

Auditors' Responses to Organized Labor in Client Firms^{*}

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ABSTRACT

Using a sample of US firms for the period 2000-2011, we examine whether organized labor in audit client firms affects auditor decisions such as audit fees and going-concern qualifications. We find that labor unionization is associated with higher audit fees and a higher likelihood of going-concern qualifications but shorter audit report lags, and the results on audit fees are stronger in the case of strikes. These results suggest that the presence of labor union(s) in a client firm constitutes a non-trivial risk element to auditors, which cannot be mitigated by additional audit effort.

Keywords: Labor union, Audit fees, Going-concern audit opinions, Audit report

INTRODUCTION

Unionization of the US labor force has fluctuated between 8% and 40% over the last century as the nature of business has changed (Dinlersoz and Greenwood, 2016). Although the current rate of unionization is on the lower side of the range, it remains significant, especially in the manufacturing and mass production settings (Cheng, 2016). The unions have a duty to protect labor rights and the labor's due share of firm value. Unions approach this duty in both direct and indirect ways. Directly, they engage in collective bargaining and union member recruiting, under the rules and regulations of the U.S. National Labor Relation Board (NLRB). Both these direct activities induce potentially higher levels of conflict between management and labor than would prevail without the union presence. Indirectly, the unions, as members of federations (such as AFL-CIO, i.e., American Federation of Labor and Congress of Industrial Organizations and CTW, i.e., Change to Win), become shareholders (through pension funds run by the federations) of the corporations in which they have union presence and influence board and managerial decisions.

In this paper, we examine the effect of unionization in client firms on audit fees and audit opinions. Auditors are affected in two ways by unionization. On the one hand, unions provide an additional layer of monitoring that is absent in non-unionized firms. The additional monitoring decreases the incentives of managers to take

operational risks.¹⁾ Managers are also incentivized to report lower profits to reduce the negotiating power of the union. Together, these effects make their profits less volatile (Hamm, Jung, and Lee, 2017) and the reporting choices more conservative (Leung, Li, and Rui, 2009), which in turn, reduce audit risk.

On the other hand, unions could incentivize managers to depart from the shareholder value maximization objective. In their capacity as shareholders, and directly through collective bargaining, unions seek to transfer a greater portion of the firm value away from (non-union) shareholders to the current labor workforce. Agrawal (2008, 2012) provide empirical evidence that labor union shareholders reflect objectives other than equity value maximization. Through collective bargaining, labor unions seek to entrench the current labor force and increase their compensation. As shareholders, they affect auditor-relevant legislation and governance regulations.²⁾ Agrawal (2008, 2012) document that they are significantly more active than other shareholders, and at the firm level, support (oppose) labor-friendly (labor-unfriendly) directors. Through credible threats (of strike, slow-down etc.) and other means of pressurizing managers, unions often force managers to tradeoff between personal costs of long negotiation and possibly enhanced values by optimizing corporate decisions on compensation, recruitment and retrenchment against unions' threats. There is evidence that unionized firms give excessive deferred compensation and fringe benefits (Freeman, 1981; Budd, 2005; Ingrassia and Rose-Smith, 2010) compared to non-unionized firms. Faleye et al. (2006) show that union shareholders use their corporate governance authority to gain advantage for labor at the cost of slowing the growth, impeding investment, and curtailing risk taking, which in turn reduce the firm's value for non-union shareholders. From the non-union shareholder's viewpoint, this departure from value maximization is inefficient, especially

1) Labor unions have incentives similar to debt holders in preserving the capital of the firm and curb the tendency of managers from making risky choices that increase the managers' payoff from the upside potential while the downside risk is shared with debt holders and labor.

2) Agrawal (2012) documents how, as shareholders, the unions could influence both the legislation and the governance that affect auditors: On page 193: "It (AFL-CIO) has influenced the passage of recent reforms on mutual fund proxy voting disclosure, board independence, and outside auditors, all of which are considered favorable reforms for labor union shareholders (AFL-CIO 2003; Cai, Garner, and Walkling 2009)";

under a competitive environment. In particular, unionization could constrain managers from undertaking otherwise-valuable strategic initiatives, stifle innovation and decrease the competitive edge of the firm.³⁾ For example, unionized firms strategically hold less cash (Klasa et al., 2009) and exhibit lower operating flexibility than similar non-unionized firms (Chen et al., 2011). These effects of unions on the decisions by both directors and managers could detract from shareholder value and make the firm more risky for investors. Such increase in business risk increases the risk faced by the auditors (potential litigations, regulatory sanctions and reputation losses resulting from association with the client with a high business risk [Bell et al. 2001]), irrespective of whether an audit failure is asserted [AS No. 8; AU Section 312; Arens et al. 2012, p. 420].⁴⁾ Further, managers in firms with organized labor misstate the financial positions of the firms by manipulating reporting, either upwards or downwards (Hilary, 2006), thereby increasing the misstatement risk for audit engagements.

Based on the aforesaid arguments, the additional monitoring by unions and managers' incentive to be cautious and conservative in reporting could reduce the risk whereas managers' operational decisions that deliberately depart from the shareholder value maximization could increase the risk for the auditor. The net impact on the auditor's risk is therefore an empirical question.

Auditors' planning and pricing of audits are affected by changes in both misstatement and business risks. An auditor faced with heightened engagement risk (at the margin) can issue a going concern qualification as a hedge,⁵⁾ charge a risk fee premium or increase audit effort to reduce the residual risk below the tolerance

3) Unionization could also make the firms less attractive for ambitious and energetic managers and in turn, this could also hamper innovation and growth.

4) Business risk, according to AICPA (1992), has two components: (1) the clients' business risk, which is associated with the clients' continued survival and well-being, and (2) the auditor's business risk of being associated with a particular client irrespective of whether an audit failure is asserted. Business risks associated with a unionized audit client refer to both components.

5) The going-concern qualification will reduce the likelihood of litigation and protect the auditor from legal penalties even when sued. Issuing a going-concern qualification is costly to the auditor. Such a non-standard opinion is unlikely to please the client, who might seek a change of auditors. As a result, a significant difference in the likelihood of issuing going-concern opinions between auditors of unionized clients and auditors of other clients reflects auditors' perception of audit risk.

level. We examine three risk management strategies by the auditor: (i) increasing audit effort (proxied by the audit fee and reporting lag, measured as the time lapse between the end of the fiscal year and the date of release of financial statements); (ii) issuing going concern qualifications; and (iii) charging a risk premium (the residual part of audit fee that is not explained by the reporting lag and other client and audit firm characteristics).

Using a firm-level adjustment of industry-level unionization rates in audit clients in the US for the period 2000-2011, we find a positive association between the strength of labor unions in client firms and the fee charged by the auditors after controlling for other characteristics of the client, the audit engagement and the reporting lag.⁶⁾ Specifically, moving from a weak union group to a strong union group increases audit fees by 4.29% (Column (2), Table 3), which corresponds to an increase of \$22,695 ($= 0.042 \times \exp(13.20)$) based on our sample average. Because the higher audit fees are documented after audit effort is controlled for, we conclude that the auditors of unionized clients charge higher audit fees as compensation for the higher business risk that cannot be audited away. Such results sustain after a battery of robustness tests to mitigate the potential endogeneity bias. To provide further evidence in support of our arguments, we show that the auditor's propensity to issue a going-concern qualification increases with the strength of the labor union in the client firm and that reporting lags are shorter for unionized clients.⁷⁾

The above results could reflect increased misstatement or business risk. In further analyses that distinguish between the two, we document a negative relationship between the strength of the labor union and the client firm's financial health (proxied by Altman Z-score or Ohlson O-score), which supports the auditors' concern that strong labor unions impose business risks on client firms. We do not find evidence suggesting that the likelihood of clients' future restatements is different between unionized and non-unionized clients. In summary, our evidence suggests that the engagement risk of unionized clients arises mostly from clients' business risk

6) Throughout the paper, we interchangeably use "unionization" and "union strength" to indicate the degree to which organized labor is able to extract firms' resources (Hilary, 2006).

7) When we examine these risk management strategies simultaneously, we do not find a pecking order in these strategies.

and auditors' association with such clients but is inconsistent from unionized firms exhibiting a higher misstatement risk. Auditors respond to the engagement risk by charging a risk premium, and issuing a going-concern qualification but without exerting more effort, consistent with the idea that client's and the associated auditor's business risk cannot be audited away.

Our findings contribute to both the auditing and union literatures. The auditing literature is hitherto silent on the effect of unionization on audit parameters. We extend the auditing literature by showing that unionization increases the auditor's engagement risk, *ceteris paribus*. Auditors respond by increasing their propensity to issue going-concern opinions and charge a higher audit fee. The auditing literature has documented an association between financial reporting quality and misstatement risk and audit fees, but is relatively silent on the effect of client business risk (a few exceptions are Hill et al. 1994; Bell et al. 2001; Lyon and Maher 2005). By examining the specific context of unionized firms that have higher business risk but not higher misstatement risk than non-unionized firms, our study provides specific evidence regarding auditors' response to clients' business risk. We also complement the literature that examines the effect of shareholders on audit outcomes (e.g., Velury et al. 2003; Kane and Velury 2004; Mitra et al. 2007; Han et al. 2013) by showing that auditors respond differently to non-financial stakeholders such as employees. Further, from the auditing perspective, we believe that our results support an explicit consideration of unionization as a source of audit and business risk in the audit planning and pricing process.

