

Employee Ownership and Firm Disclosure

Francesco Bova

Rotman School of Management

University of Toronto

Francesco.Bova@rotman.utoronto.ca

Yiwei Dou

Rotman School of Management

University of Toronto

Yiwei.Dou07@rotman.utoronto.ca

Ole-Kristian Hope

Rotman School of Management

University of Toronto

okhope@rotman.utoronto.ca

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Abstract

Evidence suggests that managers have an incentive to keep information opaque with the market when negotiating with non-manager employees who can extract above-market rents from the firm. We provide empirical evidence which suggests that employee ownership mitigates this incentive. Employing a number of proxies for voluntary disclosure, we find that firms whose non-manager employees have strong bargaining power provide less voluntary disclosure whereas firms whose non-manager employees have larger equity stakes in the firm provide greater voluntary disclosure. Furthermore, the effect of employee ownership in generating better disclosure is particularly strong, the greater employees' negotiation leverage. Our results suggest a novel capital market benefit to utilizing employee ownership. Specifically, employee ownership appears to benefit the firm by not only aligning goals between the firm and its employees, but by also increasing disclosure from the firm to *all* of its stakeholders by mitigating the firm's need to keep information opaque.

Keywords: Employee ownership, union bargaining power, voluntary disclosure, research design

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Employee Ownership and Firm Disclosure

I. Introduction

The pros and cons of employee ownership have inspired much debate in recent years. On the one hand, advocates of employee ownership cite evidence which suggests that employee ownership leads to increasing employee-manager goal alignment and productivity gains that are ultimately reflected in higher shareholder returns (Jones and Kato 1995; Kruse, Blasi, and Park 2009). On the other hand, contrasting empirical evidence suggests that giving non-manager employees too much ownership in the company can erode shareholder value (La Porta et al. 1997).¹ Our study adds to this debate by assessing the role of employee ownership in shaping management's incentive to disclose information to the market. Our results illustrate a positive link between employee ownership and voluntary disclosure and suggest that employee ownership may play a role in improving a firm's corporate governance, by improving its transparency with investors and other stakeholders.

In drawing a link between employee ownership and voluntary disclosure, we build on economic theory which suggests that firms benefit from the voluntary revelation of information to the capital markets. Specifically, in the absence of costs (e.g., Jovanovic 1982; Verrecchia 2001) or uncertainty about the existence of information (e.g., Dye 1985; Jung and Kwon 1988), theory suggests that firms should follow a policy of fully eliminating information asymmetry with the market. However, despite the conjectured benefits to full disclosure, we observe great variation in disclosure quality across firms. This variation implies that there may be costs to full disclosure. One type of cost that may lead to variation in disclosure arises from firms' incentives

¹ For example, in 1995, United Airlines awarded employees 55% of the firm's equity in exchange for concessions on salaries and benefits. While the plan at the time was applauded by the U.S. Federal government as an innovative way to heal the fractious nature of the union-management relationship, others remained skeptical of allowing a stakeholder that already contracted with the firm enough power to essentially control the firm's decision making.

to keep information asymmetric when stakeholders can use firm disclosures to extract rents from the firm. The classic example of this type of tension is that of a firm withholding information in order to avoid revealing strategic advantages to its competitors. Our study focuses both on the firm's non-manager employees as a group of stakeholders that have the potential to extract above-market rents from the firm and on employee ownership as a tool to mitigate this potential to extract rents.

To start, if the firm's employees have the ability to extract above-market rents from the firm (i.e., obtain wage premia above the competitive market wage), then managers may have a desire to reduce disclosure in order to prevent those rents from being extracted. There is evidence to support this conjecture. For example, Hilary (2006) cites evidence which suggests that revealing information in a unionized environment weakens management's position during the collective bargaining process. Hilary (2006) supports this point by illustrating that firms with strong organized labor also have larger information asymmetries.

We posit that employee ownership alleviates this incentive to keep information asymmetric with non-manager employees and, more broadly, the market in general. Our reasoning is in part motivated by analytical and empirical findings in Cramton, Mehran, and Tracey (2008) which suggest that employee stock ownership leads to a greater propensity for non-manager employees to internalize the costs of costly labor disputes (which results in fewer strikes), and to the firm becoming more amenable to initial wage demands. We argue that employee ownership, through its ability to align employee-shareholder objectives and reduce the employee base's incentive to extract rents through costly non-cooperation, should both decrease the negative consequences to disclosing information to employees and mitigate the incentive for management to keep information asymmetric with the market.

