	0.006 (1.24)	0.012** (2.04)	0.018*** (2.84)	-0.002 (-0.80)	-0.001 (-1.47)
Turnover	-9.783*** (-9.93)	-9.183*** (-9.85)	-4.893*** (-4.20)	-3.829*** (-3.44)	0.038 (0.08)	-0.079 (-0.33)
Return	7.215 (1.39)	19.727*** (3.62)	31.857*** (4.38)	49.988*** (7.14)	1.108 (0.63)	1.253* (1.91)
Analyst	-0.713*** (-5.64)	-0.377*** (-3.07)	-0.434*** (-2.68)	-0.194 (-1.25)	-0.101 (-1.54)	-0.005 (-0.16)
IO	1.953 (1.57)	2.752** (2.08)	4.840** (2.44)	7.388*** (4.00)	1.431 (1.22)	0.170 (0.79)
Leverage	14.715*** (3.81)	13.656*** (3.61)	-29.695*** (-6.12)	-31.180*** (-7.07)	3.748** (2.14)	1.698** (2.52)
Size	2.268*** (4.10)	0.692 (1.18)	3.098*** (3.75)	2.517*** (2.96)	1.136*** (3.48)	-0.285* (-1.95)
BM	20.250*** (6.78)	16.040*** (6.03)	28.459*** (7.43)	22.506*** (6.89)	2.074** (2.20)	-0.592* (-1.98)
NObs	2,086	2,086	2,086	2,086	2,073	2,073
Adj. R^2	0.387	0.343	0.445	0.473	0.501	0.635
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

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