Second, we contribute to the literature on labor unions by providing evidence that unions increase the perceived business risk of a firm as assessed by external auditors (measured by the higher audit fees and the higher likelihood of receiving going-concern opinions). From the unionization perspective, the change in the nature and cost of verification of financial reports is important. For example, a union-related increase in audit cost identifies a hitherto unidentified cost of verification – a deadweight cost that the union literature has not examined. Extant literature documents that unions impose dead-weight costs on firms that no stakeholder in the firm except workers themselves benefits from (Hirsch, 1991; Faleye et al. 2006; Chen et al. 2011). Our evidence is consistent with and complementary to these findings.

The remainder of this paper is organized as follows. Section 2 reviews relevant studies and develops our hypotheses. Section 3 presents the research methodology and data description, which is followed by the discussion of empirical results in Section 4. Section 5 provides concluding remarks.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Union Influences and Audit Fees

As shareholders through their pension holdings, unions could use their corporate governance authority to support (oppose) labor-friendly (unfriendly) directors and seek auditor changes if they are not satisfied by the auditor's work. A case in point is when Change to Win (CtW) Investment Group, an investor activist group backed by large labor unions, wrote an open letter on 25 February 2013 urging shareholders of Hewlett-Packard (HP) to vote against the re-election of three directors and to remove Ernst and Young as the auditor of the company (Lublin 2013; Aubin 2013). As activist shareholders, unions have initiated or participated in several legal cases against both the client firms and auditors. In 2011, the labor unions in Canada (including the Laborers' Pension Fund of Central and Eastern Canada and the International Union of Operating Engineers Local 793 pension plan) led a class-action lawsuit against Ernst and Young for not properly verifying the ownership of standing timber reserves and thereby aiding Sino-Forest Corp to list its shares through an initial public offering in the stock market. E & Y settled the case for 8 million dollars (Blackwell, 2014).⁸⁾

8) At a more general level, unions through AFL-CIO, are involved in regulating the auditing profession by serving as members in the committees of the Public Company Accounting Oversight Board (PCAOB). Examples include Damon Silvers, the associate general counsel for the AFL-CIO, who served as a member of the Standing Advisory Group and Investor Advisory Group of PCAOB in the late 2000s (Younglai 2008) and chaired the Competition Sub-committee of the US Treasury Department on the Advisory Committee on the Auditing Profession. Brandon J. Rees, Acting Director of the Office of Investment for the AFL-CIO, is a member of the PCAOB's Standing Advisory Group as of 2014. The AFL-CIO is also a frequent commenter on the standards proposed by the PCAOB on several topics, ranging from internal control over financial reporting and the application of the "failure to supervise" provision of the Sarbanes-Oxley Act to the proposed auditing standards on the auditor's report and the auditor's responsibilities

The above cases suggest that labor unions influence the risk faced by the auditors and consequently their planning and pricing decisions differently between unionized and non-unionized firms. In addition to their role as shareholders of unionized firms, labor unions affect the unionized firm's operations and the reporting by altering the incentives of managers. In turn, the changes in operations and reporting affect auditors' risk assessments. First, a strong labor union constrains managers' actions in several ways. For example, they impose higher employment termination costs, making it less attractive for firms to hire employees to cater to short-term needs. In anticipation that their pay structure cannot be easily adjusted, unionized firm managers are less flexible in their hiring and termination decisions than are non-unionized firm managers. Second, unions are akin to fixed claimants on the firm's resources⁹⁾ and prefer lower investment risk than do shareholders or managers (Faleye et al. 2006; Chen et al. 2012).¹⁰⁾ Third, some prior studies

concerning other information. AFL-CIO's comments on the consultation paper (no. 2015-1) on the auditor's use of the work of specialists were sent to PCAOB as recently as 29 July 2015. Details can be found on PCAOB's website: <http://pcaobus.org/Rules/Rulemaking/Pages/default.aspx>. As of October 2016, AFL-CIO sent seven comment letters to PCAOB in the years 2003, 2005, 2007, 2010, 2013, 2014 and 2015, demonstrating the continued interest of the union in how the auditing profession is regulated. However, the influence of unions on audit regulation affects both unionized and non-unionized firms.

- 9) Faleye et al. (2006) claim that similar to risky debt, unionized labor's wage contract (current and retired labor's stream of promised wages and benefits) is a fixed claim on the firm's resources less a put option, the exercise price of which is the expected value of labor's claims in bankruptcy. Therefore, the downside risk in payoff is more meaningful than its upside potential to the union workers. The employees perceive deteriorating firm performance as an increase in unemployment risk and the union helps them to effectively demand monetary and non-monetary compensation such as higher wages, additional benefits, and improved working conditions (Agrawal and Matsa, 2013; Chemmanur et al., 2013). Stronger labor unions can more effectively force their demand on managers (Chemmanur et al., 2013). In effect, firms with higher unemployment risk pay higher wage to their employees and this relationship is more pronounced for firms with stronger unions. Anecdotal evidence also indicates that unions could be vocal in their support for managerial termination in bad times when they perceive higher unemployment risk. For example, the United Airlines chapter of the Air Line Pilots Association requested the resignation of Glenn Tilton as CEO of the airline because of poor financial performance. To bring public pressure, the United pilots created a web site that explained what they considered the failures of Tilton's management (www.consumeraffairs.com/news04/2008/08/united_pilots.html, August 11, 2008).
- 10) For example, Chen et al. (2012) show that firms in more-unionized industries undertake less risky investments. Similarly, Connolly et al. (1986) find that

argue that labor unions are rent-seekers, which might harm the firm's overall performance and thereby reduce firm value (Hirsch, 1991; Faleye et al. 2006). Rent seeking by unions could result in strikes and lock-downs, cause negative publicity and increase the likelihood of shareholder litigation. Therefore, unionization could be a threat to the client's (and its shareholders') well-being, and in extreme cases, could threaten the client's survival. In this context, auditors face a higher business risk on engagements with firms that have a strong union presence.

The above factors, taken together, affect managers in terms of both their operational and reporting decisions. In particular, unions could incentivize the managers to choose actions that are not in the best interests of shareholders such as reducing research and development expenditures, focusing less on growth and reducing liquidity. These value-reducing decisions could inadvertently¹¹⁾ increase the likelihood of financial distress of the firm and cause the auditors to assess a higher audit risk. Hilary (2006), for example, argues that strong labor unions "[create] uncertainty about managerial incentives to over or under-report economic performance... [and provide] management a valuable option to convincingly manipulate reporting for both financial markets and labor negotiations" (p. 530).

From these theoretical arguments, the net effect of organized labor on audit risk is not obvious. On the one hand, potential dysfunctional effects of unionized actions on managerial decisions could make the operational viability of the client firm more uncertain and lead auditors to assess a higher business risk for these clients (e.g., Hill et al., 1994; Bell et al., 2001; Lyon and Maher,

unionization produces a limiting influence on research and development investment. Faleye et al. (2006) study a sample of firms with union block (equity) ownership and find that, despite unions' significant equity stakes (which could potentially increase in value with firm risk), these firms avoid risks and exhibit lower total factor productivity. This finding suggests that unions seek short-term stability at the expense of long-term firm value.

- 11) Managers choose actions that are ultimately in their own self-interest. In this, they will tradeoff the difficulty and cost of negotiating with the union against the short term effect of long-term value reduction in the firm. For example, managers might stave off strikes and slow-downs during wage negotiations by offering generous pension and post-retirement benefits that decrease the shareholders' value of the firm in the long run. Similarly, actions such as reducing research and development increase the chance of financial distress in a competitive environment in the long run.

2005). Managers facing strong labor unions might be motivated to manage earnings downwards to avoid rent extraction, or manage earnings upwards to assuage disgruntled shareholders and other stakeholders.¹²⁾ Furthermore, associating with unionized clients increases the auditor's business risk. Negative publicity about the client due to business failure or union strikes could also spill over to the engagement risk for the auditor. Following these arguments, we expect the increased business risk to translate to a higher audit fee. We note that this risk cannot normally be mitigated by increased auditor effort, skill, or technology.

On the other hand, managers have incentives to shelter firm resources from strong labor unions in response to threats of strikes and other methods employed by unions to extract quasi-rents from firms (Baldwin 1983; Grout 1984). Consistent with these arguments, prior studies have shown that managers in firms with stronger labor unions hold smaller cash reserves (Klasa et al., 2009), issue more debt (Bronars and Deere, 1991; Matsa, 2010), prefer bank loans to public debt (Cheng 2016), disclose good news less frequently (Chung et al., 2016) and withhold news to bolster their bargaining power against organized labor (Hilary, 2006). Studies show that these firms are more likely to engage in income-decreasing earnings management (e.g., DeAngelo and DeAngelo 1991; D'Souza et al. 2001; Bova 2013). Furthermore, labor unions monitor managerial reporting choices and prevent egregious income manipulations. Because auditors are concerned about earnings management that increases income rather than earnings management that decreases income, (e.g., Ashbaugh et al. 2003; Francis and Krishnan 1999; Kim et al. 2003), clients with earnings that are downward biased are viewed as having lower audit risk.¹³⁾ A lower audit risk associated

12) Auditing Standard No. 12 discusses how business risks can lead to misstatements and provides examples of business risks that might result in a risk of material misstatement of financial statements.

13) There are other possible reasons why clients with stronger unionization are associated with lower audit risk. For example, a labor union could serve as a forum for employees to discuss and reveal their private information about the firm such as its operations, practices or dealings. The possibility of employees revealing information about the firm will make managers cautious about misrepresenting the information in their disclosures and financial reports. Recent cases of union activism (such as that in the H-P case or labor unions' representation in regulatory bodies, as mentioned earlier) also create a credible threat to managers of unionized firms and might caution them when they consider engaging in opportunistic reporting. Although these cases are not the

with a lower likelihood of financial misstatements should translate to a lower audit fee.