We test these predictions using several proxies to capture different dimensions of discretionary disclosure. Specifically, we employ nine individual disclosure proxies: five management guidance-based measures, two conference call metrics, and two annual report readability scores. In addition, we report results using an aggregate measure for voluntary disclosure.

Our primary research design is based on assessing aggregate equity stakes per employee for all U.S. publicly-traded firms with employee stock ownership plans (ESOPs), 401(k)s, deferred profit sharing plans, and (or) stock bonus plans. Our sample covers approximately 850 firms with non-zero employee ownership per year (as well as firms with no employee ownership). We control for potential endogeneity of employee ownership using an instrumental variables approach, in which the instruments are motivated by economic theory (and uncorrelated with the error term in the disclosure equation). In addition, our multivariate analyses include an extensive set of control variables motivated by extant research. In sensitivity analyses we provide supporting evidence using changes tests, tests for the effects of Reg FD, tests for omitted variables, and matching-based procedures.

Our evidence is consistent with our conjectures. Utilizing data from 1999 – 2007, we find that, as the aggregate equity stake per employee increases, the more likely the firm is to: issue management forecasts, produce more forecasts on average, issue more good news and bad news forecasts, have higher quality management guidance, initiate and provide more conference calls, have more readable annual reports (measured as both the Fog index and the excessive length of the annual report), and have higher aggregate disclosure scores.

Next, we incorporate a proxy for employees' negotiation leverage (i.e., the unionization rate of a firm's industry). Across all of the aforementioned disclosure proxies, we find that firms

that employ workers with greater negotiation leverage disclose less. Finally and importantly, we predict and find that the relation between employee ownership and higher quality disclosure is larger, the stronger the negotiation leverage of the employee base (i.e., the interaction term between employer equity stake per employee and unionization rates is significantly positive). This final result strengthens the case for a causal link between employee ownership and discretionary disclosure because employee ownership *should* have a bigger impact on improving a firm's disclosures the greater the employees' ability to extract rents from the firm, and hence, the larger the firm's incentive to withhold information in the first place. Further strengthening the causal link is the fact that we find the observed effect to be stronger in the post-Reg FD period when managers should have a greater incentive to utilize an opaque disclosure policy in order to maintain their informational advantage over employees.

In additional tests we find that, as unionization rates increase, firms with a greater equity stake per employee are more likely to have smaller information asymmetries (i.e., smaller bid-ask-spreads and PIN measures). These results provide further evidence that employee ownership mitigates the incentive to keep information asymmetric, the greater employees' negotiation power.

The collective evidence points to employee ownership as an interesting new determinant for several facets of voluntary disclosure. More broadly, the study identifies a novel capital market benefit to firms' utilizing employee ownership. Specifically, employee stock ownership appears to benefit the firm by not only aligning goals between the firm and its non-manager employees, but by also increasing disclosure from the firm to *all* of its stakeholders by mitigating the firm's need to keep information opaque for "proprietary cost" reasons. This benefit, while

potentially unintended, illustrates that employee ownership for non-manager employees may improve a firm's corporate governance, by allowing it to become more transparent.

The next section provides background discussion and develops our hypotheses. Section 3 explains how we measure voluntary disclosure and employee ownership. Section 4 details our research design choices. Section 5 describes the sample and provides correlation results. We present multivariate test results in Section 6, and Section 7 concludes. Finally, the Appendix provides detailed definitions of all variables used in the study.

2. Hypotheses Development

Accounting theorists have long questioned why we empirically observe variation in the type and quality of disclosure across firms, given both the capital market benefits to being transparent and the legal costs to not disclosing information on a timely basis. One possible explanation is that firms have an incentive to disclose less when other market participants can use the information to extract rents from the firm (Verrecchia 2001; Darrough 1993). The classic example is that of a competitor using a firm's disclosures to glean a competitive advantage from its rival (i.e., proprietary costs of disclosure). However, other examples abound. For instance, prior studies find evidence that firms that contract with powerful suppliers or buyers will often adopt different disclosure practices in an attempt to prevent rent extraction from those suppliers or buyers.²

We focus on the firm's non-manager employees as a group of stakeholders that have the potential to extract above-market rents from the firm and on employee ownership as a tool to mitigate this potential to extract rents. The literature provides evidence that managers have an

² For evidence on how accounting and disclosure choices are made to obtain favorable terms with customers and suppliers, see Bowen, Davis, and Matsumoto (1995), Raman and Shahrn (2008), and Dou, Hope, and Thomas (2011).