In this study, we empirically test which of the above competing predictions dominates. On balance, we consider that it is less likely to observe lower audit fees for unionized audit clients for the following reasons. First, although it might be true that labor unions have incentives to monitor managerial operations and reporting decisions, there is no legal requirement for employee representation on corporate boards in the US (Hunter, 1998). As such, the direct monitoring effect of labor unions on the client firm's financial reporting quality is likely to be weak. Second, although prior studies document that managers of unionized firms engage in income-decreasing earnings management (e.g., DeAngelo and DeAngelo, 1991; D'Souza et al., 2001), such evidence is at best mixed (see Liberty and Zimmerman 1986; Cullinan and Knoblett 1994; Yamaji 1986; Mautz and Richardson 1992). For example, Liberty and Zimmerman (1986) find no evidence of income-decreasing earnings management prior to the labor renegotiation periods in their examination of 105 unionized companies from 1968 to 1981. Findings of studies examining the effect of unionization on accounting policy choice are also inconclusive. Although D'Souza et al. (2001) show that firms with a unionized workforce tend to use immediate recognition when adopting Financial Accounting Standards 106 (Accounting for Postretirement Benefits), Cullinan and Knoblett (1994) do not find an association between the presence of an organized workforce and the inventory and depreciation method choice. To the extent that the risk associated with the stronger degree of involvement and concerns of labor unions in auditing matters and the business risk are higher to auditors for clients with a strong presence of labor unions, we expect higher audit fees for unionized firms. We formally state the hypothesis below.

H1: Audit clients with the presence of a stronger union are associated with higher audit fees than are other similar non-

result of direct monitoring of managerial reporting, such informal or indirect channels could lead managers of unionized firms to produce less distorted or more transparent pre-audited financial reports than those of similar firms with less unionization. This election would reduce the audit risk and might result in lower audit fees.

unionized or weakly unionized audit clients, *ceteris paribus*.

Union Influences and Other Auditor Responses

In the case of unionized clients, the auditor is cognizant of the incentives of managers to deviate from shareholder value. To negotiate with unions, managers could take short-term actions that could jeopardize the firm's long-term prospects. If the presence of a strong union imposes excessive adjustment costs due to operational inflexibilities as discussed above, this imposition might lead to a higher likelihood of business failure for these audit clients. Alternatively, if the audit client is already in financial distress, the presence of a strong labor union might be an obstacle for the recovery of the firm due to large and fixed commitments. In both of these scenarios, auditors likely perceive the business risk of unionized clients to be high in relation to the firm's limited ability to continue as a going concern. Given the competitive audit market, charging a fee premium commensurate with the increased risk might not be feasible. Consequently, the auditor could increase proclivity to issue a going-concern opinion. We therefore predict that:

H2a: Audit clients with the presence of a stronger union are associated with a higher likelihood of receiving a going-concern audit opinion than are other clients, *ceteris paribus*.

H2b: For a sample of financially distressed audit clients, clients with the presence of a stronger union are associated with a higher likelihood of receiving a going-concern audit opinion than are other clients, *ceteris paribus*.

Finally, we examine whether the audit fee premium charged to a unionized audit client compensates for increased business risk or higher audit effort. Prior studies (e.g., Bamber et al. 1993; Knechel and Payne 2001; Ettredge et al. 2006; Masli et al. 2010; Chan et al. 2012) suggest that the audit report lag (defined as the period between a company's fiscal year end and the audit report date) is an observable audit-related outcome variable that is related directly to audit effort. Generally, auditors respond to higher misstatement risks of their clients with more audit effort, which are likely to be

associated with a longer audit reporting lag. If managers are willing to sacrifice reporting quality to preserve their bargaining power against labor unions, we expect that misstatement risk increases with union strength, and hence audit reporting lags will be longer in unionized firms. By contrast, if the labor union exerts any discernible influences on management to constrain their aggressive reporting behavior, then it is likely that the reporting lags for these clients are on balance shorter. We therefore test the following null hypothesis in relation to the audit effort:

H3: The presence of a stronger union is not associated with audit report lags, *ceteris paribus*.

EMPIRICAL ANALYSES

Research Design

The right-hand-side variable of interest is the strength of labor union in client firms. Because publicly listed firms are not required to provide union membership (or collective bargaining coverage) information about their workers, it is difficult to reliably collect firm-level unionization data. There are two ways in which the measurement issue has been addressed in the prior literature. Labor economics literature uses industry unionization rates to proxy for the expected unionization rates of firms within an industry (e.g., Rosen, 1969; Karier, 1985; Connolly, Hirsch, and Hirschey, 1986; Bronars and Deere, 1991). The industry-level unionization rates are then multiplied with labor intensity for each firm, measured by the number of employees scaled by lagged total assets (Hilary, 2006) to compute an indirect firm-level proxy for unionization. This firm-adjusted industry measure of unionization is justified on the grounds that it captures the relative importance of unionized labor in firms' production functions, since "[i]f labor represents a very small proportion of the factors of production, it will not significantly affect the manager's decision..." (Hilary 2006, 535).

An alternative measure of unionization that has been used very sparingly in the literature is the firm-specific union presence (not strength) measure obtained from 10-K filings (Hamm et al. 2017). Specifically, Hamm et al. (2017) construct a firm-level union variable

by reading the 10-Ks from DirectEdgar. They initially manually read items 1 and 1A of 10-Ks for a subsample of firms and extract several keywords and phrases pertaining to the existence or non-existence of a unionized workforce. Then, they run a search using those keywords and phrases for all firms' 10-Ks. The firm-level indicator is set to 1 if they can confirm the presence of unionized workers, and 0 otherwise.¹⁴⁾

We choose the former firm-adjusted industry measure of unionization rates (*UNION*) for the main tests of our hypotheses. The reasons for our choice are as follows. First, the former measure has been used extensively in the literature (Hilary, 2006). Second, it is a measure of the extent or the strength of unionization which is our main variable of interest. In contrast, the firm-level measure from 10-K merely indicates a union presence, irrespective of whether the firm is heavily or scarcely unionized. By recognizing even lightly unionized firms as union firms, it over-represents the prevalence of union effects. Further, the disclosure in 10-K is incidental – it is not a required disclosure. A number of firms, even highly unionized firms, might not mention unions or collective bargaining in their 10-K reports. Therefore, the 10-K measure of unionization can be beset with significant measurement errors. However, we conduct additional tests using the alternative 10-K based firm-level measure and find results that are not qualitatively different from the ones we find using the former variable.

We use regression models to test the three hypotheses. To test the first hypothesis on audit fees, we use the log of audit fees ($\log(\text{Audit Fees})$) as the dependent variable. To test the second hypothesis, we use the likelihood of issuing a going-concern opinion ($\text{Prob}(\text{GC})$) as the dependent variable. To test the third hypothesis, we use the length of audit report lag ($\log(\# \text{Reporting Lags})$) as the dependent variable. In all regressions, the right-hand-side variable of interest is the strength of the labor union in client firms (*UNION*). We control for a comprehensive set of firm characteristics that could affect the dependent variables. First, we control for business risk variables. These variables include risky investment variables such as R&D

14) Given that firms are not required to disclose the union information in the 10K filings, the firm-level measure likely under-represents the presence of union. This might explain the low correlation between this measure and our main test variable (*UNION*). Nevertheless, we use this measure and obtain similar results to those reported based on the *UNION* measure.

intensity ($R\&D/Asset$) and acquisition costs ($Acquisition\ cost/Asset$). We also add the entropy measure of firm diversification ($PalepuDT$) suggested in Palepu (1985) to reflect the degree of complexity that auditors face. We control for investment risk because unionization itself affects a manager's decision to undertake risky investments (Connolly et al. 1986; Chen et al. 2012; Faleye et al. 2006). Second, we include financial risk variables such as Altman's (1968) bankruptcy score ($Zscore$), a dummy for financing activities ($financing$, i.e., whether a client's equity or debt increases by a significant amount), leverage ($leverage$), and an indicator for loss ($DLOSS$). Third, we also control for firm characteristics that could add complexity to auditing. Specifically, we include accounts receivable and inventory (ar_in), special items ($special_item$), the number of business segments ($BUSSEG$), and two indicators for foreign operations ($foreign$) and for high-tech industries ($hightech$). Following prior research on audit fees (e.g., Francis et al. 2005; Fung et al. 2012), we control for a Big 5 indicator ($Big5$), asset size ($Log(asset)$), market-to-book ratio (M/B), return-on-assets (ROA), quick ratio (qr), firm age (Age), indicators for December-ending firms ($YREND$), litigation-likely industries ($litigation$), industry competition (HHI_SALES , i.e., Herfindahl-Hirschman Index based on sales), and year dummies. Because both auditors' propensity to issue going-concern opinions (GC) and audit effort ($log(\#Reporting\ Lags)$) increase audit fees, we also include them in regressions when audit fee is the dependent variable. We argue that the above set of control variables together substantially reflect the audit risk imposed on the auditors and mitigate the possibly omitted variable problem. Appendix 1 presents more detailed definitions of all variables.

Sample and Data

The sample spans the period from 2000 to 2011.¹⁵⁾ The initial sample is drawn from Audit Analytics, Compustat, and the Union Membership and Coverage databases. The Union Membership and Coverage Database (www.unionstats.com), constructed by Hirsch and Macpherson (2003), provides estimates of union membership and coverage data by industry that are derived from the Current

15) Our sample starts from 2000 because audit fee data are reliably available in the US after 2000.

Population Survey (CPS), a monthly survey of rotated groups of households conducted by the Census Bureau for the Bureau of Labor Statistics (BLS). This database is used extensively in accounting (Hilary, 2006) and finance (Chen et al. 2011, 2012; Klasa et al. 2009) research.

The Union Membership and Coverage Database uses the Census Industry Classification (CIC) code as the industry indicator. Prior to 2003, CIC corresponded to the Standard Industrial Classification (SIC) code and to the North American Industry Classification System (NAICS) thereafter. To link the labor union data to firms in Compustat, we initially create a mapping of the CIC code to SIC or NAICS code of all Compustat firms for each year. For the majority of unique SIC or NAICS codes, using technical documents from the database and from the U.S. Census Bureau's website, we identify an exact corresponding CIC code.

Panel A of Table 1 describes the sampling procedure. The intersection of Compustat and Audit Analytics produces 80,764 observations, further decreased to 67,767 observations when merged with the union membership data from CPS. We exclude firms in financial and utility sectors (SIC 4900-4999, 6000-6999) because these firms are regulated differently from other firms and therefore could affect earnings quality and audit responses. We also exclude firms with missing information required to compute the variables used in our tests. Our final sample covers 40,775 firm-year observations. We winsorize all continuous variables at their top and bottom 1% to mitigate the effect of outliers.

In Panel B of Table 1, we report the sample distribution by industry. We find that the average values of *UNION* are highest in services (8.95%) and in the transportation industry (7.80%) but lowest in the agriculture, forestry, and fishing industry (1.81%) and in mining or building (3.65%). When we decompose *UNION* to industry-level union membership (*MEMPCT*) and firm-level labor intensity (the number of employees scaled by total assets), we find that the variation of *UNION* is largely driven by the variation in *MEMPCT*. In contrast, the industry average of the firm-level labor intensity measure does not explain much of the variation in *UNION* across industries.¹⁶⁾ The transportation industry noticeably exhibits

16) Although industry averages between *UNION* and labor intensity do not appear to be strongly correlated, the firm-level variables are significantly correlated (Pear-

the highest average value of *MEMPCT* (18.56%), which appears to be reasonable due to the well-known fact of highly organized labor forces in automobile companies. Primary industries such as the agriculture, forestry and fishing industry have the lowest mean value of *UNION* (1.81%) and *MEMPCT* (2.21%). Interestingly, the mean audit fee is also highest in the transportation industry and lowest in those primary industries, suggesting that the audit fee would increase with union strength. The likelihood of receiving going-concern opinions is lowest in the wholesale and retail industry (3.1%) and highest in the primary industry (10.4%), the latter of which are associated with low unionization rates and low audit fees. Reporting lags do not show a substantial variation across industries but appear shortest in the construction industry (60.29 days), consistent with the fact that the nature of inventories and transactions would affect the number of days between fiscal year end and filing dates. In Table 2, we split the sample into two sub-samples based on the yearly median values of the union strength variable (*UNION*). We then report the means, medians and standard deviations of the client sample in each group and test whether their mean values are significantly different.¹⁷⁾ The mean values of *log(Audit Fees)* are 13.194 and 13.209 for weak and strong union groups, respectively, but the difference is not significantly different from zero. Since many factors related to audit clients and auditors can affect audit fee, we rely more on the multivariate regressions in further analyses. Auditors issue going-concern opinions (*GC*) for approximately 1,264 cases (6.2% of 20,384 observations) in the weak union group but do so for approximately 1,692 cases (8.3% of 20,391 observations) in the strong union group. The significant difference in means based on a Chi-square test ($p < 0.01$) suggests that auditors are more likely to issue going-concern opinions in firms with a stronger union influence. However, the likelihoods of future restatements (*Restatement*) are not significantly different between groups. Reporting lags (*log(#Reporting Lags)*) are significantly longer for firms with stronger unions. Taken together,

son correlation = 0.448, $p < 0.01$). However, the correlation is stronger between *UNION* and *MEMPCT* (Pearson correlation = 0.508, $p < 0.01$). We also find that *MEMPCT* and labor intensity are weakly but negatively associated (Pearson correlation = -0.060, $p < 0.01$).

17) We employ t-tests (Chi-Square tests) to compare mean values of continuous (indicator) variables.

the univariate comparison in Tables 1 and 2 suggests that any attempt to investigate audit pricing associated with organized labor should control for various dimensions of audit risk other than those attributable to labor unions.

EMPIRICAL RESULTS

Association between Client Unionization and Audit Fees

Table 3 reports the regression results on the association between union strength and audit fees. We find that the strength of labor union (*UNION*) is significantly positively associated with audit fees with various control variables in column (1). Consistent with prior studies, the likelihood of issuing going-concern opinions (*GC*) is positively related to audit fees (e.g., Fung et al. 2012) because of the high audit risk of clients with going-concern opinions. The reporting lag ($\text{Log}(\# \text{Report_lag})$), a proxy for audit effort, is also positively related to audit fees, consistent with the fact that higher audit fees are charged when audit tasks require more auditor effort. The positive coefficients on R&D intensity, acquisition costs, and Palepu's (1985) diversification measure imply that risky investments also increase audit fees. Coefficients of financing variables such as financing and leverage consistently imply that auditors also consider external financing or default risk in audit pricing.

Firm complexity proxied by the proportion of accounts receivables and inventory relative to assets (*ar_in*), special items (*special_item*), the number of business segments (*BUSSEG*), the presence of foreign operations (*foreign*), and affiliation with high-tech industry (*hightech*) are positively related to audit fees. All other firm characteristics including Big 4/5 indicator, asset size, market-to-book ratio, profitability (e.g., *ROA*, *DLOSS*, and *qr*), firm age, and industry competition exhibit predicted signs, consistent with prior studies on audit fees (e.g., Francis et al. 2005; Fung et al. 2012). Next, we replace *UNION* with an indicator variable for the strong *UNION* group equal to 1 for firms with higher than yearly median *UNION* scores and 0 for those below the yearly median scores. Column (2) of Table 3 shows that the coefficient of the strong *UNION* indicator is 0.042 ($p < 0.01$), and the parameter value represents an average audit fee difference of 4.29% ($= e^{0.042} - 1$) between weak and strong

Table 1. Sample Description
Panel A. Sampling process

	(Less)	Number of observations
Compustat data for the period 2000-2011, merged with audit analytics and restatement data		80,764
Observations with missing Current Population Survey by Bureau of Labor Statistics (Union data)	(12,997)	67,767
Observations in finance and utility sector (4900-4999, 6000-6999)	(17,170)	50,597
Observations with missing values	(9,822)	40,775

Panel B. Sample distribution by industry sector

SIC code	Industries	#Obs	UNION	MEMPCT	#Employees/ Assets	Audit Fees	Going- concern	Reporting Lags (in days)
1-999	Agriculture, Forestry, Fishing	106	1.81%	2.21%	0.0079	\$907,404	0.104	64.73
1000-1999	Mining, Building	2,599	3.65%	9.48%	0.0025	\$1,205,862	0.063	64.38
2000-2999	Construction	8,171	3.91%	8.47%	0.0043	\$1,849,650	0.086	60.29
3000-3999	Manufacturing	13,794	5.05%	8.33%	0.0057	\$1,587,780	0.080	61.17
4000-4899	Transportation	3,013	7.80%	18.56%	0.0041	\$2,392,175	0.058	62.32
5000-5999	Wholesale, Retail	4,180	4.38%	3.49%	0.0151	\$1,121,334	0.031	60.41
7000-7999	Hotels, Services	6,727	3.99%	2.29%	0.0147	\$1,277,855	0.082	62.88
8000-8999	Services	2,185	8.95%	6.22%	0.0124	\$1,019,279	0.060	63.20
	Total	40,775	4.89%	7.57%	0.0079	\$1,544,171	0.073	61.62

Note: Table 1 reports the sampling process (Panel A) and the sample distribution by industry sectors (Panel B). Panel B also presents the average values of audit variables in each sector. *MEMPCT* is the industry-level union membership percentage compiled by CPS-BLS.

Table 2. Descriptive Statistics and Univariate Analyses

Variable	Weak Union (N = 20,384)			Strong Union (N = 20,391)			Mean diff.
	Mean	Median	Std Dev	Mean	Median	Std Dev	
UNION	0.007	0.006	0.006	0.084	0.049	0.093	<0.01
Log (Audit Fee)	13.194	13.175	1.372	13.209	13.210	1.424	0.29
GC	0.062	0.000	0.242	0.083	0.000	0.276	<0.01
Restatement	0.142	0.000	0.349	0.141	0.000	0.348	0.77
#Reporting lags	61.409	62.000	17.459	61.899	61.000	17.348	<0.01
ACCFILER	0.657	1.000	0.475	0.618	1.000	0.486	<0.01
R&D/ Asset	0.098	0.036	0.160	0.044	0.000	0.130	<0.01
Acquisition cost/ Asset	0.022	0.000	0.059	0.020	0.000	0.054	<0.01
Palepu DT	1.907	1.919	0.613	1.998	2.019	0.591	<0.01
Zscore	-2.898	-2.869	12.433	-1.245	-2.809	13.594	<0.01
Oscore	-0.938	-1.583	3.595	0.056	-0.932	4.799	<0.01
Big5	0.757	1.000	0.429	0.701	1.000	0.458	<0.01
Log(asset)	5.536	5.404	2.222	5.565	5.675	2.361	0.21
financing	0.444	0.000	0.497	0.434	0.000	0.496	0.04
M/B	3.046	2.132	5.387	2.395	1.716	5.249	<0.01
leverage	0.514	0.430	0.510	0.657	0.535	0.676	<0.01
ROA	-0.118	0.015	0.419	-0.091	0.033	0.488	<0.01
ar_in	0.213	0.165	0.182	0.307	0.290	0.187	<0.01
DLOSS	0.448	0.000	0.497	0.328	0.000	0.469	<0.01
special_item	0.620	1.000	0.486	0.624	1.000	0.484	0.37
YREND	0.718	1.000	0.450	0.663	1.000	0.473	<0.01
qr	2.992	1.859	3.201	1.665	1.240	1.620	<0.01
BUSSEG	1.269	1.000	0.573	1.374	1.000	0.651	<0.01
foreign	0.413	0.000	0.492	0.392	0.000	0.488	<0.01
Age	4.624	4.771	1.063	4.974	5.100	1.036	<0.01
hightech	0.588	1.000	0.492	0.201	0.000	0.401	<0.01
litigation	0.560	1.000	0.496	0.216	0.000	0.411	<0.01
HHI_SALES	0.050	0.038	0.042	0.074	0.053	0.061	<0.01

Note: Table 2 splits the sample into *weak* and *strong* union groups based on the yearly median values of *UNION*. The last column compares the differences in mean values of each variable across groups. We report the statistical significance of the differences based on t-tests for continuous variables and chi-square tests for dummy variables. See variable definitions in Appendix A.

UNION groups. This is an economically material effect and is about a sixth of the audit fee premium of 24 to 27 percent paid to industry-specialist auditors (Ferguson et al. 2003).

These results are subject to endogeneity if the extent of unionization is endogenously determined. Recognized sources of endogeneity include omitted variables, reverse causality and measurement errors. In the context of this study, the characteristics of unionized firms could be systematically different from non-unionized or weakly unionized firms. These differences in firm characteristics could also cause the difference in the dependent variables that we study. For example, firms that are less profitable, more financially distressed, and have lower growth potential are more likely to be unionized (DeAngelo and DeAngelo 1991, Liberty and Zimmerman 1986) and simultaneously be charged higher audit fees.

We conduct a battery of tests to address the endogeneity concern. First, we adopt 2SLS regressions. We set up a first-stage model that regresses *UNION* on determinants including two instrumental variables- local betas and a state-level non-competition enforceability index. The local beta (*LOCBETA*) is a proxy for an employee's outside opportunities within the region, which would weaken his incentive to join a union (Kedia and Rajgopal, 2009).¹⁸⁾ The rationale of using the state-level non-competition enforceability index (*NCOMPENF*) is that non-compete agreements limit the employees' outside opportunity and hence work as a retention device, which would in turn provide more incentives for employees to join a union (Garmaise, 2011). Since these two instruments are unlikely to affect auditor risk management strategies, we consider them appropriate variables to be included in this model as the exclusion restrictions (e.g. Lennox, Francis and Wang 2012). We expect a negative coefficient on *LOCBETA* but a positive coefficient on *NCOMPENF* in the first-stage regression determining union strength. We also include an indicator for high-tech industries (*hightech*), asset size (*Log(assets)*), ROA, firm age (*Age*), growth opportunity (*M/B*), and year dummies as additional determinants of union strength. Appendix B reports the first-stage results. We find that *UNION* is significantly positively

18) The estimation of *LOCBETA* requires identification of a county where the headquarters of a company is located. Due to the absence of county information in *COMPUSTAT*, our sample size decreases to 22,461.

associated with high non-compete enforceability, whereas the *LOCBETA* is not significant. High-tech industries are not likely to be unionized. We find that unionization is more intensive in more profitable and mature firms. In column (3) in Table 3, in the audit fee regression, we replace *UNION* with the predicted value from the first-stage estimation. We find that the predicted *UNION* is positively associated with audit fees.

Second, our proxy for union strength (*UNION*) is subject to measurement errors in conversion of industry-level unionization rates to firm-level estimates. Therefore, we complement this analysis using the alternative firm-level measure based on 10-K filings from Hamm et al. (2017). Section 3.1 on research design provides details of how this alternative measure is estimated. The correlation between this alternative firm-level indicator and *UNION* is 12.03% ($p < 0.01$). In column (4), we use the firm-level indicator for union presence instead of *UNION* and find that this indicator is also positively associated with high audit fees.¹⁹⁾

Third, change specifications are alternative ways to alleviate the omitted variable problem (Peterson, 2009; Roberts and Whited, 2013). The change specification controls for firm-specific characteristics that are constant over time, thereby reducing the possibility of bias due to correlated omitted variables. Specifically, changes in audit fees are regressed on changes in the *UNION* variable (ΔUNION) from $t-1$ to t and changes in other client and auditor characteristics, except *YREND*, *AGE*, *hightech*, and *litigation*, the values of which are taken at year t . In column (5), we show that change in union strength is positively associated with change in audit fees.

Finally, we also estimate client firm fixed effect regressions to control for unobservable omitted time-invariant firm-specific factors. Controlling for firm-fixed effects is another effective means to alleviate the concern that the positive association of *UNION* and audit fees is driven by omitted firm characteristics (Peterson, 2009). As shown in column (6), the result reconfirms the positive association between *UNION* and audit fees after we control for firm-fixed effects. Taken together, our findings that audit fees increases with unionization rates of client firms remain robust to various endogeneity treatments. In the next section, we explore specific

19) We thank Sophia Hamm for generously sharing the data.

channels through which unionization influences audit fees.

Client Unionization and the Likelihood of Issuing Going-concern Audit Opinions

High audit fees in clients with organized labor can be explained by either 1) the higher audit risk of such firms that cannot be audited away (a risk premium) or 2) increased audit effort required for audit tasks to audit down the misstatement risk, or both. Related to the former, auditors could issue going-concern opinions (GC) to protect themselves from litigation risk and the consequent penalties when unionized firms are sued for underperformance and when their going-concern assumption is at risk. In Table 4, we examine whether union strength is associated with the auditors' propensity to issue GC.

In columns (1) and (2), we report the association between unionization and the likelihood of issuing going-concern opinions for the full sample and the financially distressed subsample, respectively. For the full sample of 40,775 firm-year observations, we find in column (1) that the coefficient of *UNION* is significantly positive, suggesting that auditors are more likely to issue GC for client firms with stronger organized labor, consistent with our prediction in H2a. In addition, because firms with financial distress are more likely to face going-concern problems, we follow prior studies (e.g., DeFond et al. 2002) to restrict our sample to a group of financially distressed firms in column (2) and re-estimate our test. We identify financially distressed firms if a firm reports negative operating cash flow or a negative income before extraordinary items. Based on our restricted sample of 9,228 observations, we find that union strength is positively related to the likelihood of issuing GC, consistent with H2b.

Collectively, our results indicate that auditors assess a higher likelihood of going-concern problems for their unionized clients, consistent with our expectation that clients with the presence of a strong labor union are assessed a higher business risk in the eyes of auditors. This indication might also partially explain the audit fee premium charged by the auditors of clients with a higher level of unionization.

Table 3. Association between Client Unionization and Audit Fees

Dependent variable = Log (Audit Fees)	(1) OLS		(2) OLS with UNION dummy		(3) 2SLS		(4) Firm-level union presence (10K)		(5) Change model		(6) Firm-fixed effect	
	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p	Coeff.	p
Intercept	9.509	<0.01	9.499	<0.01	9.624	<0.01	9.507	<0.01	-0.020	0.21		
UNION	0.220	<0.01	0.042	<0.01	0.223	<0.01	0.067	<0.01	0.254	0.01	0.253	<0.01
GC	0.115	<0.01	0.115	<0.01	0.185	<0.01	0.116	<0.01	0.034	0.01	0.057	<0.01
Log#Report_lag)	0.043	<0.01	0.043	<0.01	0.073	<0.01	0.045	<0.01	0.212	<0.01	0.169	<0.01
R&D/ Asset	0.381	<0.01	0.378	<0.01	0.241	<0.01	0.408	<0.01	0.120	0.01	0.117	<0.01
Acquisition cost/ Asset	0.536	<0.01	0.537	<0.01	0.545	<0.01	0.536	<0.01	0.167	<0.01	0.133	<0.01
Palepu DT	0.154	<0.01	0.152	<0.01	0.169	<0.01	0.160	<0.01	0.018	0.05	0.055	<0.01
Zscore	0.001	<0.01	0.001	<0.01	0.001	0.11	0.001	0.52	0.001	0.03	0.002	<0.01
Big5	0.308	<0.01	0.307	<0.01	0.312	<0.01	0.305	<0.01	0.059	<0.01	0.334	<0.01
Log(asset)	0.476	<0.01	0.477	<0.01	0.463	<0.01	0.475	<0.01	0.311	<0.01	0.379	<0.01
financing	-0.014	0.02	-0.014	0.02	-0.004	0.60	-0.015	0.05	0.005	0.16	0.001	0.82
M/B	0.005	<0.01	0.005	<0.01	0.005	<0.01	0.006	<0.01	0.000	0.88	0.000	0.73
leverage	0.066	<0.01	0.066	<0.01	0.102	<0.01	0.064	<0.01	0.020	0.28	0.009	0.18
ROA	-0.117	<0.01	-0.115	<0.01	-0.237	<0.01	-0.137	<0.01	-0.093	<0.01	-0.061	<0.01
ar_in	0.430	<0.01	0.421	<0.01	0.436	<0.01	0.426	<0.01	0.163	<0.01	0.281	<0.01
DLOSS	0.109	<0.01	0.110	<0.01	0.067	<0.01	0.106	<0.01	0.012	0.03	0.043	<0.01
special_item	0.162	<0.01	0.161	<0.01	0.112	<0.01	0.161	<0.01	0.016	<0.01	0.036	<0.01
YREND	0.061	<0.01	0.062	<0.01	0.119	<0.01	0.062	<0.01	-0.005	0.40	0.177	<0.01
qr	-0.016	<0.01	-0.015	<0.01	-0.020	<0.01	-0.017	<0.01	-0.003	0.07	-0.016	<0.01

Table 3. (continued)

Dependent variable = <i>Log (Audit Fees)</i>	(1) OLS	(2) OLS with <i>UNION</i> dummy	(3) 2SLS	(4) Firm-level union presence (10K)	(5) Change model	(6) Firm-fixed effect
<i>BUSSEG</i>	0.042 <0.01	0.042 <0.01	0.046 <0.01	0.040 <0.01	0.018 0.06	0.022 <0.01
<i>foreign</i>	0.265 <0.01	0.265 <0.01	0.286 <0.01	0.262 <0.01	0.025 0.06	0.102 <0.01
<i>Age</i>	-0.020 <0.01	-0.021 <0.01	-0.039 <0.01	-0.021 0.00	-0.002 0.40	-0.005 0.35
<i>hightech</i>	0.134 <0.01	0.139 <0.01	0.133 <0.01	0.127 <0.01	-0.009 0.10	-0.012 0.58
<i>litigation</i>	-0.003 0.66	0.001 1.00	-0.004 0.62	-0.003 0.83	0.006 0.29	0.002 0.92
<i>HHL_SALES</i>	-0.289 <0.01	-0.293 <0.01	-0.885 <0.01	-0.294 0.02	-0.271 0.26	0.021 0.82
Year fixed effects	YES	YES	YES	YES	YES	YES
N	40,775	40,775	22,461	40,775	23,171	40,775
R ²	0.838	0.838	0.836	0.838	0.250	0.953

Note: Table 3 reports the regression results on the effect of *UNION* on audit fees. Column (1) presents the OLS results. In column (2), we replace *UNION* with an indicator for the strong *UNION* group as defined in Table 2. The strong *UNION* dummy equals one if a firm belongs to a strong *UNION* group, and zero otherwise. In column (3), we adopt an instrument variable approach with two-stage least-squares (2SLS). For the first stage, we run a model that regresses *UNION* on its determinants. Following Bova et al. (2015), we consider two variables to be valid instruments for *UNION* - *LOCBETA* and *NCOMPENF*. Due to missing county data for some observations in estimating *LOCBETA*, our sample drops to 22,461 firm-year observations. We also control for high-tech industry dummy, asset size, return-on-assets, firm age, market-to-book, and year dummies. We then replace *UNION* in the audit fee model with the predicted value of *UNION* estimated from the first-stage model. The first-stage model is reported in Appendix B. In column (4), we use a firm-level indicator for union presence. Hamm et al. (2017) construct this firm-level union indicator by reading the 10-Ks from DirectEdgar. They initially manually read items 1 and 1A for a subsample of firms and extract several keywords and phrases pertaining to the existence or non-existence of a unionized workforce. Then, they run a search using those keywords and phrases for all of the sample firms' 10-Ks. The firm-level indicator is set to 1 if they can confirm the existence of unionized workers, and 0 otherwise. See Hamm et al. (2017) for more details. In column (5), we adopt change specification by converting all regression variables into the change form from t-1 to t, except *YREND*, *AGE*, *hightech*, and *litigation*. In column (6), we run a regression with firm-fixed effects using the absorption technique. In so doing, we suppress the intercept to avoid a dummy variable trap. The coefficients are paralleled with corresponding p-values, robust to heteroskedasticity and error correlations within a firm. All variables are defined in Appendix A.

Table 4. Client Unionization and the Likelihood of Going-concern Opinions

Dependent variable = <i>Prob (GC = 1)</i>	(1) Full sample		(2) Distressed sample	
Parameter	Coefficient	p-value	Coefficient	p-value
Intercept	-0.979	<0.01	0.323	0.41
UNION	1.282	<0.01	2.105	<0.01
<i>R&D/Asset</i>	0.242	0.18	-0.014	0.95
<i>Acquisition cost/Asset</i>	-3.021	<0.01	-1.603	0.02
<i>Palepu DT</i>	-0.602	<0.01	-0.500	<0.01
<i>Zscore</i>	0.007	0.01	0.009	0.01
<i>Big5</i>	-0.068	0.30	-0.091	0.37
<i>Log(asset)</i>	-0.414	<0.01	-0.310	<0.01
<i>financing</i>	0.035	0.51	0.126	0.08
<i>M/B</i>	-0.005	0.11	-0.005	0.16
<i>leverage</i>	0.504	<0.01	0.298	<0.01
<i>ROA</i>	-0.551	<0.01	-0.582	<0.01
<i>ar_in</i>	-0.769	<0.01	-0.742	<0.01
<i>DLOSS</i>	1.696	<0.01		
<i>special_item</i>	0.353	<0.01	0.214	<0.01
<i>YREND</i>	0.084	0.15	0.005	0.96
<i>qr</i>	-0.431	<0.01	-0.393	<0.01
<i>BUSSEG</i>	0.002	0.97	-0.009	0.92
<i>foreign</i>	-0.187	0.01	-0.150	0.19
<i>Age</i>	0.008	0.76	0.061	0.21
<i>hightech</i>	0.059	0.44	0.003	0.98
<i>litigation</i>	-0.326	<0.01	-0.219	0.07
<i>HHI_SALES</i>	0.020	0.97	-0.188	0.87
Year fixed effects	YES		YES	
N	40,775		9,228	
R ²	0.219		0.329	

Note: Table 4 reports the logit regression results on the effect of *UNION* on the likelihood of issuing going-concern opinions (*GC*). Column (1) analyzes the full sample, whereas column (2) restricts the sample to financially distressed firms. We classify a firm as financially distressed when a firm reports loss (*DLOSS* = 1) or negative operating cash flow. For both Panels A and B, the coefficients are paralleled with corresponding p-values, robust to heteroskedasticity and error correlations within a firm. All variables are defined in Appendix A.

Client Unionization and the Audit Report Lag

One premise we've maintained so far is that the positive association between unionization and audit fees reflects auditors charge premium to unionized clients. However, it is not entirely clear whether it captures auditors' rent or increased costs associated with audit risk (Hribar, Kravet, and Wilson, 2014; Doogar, Sivadasan, and Solomon, 2015). To provide further evidence for the claim that the higher audit fee charged to the unionized firms is a premium for higher business risk rather than for additional audit effort to mitigate misstatement risk, we compare the audit report lags of more and less unionized firms. Audit report lags ($\log(\#Reporting\ Lags)$), measured as the number of days between the accounting year end of a company and the audit report date, reflect the auditor effort (Bamber et al. 1993; Ettredge et al. 2006; Masli et al. 2010). Because the auditors' business risks arising from unionized clients' business risks cannot be mitigated by audit effort, we do not expect auditors to spend more audit effort (which would result in longer audit report lags) to reduce the business risk associated with their unionized audit clients. Conversely, if the auditors perceive the financial misstatement risk of a unionized audit client to be lower, they are likely to devote less time and effort to conducting the audit, leading to shorter audit report lags.

We regress the natural logarithm of the audit report lags on union strength as reported in Table (5). The results of columns (1) and (2) are based on the full sample (N=40,775). Different from column (1), we add an indicator variable for accelerated filers in column (2). In column (3), to control for unusual overdue filings for other reasons, we delete observations with report lags longer than 90 days. The sample size of column (3) decreases to 36,342 observations. In all three columns of Table 5, we find strong and robust results that *UNION* is negatively associated with report lags.

The finding suggests that auditors devote less effort to auditing more-unionized firms. This result is consistent with the possibility that auditors assess a lower financial misstatement risk for unionized clients and hence devote a lower level of audit effort. Another possible interpretation of this result is that the presence of a strong labor union is a clear indication of high business risk, which enables the auditor to decide on the issuance of going-

Table 5. Client Unionization and Reporting Lags

Dependent variable = <i>Log(# Reporting Lags)</i>	(1) <i>Full sample</i>		(2) <i>+ ACCFILER</i>		(3) <i>Delete Late Filings</i>	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Intercept	5.602	<0.01	5.602	<0.01	4.456	<0.01
UNION	-0.149	<0.01	-0.146	<0.01	-0.063	0.01
<i>ACCFILER</i>			-0.136	<0.01	-0.043	<0.01
<i>GC</i>	0.139	<0.01	0.123	<0.01	0.057	<0.01
<i>R&D/Asset</i>	-0.321	<0.01	-0.288	<0.01	-0.146	<0.01
<i>Acquisition cost/Asset</i>	-0.259	<0.01	-0.221	<0.01	0.105	<0.01
<i>Palepu DT</i>	0.019	<0.01	0.023	<0.01	-0.009	<0.01
<i>Zscore</i>	0.000	0.58	0.000	0.95	0.000	0.89
<i>Big5</i>	0.006	0.50	0.027	<0.01	0.000	0.97
<i>Log(asset)</i>	-0.026	<0.01	-0.014	<0.01	-0.041	<0.01
<i>financing</i>	0.014	0.03	0.012	0.07	0.018	<0.01
<i>M/B</i>	-0.003	<0.01	-0.003	<0.01	-0.003	<0.01
<i>leverage</i>	0.001	0.92	0.002	0.83	0.003	0.48
<i>ROA</i>	-0.012	0.31	-0.018	0.11	0.002	0.77
<i>ar_in</i>	0.050	0.01	0.036	0.06	-0.003	0.72
<i>DLOSS</i>	0.064	<0.01	0.049	<0.01	0.054	<0.01
<i>special_item</i>	-0.020	<0.01	-0.020	<0.01	0.023	<0.01
<i>YREND</i>	-1.143	<0.01	-1.140	<0.01	0.050	<0.01
<i>qr</i>	-0.011	<0.01	-0.010	<0.01	-0.009	<0.01
<i>BUSSEG</i>	-0.006	0.22	-0.006	0.25	0.016	<0.01
<i>foreign</i>	-0.060	<0.01	-0.054	<0.01	-0.002	0.56
<i>Age</i>	-0.026	<0.01	-0.026	<0.01	-0.007	<0.01
<i>hightech</i>	-0.034	<0.01	-0.032	<0.01	-0.036	<0.01
<i>litigation</i>	0.099	<0.01	0.102	<0.01	-0.008	0.05
<i>HHL_SALES</i>	0.304	<0.01	0.312	<0.01	-0.071	0.02
Year fixed effects	YES		YES		YES	
N	40,775		40,775		36,342	
R ²	0.448		0.452		0.289	

Note: Table 5 reports the regression results on the effect of *UNION* on reporting lags, measured as the number of days between the fiscal year end dates and the filing dates. Columns (1) and (2) are based on the full sample, in which column (2) additionally controls for an indicator for accelerated filers. To identify accelerated filers, we rely on Audit Analytics (*is_accel_filer*). The sample size of column (3) decreases to 36,342 observations because firm-years with report lags longer than 90 days are removed from the sample. The coefficients are paralleled with corresponding p-values, robust to heteroskedasticity and error correlations within a firm. All variables are defined in Appendix A.

concern opinions in a timelier manner, leading to a shorter audit report lag. In either case, the result in Table 5 provides evidence that our finding of a positive association between union strength and audit fees is not attributable to higher audit effort. Rather, we attribute the higher audit fees charged to unionized clients to the higher business risk associated with the presence of a strong labor union.²⁰⁾

Client Unionization and Measures of Financial Reporting Quality

Earlier studies document mixed results on the effect of organized labor on financial reporting quality. DeAngelo and DeAngelo (1991) document that firms report lower income and cut dividends during union negotiations. In contrast, Liberty and Zimmerman (1986) do not find evidence that managers conduct income-decreasing earnings management during labor negotiations. Recently, Bova (2013) finds that unionized firms are more likely to miss mean consensus analysts' earnings forecasts to signal a negative outlook to their unions. Furthermore, Chyz, Leung, Li, and Rui (2013) document a negative association between firms' tax aggressiveness and union power. However, no such studies document that unionized firms are more likely to become involved in income-increasing earnings management. Likewise, although prior evidence has not been clear about the effect of unionization on financial reporting quality, we move to investigate the financial reporting quality of unionized firms in search of a channel through which unionization is linked to high audit fees.

In so doing, we examine the association between union strength (*UNION*) and the likelihoods of subsequent restatements (*Restatement*). In Table 6, we find that the coefficient on *UNION* is not statistically significant. Untabulated results also suggest that *UNION* does not matter to whether subsequent restatements

20) So far we study the auditors' response to unionized clients in terms of audit fee adjustment and going-concern opinions on a stand-alone basis. Following Elder et al. (2009) and Krishnan et al. (2013), we also examine if a pecking-order exists among the auditors' response to the client risk. Specifically, we examine an ordered logit model with the dependent variable taking values of 2 if there is an auditor change, 1 if the client receives a going-concern opinion, -1 if audit effort is reduced (measured as below the median of changes in report lags in the sample on an annual basis) and 0 otherwise. Untabulated results show the coefficient on *UNION* is statistically insignificant, indicating there is no pecking-order in the auditor's response to unionization.

Table 6. Client Unionization and Financial Reporting Quality

Dependent variable = Parameter	Prob(Restatement = 1)	
	Coefficient	p-value
Intercept	-2.957	<0.01
UNION	-0.089	0.78
R&D/Asset	-1.098	<0.01
Acquisition cost/Asset	0.863	<0.01
Palepu DT	0.198	<0.01
Zscore	-0.007	0.01
Big5	-0.045	0.47
Log(asset)	-0.013	0.43
financing	0.055	0.10
M/B	-0.007	0.04
leverage	0.110	0.03
ROA	-0.213	<0.01
ar_in	-0.034	0.81
DLOSS	0.192	<0.01
special_item	0.246	<0.01
YREND	-0.206	<0.01
qr	-0.052	<0.01
BUSSEG	-0.020	0.64
foreign	-0.093	0.09
Age	-0.060	0.01
hightech	-0.248	<0.01
litigation	0.439	<0.01
HHI_SALES	0.601	0.21
Year fixed effects	YES	
N	40,775	
R ²	0.039	

Note: Table 6 reports the logit model results on the effect of *UNION* on the likelihood of restatement. The coefficients are paralleled with corresponding p-values, robust to heteroskedasticity and error correlations within a firm. All variables are defined in Appendix A.

are upward or downward adjustments.²¹⁾ In summary, we find no evidence suggesting that the likelihood of financial misstatements is associated with labor union influence in audit clients. Combined with shorter reporting lags for unionized clients, this evidence again corroborates the contention that auditors are not likely to assess a higher financial misstatement risk, and the higher audit fee is compensation for the business risk of these clients rather than for additional audit effort.

Client Unionization and Financial Health

Thus far, we provide evidence suggesting that high audit fees in unionized clients are largely due to the high business risk of such clients. To further support the above argument, we examine whether unionization is related to well-known proxies for business risks in the client firms in our sample. Following prior literature, we proxy business risk by financial health measured by the Altman Z-score (Altman 1968) and the Ohlson O-Score (Ohlson 1980). We set higher values of the two scores to indicate lower financial health or, alternatively, higher business risk. We include all of the other control variables that we used in the audit fee model. Columns (1) and (2) of Table 7 report the estimated results with Z-score and O-score as dependent variables, respectively. For both models, the strength of the union is associated with higher business risk. This association is consistent with our premise that unions as fixed claimers (or even rent-seekers) impair the financial health and increase the business risk of the client firms.

Additional Discussion on Auditor Selection

It is also possible that unions influence the auditor's selection (such as in the HP case discussed earlier) and in particular prefer auditors who are more conservative and more likely to provide warnings in a timely manner through negative audit opinions. It is therefore plausible that the positive association between *UNION* and audit fees reflects auditor characteristics. To alleviate the concern from this selection problem, we included the likelihood of issuing

21) We use the "Res_improves" ("Res_adverse") flag in the Audit Analytics database to indicate upward or downward adjustments..

Table 7. Client Unionization and Financial Health

Dependent variable =	(1) Zscore		(2) Oscore	
	Coeff.	p	Coeff.	p
Intercept	-3.531	<0.01	-1.644	<0.01
UNION	1.669	<0.01	0.484	<0.01
R&D/Asset	5.747	<0.01	-0.581	<0.01
Acquisition cost/Asset	0.211	0.65	1.182	<0.01
Palepu DT	0.289	<0.01	0.000	0.96
Big5	0.062	0.57	-0.140	<0.01
Log(asset)	-0.597	<0.01	-0.377	<0.01
financing	-0.287	<0.01	-0.058	<0.01
M/B	-0.271	<0.01	0.025	<0.01
leverage	9.168	<0.01	6.267	<0.01
ROA	-10.129	<0.01	-0.370	<0.01
ar_in	-3.880	<0.01	-0.781	<0.01
DLOSS	-1.053	<0.01	0.094	<0.01
special_item	0.757	<0.01	-0.026	0.01
YREND	0.355	<0.01	-0.066	<0.01
qr	-1.095	<0.01	-0.080	<0.01
BUSSEG	0.048	0.26	0.015	0.01
foreign	0.009	0.90	0.006	0.56
Age	0.508	<0.01	0.018	<0.01
hightech	0.864	<0.01	-0.097	<0.01
litigation	-0.287	<0.01	0.012	0.29
HHL_SALES	-1.340	0.02	0.164	0.13
Year fixed effects	YES		YES	
N	40,775		40,766	
R ²	0.702		0.958	

Note: Table 7 reports the regression results on the effect of *UNION* on financial health. Columns (1) and (2) employ Altman’s Z-score and Ohlson’s O-score as a proxy for financial health, respectively. For easier inference, we convert dependent variables to allow higher scores to indicate higher bankruptcy risk or worse financial health. Specifically, we measure Z-score and O-score as shown below. Z-score is measured as -1.2 (Working Capital/Total Assets) - 1.4 (Retained Earnings/Total Assets) - 3.3 (EBIT/Total Assets) - 0.6 (Market Value of equity/Book Value of Total Liabilities) - (Sales/Total Assets). O-score is measured as -1.32 - 0.407 (Log Total Assets) + 6.03 (Total Liabilities/Total Assets) - 1.43 (Working Capital/Total Assets) + 0.076 (Current Liabilities/Current Assets) - 1.72 (1 if Total Liabilities > Total Assets, 0 otherwise) - 0.521 ((Net Income_{*t*} - Net Income_{*t-1*})/(| Net Income_{*t*}| + | Net Income_{*t-1*}|)).

going-concerns (*GC*) and reporting lags ($\log(\#Reporting\ Lags)$) in the audit fee model. When we also control for financial reporting quality captured by *Restatement*, we continue to find *UNION* to be positively associated with audit fees. Furthermore, to consider a possible effect of auditor tenure on auditor quality (Johnson et al. 2002; Myers et al. 2003; Gul et al. 2009), we include auditor tenure in addition to all other audit-outcome variables. The result is hardly changed. The fact that all of the audit-outcome variables, *GC*, *Restatement*, $\log(\#Reporting\ Lags)$, and auditor tenure, are significantly positively loaded to the audit fee also makes us comfortable with the validity of the audit fee model.

These results suggest that auditors charge higher fees to compensate for the residual business risk that cannot be deflected by issuing going-concern opinions or mitigated by devoting more effort to the audit process. Furthermore, this relationship is incremental to financial reporting quality captured by *Restatement*. As a separate test, we also restrict our analyses to clients of Big 4/5 auditors, a more homogeneous group of auditors with a similar level of audit quality. The inferences we obtained from the results (not tabulated for brevity) are qualitatively similar to our results reported in the main findings, suggesting that the aforementioned results are not likely driven by differential auditor selection of unionized clients.

Cross-sectional Analysis based on Union Strikes

As an additional test, we examine the effect of an extreme form of union-related business risk associated with audit clients, namely the case of labor strikes, on audit pricing. If *UNION* captures other firm characteristics unrelated to the strength of union, we do not expect it to differ much in the presence of union strikes. By exploring this cross-sectional variation, we provide additional evidence that the results reported using *UNION* in earlier analyses likely capture auditors' responses to union strength instead of other factors. In particular, if the higher audit fee is attributable to heightened business risk to the auditor because of the association with unionized clients, then we expect unionized clients that experienced strikes to be associated with even higher audit fees. Strikes cause disruption to normal production and bring negative publicity to the firm. Such disruption could scare away investors, suppliers and customers. Auditors of such clients face more business risks and

Table 8. Client Unionization, Strikes, and Audit Fees

Dependent variable = Log(Audit Fees)	(1) STRIKE		(2) STRIKE* LENGTH = #days		(3) STRIKE*LENGTH = dummy for #days >= 30	
	Coeff.	p	Coeff.	p	Coeff.	p
UNION	0.204	<0.01	0.205	<0.01	0.206	<0.01
UNION*STRIKE	0.595	0.02	0.534	0.04	0.211	0.50
UNION*STRIKE*LENGTH			0.001	0.13	0.966	0.05
STRIKE	-0.048	0.06	-0.037	0.14	-0.019	0.51
LENGTH			0.000	0.04	-0.081	0.04
Intercept, Control variables	YES		YES		YES	
Year fixed effects	YES		YES		YES	
N	40,775		40,775		40,775	
R ²	0.837		0.837		0.838	

Note: Table 8 reports the regression results for the association between *UNION* and audit fees conditional on 1) the incidence of strikes in previous years (*STRIKE*) and 2) if a firm has experienced a strike, how many days the strike lasted (*LENGTH* = number of days) or whether it lasted more than one month (*LENGTH* = indicator for number of strike days >= 30). The coefficients are paralleled with corresponding p-values, robust to heteroskedasticity and error correlations within a firm. All other variables are defined in Appendix A.

hence are more likely to charge a risk premium in the form of higher audit fees.

We obtain data on strikes from BNA Labor Plus, which provides data from 1993 onwards on major work stoppages involving 1,000 or more workers. We interact our main variable *UNION* with the incidence of strikes (*STRIKE*), which takes the value of 1 if the firm experiences at least one strike in previous years, and 0 otherwise. We further allow such relationships to vary with the number of days a strike lasts.

Table 8 presents the results of this analysis. Column (1) of Table 8 shows that the effect of *UNION* on audit fee is stronger when a firm has previously experienced a strike, suggesting that threats by unions are more credible in those firms and that auditors charge higher fees. Column (2) shows that the length of a strike appears

not to incrementally increase an auditor's assessment of business risk, whereas Column (3) documents that the length of a strike affects audit pricing when the strike lasts longer than one month. In summary, the cross-sectional analyses with strike incidences corroborate our earlier findings by providing evidence that auditors consider union strength risky, particularly when a union's threat to the client business becomes more credible.

CONCLUDING REMARKS

In this paper, we examine how auditors respond to the presence of organized labor in client firms. Using a measure of labor union influence in the US, we find that auditors respond to unionization by charging higher audit fees but with shorter reporting lags. Because the increase in audit fee is not due to higher effort, we argue that the increase is a premium to compensate for the higher business risk generated by associating with unionized clients, which face greater business risk caused by compromises made to accommodate the demands of the union. Furthermore, we show that auditors also respond to higher unionization by increasing the likelihood of issuing going-concern opinions. We interpret this response as a means of reducing the risk of litigation and, if sued, as a means of deflecting the costs of litigation. Overall, we document strong pricing evidence of auditors' response to the business risks of their clients in a setting in which the financial misstatement risk is not necessarily higher.

APPENDIX A. VARIABLE DEFINITIONS

Variables	Definition
<i>UNION</i>	Union strength, measured as the product of the industry-level unionization rate and firm-level labor intensity as in Hilary (2006)
<i>#Reporting Lags</i>	Number of days between fiscal year end and filing date
<i>Restatement</i>	Indicator variable that equals 1 if the financial statements of the current year are restated subsequently, zero otherwise
<i>GC</i>	Indicator variable that equals 1 if an auditor issued a going-concern opinion for a client, and 0 otherwise
<i>Log(Audit Fees)</i>	Natural logarithm of audit service fees
<i>ACCFILER</i>	Indicator variable that equals 1 for accelerated filers, zero otherwise
<i>R&D/Asset</i>	Research and development cost deflated by total assets
<i>Acquisition cost/Asset</i>	Acquisition cost deflated by total assets
<i>Palepu DT</i>	Entropy measure of total diversification, measured as in Palepu (1985)
<i>zscore</i>	Altman's (1968) Z score, measured as -1.2 (working capital/total assets) $- 1.4$ (retained earnings/total assets) $- 3.3$ (EBIT/total assets) $- 0.6$ (market value of equity/book value of total liabilities) $-$ (sales/total assets).
<i>oscore</i>	Ohlson's (1980) O score, measured as $-1.32 - 0.407$ (Log Total Assets) $+ 6.03$ (Total Liabilities/ Total Assets) $- 1.43$ (Working Capital/ Total Assets) $+ 0.076$ (Current Liabilities/ Current Assets) $- 1.72$ (1 if Total Liabilities > Total Assets, 0 otherwise) $- 0.521$ ((Net Income _t - Net Income _{t-1})/(Net Income _t + Net Income _{t-1})).
<i>big5</i>	Indicator variable that equals 1 if an auditor is one of the Big 4/5 CPA firms, and 0 otherwise
<i>Log(asset)</i>	Natural logarithm of the total assets of a client
<i>financing</i>	Indicator variable that equals 1 if a client's book equity increased by 10% or its long-term debt increased, and zero otherwise
<i>M/B</i>	Market-to-book ratio
<i>leverage</i>	Total liability, deflated by total assets

Variables	Definition
<i>ROA</i>	Income before extraordinary items, deflated by total assets
<i>ar_in</i>	Sum of accounts receivables and inventory, deflated by total assets
<i>DLOSS</i>	Indicator variable that equals 1 if income before extraordinary items is positive, and 0 otherwise
<i>special_item</i>	Indicator variable that equals 1 if special item is non-zero, and 0 otherwise
<i>YREND</i>	Indicator variable that equals 1 if fiscal year end is December, and 0 otherwise
<i>qr</i>	Quick ratio, measured by current assets minus inventories deflated by current liabilities
<i>BUSSEG</i>	Square root of the number of business segments
<i>foreign</i>	Indicator variable that equals 1 if foreign income is non-zero, and 0 otherwise
<i>Age</i>	Natural logarithm of the number of months since a firm's stock started to be covered by CRSP
<i>hightech</i>	Indicator variable that equals 1 if a firm belongs to high-tech industries, and 0 otherwise. High-tech industries are defined as in Barron et al. (2002)
<i>litigation</i>	Indicator variable that equals 1 if a firm belongs to industries with high litigation risk, and 0 otherwise. Litigation-likely industries are defined as in Barton and Simko (2002)
<i>HHI_SALES</i>	Herfindahl-Hirschman Index based on sales
<i>LOCBETA</i>	The local beta (b^{LOC}) is estimated using the following time-series regression over the sample period for each firm: $R_t = a_i + b^{LOC}LOCR_t + b^{LOC}MKTR_t + b^{LOC}INDR_t + e_t$, where R_t refers to the monthly return of an individual stock, $LOCR_t$ is the monthly return of the stock's corresponding MSA index, $MKTR_t$ is the value-weighted monthly return of the market portfolio, and $INDR_t$ is the monthly industry return based on Fama-French 48 industry classification. All returns are in excess of monthly T-bill rates. See Kedia and Rajgopal (2009) for more details.
<i>NCOMPENF</i>	Noncompetition enforceability index by Garmaise (2011)

APPENDIX B. DETERMINANTS OF UNIONIZATION

Dependent var. = <i>UNION</i>	Coefficient	p-value
Intercept	0.037	<0.01
LOCBETA	0.002	0.26
NCOMPENF	0.002	<0.01
hightech	-0.041	<0.01
Log(asset)	-0.003	<0.01
ROA	0.008	<0.01
Age	0.006	<0.01
M/B	0.000	0.02
Year fixed effects	YES	
N	22,461	
R ²	0.108	

Note: Appendix B reports the determinants of *UNION*. The coefficients are paralleled with corresponding p-values, robust to heteroskedasticity and error correlations within a firm. See variable definitions in Appendix A.

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