incentive to keep information asymmetric with the market if employees can extract above-market rents from the firm – for example, in cases where the employee base is highly unionized (e.g., Bova 2011; Hilary 2006; Scott 1994). As suggested above, the benefit to the strategy of disclosing less is that reduced transparency should weaken the employees’ bargaining position. However, an opaque disclosure policy keeps information asymmetric with not only employees, but also investors and other stakeholders. As a result, there are costs to reduced disclosure. These costs might include a higher cost of capital and a higher bid-ask spread for the firm’s stock (Botosan 1997; Healy, Hutton, and Palepu 1999; Lang and Lundholm 1996).³ Clearly, in equilibrium, firms would only restrict disclosing information if the benefits to doing so outweighed these costs.

We build on this work by assessing employee ownership as a tool to mitigate the tension described above. Cramton et al. (2008) provides analytical and empirical evidence that employee stock ownership leads to a greater propensity for employees to internalize the costs of labor disputes, which in turn reduces employees’ incentive to extract rents through costly strikes, which are deadweight losses. The decrease in the incentive arises as employee compensation becomes more closely linked to the stock returns of the firm, leading to any costly negotiation frictions (e.g., extended negotiations or strikes) impacting employee compensation to a greater extent.⁴

Hilary (2006) provides a useful summary of the large literature supporting the hypothesis that management tries to hide information in general from employees (and in particular from

³ There may be other, non-capital market costs to an opaque disclosure policy as well. For example, highly qualified potential employees could be more willing to accept a job offer from a firm that has an established track record for being transparent.

⁴ Cramton et al. (2008) builds on evidence (e.g., Kruse 2002; Rosen and Roddick 2010) that employee ownership aligns the goals of employees with shareholders. However, Faleye, Mehrotra, and Morck (2006) suggest that employee ownership does not align incentives in all circumstances. We assess the circumstances under which employee ownership may not align employee incentives in Section 6.2 in order to rule out these alternate explanations for our results.

unions). According to this review, it seems well accepted among practitioners that reducing the information asymmetry with labor would be damaging to management, and ultimately the firm's shareholders. For example, according to Reynolds, Master, and Moser (1998), an important feature of labor negotiations is an effort to conceal or even misrepresent one's true position. Supporting this view, Leap (1991) argues that unions generally do not have access to an employer's production, financial, and personnel information. Corroborative evidence can also be found in empirical, clinical, and experimental evidence. For example, Scott (1994) provides evidence that firms that face a higher likelihood of strikes or that operate in industries with high average salaries reduce their pension-related disclosures. Further related research evidence is reported in Frost (2000), Croson (1996), Kochan and Katz (1988), and Cukierman and Meltzer (1986).

Taken together, we argue that as employee ownership for non-manager employees aligns employee-shareholder objectives and decreases employees' incentive to extract rents, it should also decrease any negative consequences to transparency. In other words, employee ownership should mute the benefits to reduced public disclosure by mitigating employees' ability to extract above-market rents from the firm. Conversely, employee ownership should have *no* effect on the costs to having an opaque disclosure policy (e.g., a higher cost of capital).⁵ As the benefits to limited disclosure should decrease with employee ownership while the costs remain unaffected, firms with greater employee stock ownership should be less likely to withhold information.

Thus our first hypothesis is as follows:

⁵ In an employee ownership plan, a company sets up a trust fund, into which it contributes new shares of its own stock or cash to buy existing shares. If most of the shares for employee ownership are bought from outside shareholders, Easley and O'Hara (2004) demonstrate that in a rational expectation equilibrium, increasing the fraction of traders with private information lowers a company's cost of capital, thereby providing a force which may partially offset the cost of an opaque disclosure policy (i.e., a higher cost of capital). Thus, it is plausible that firms with more employee ownership should have a lesser desire to be transparent, all else equal. However, this phenomenon would bias *against* our findings.

H1: There is a positive relation between employee ownership and the level of a firm's voluntary disclosure.

While we posit that a positive relation exists between employee ownership and voluntary disclosure, we also predict that firms have an incentive to disclose less information when facing an employee base with negotiation leverage. The link between employees' negotiation leverage and their ability to extract rents from the firm takes its foundation from economic theory. For example, McDonald and Solow (1981) illustrate that if non-manager employees have no negotiation leverage, then employees should be paid the competitive market reservation wage. At this extreme, the firm should in turn have no incentive to reduce disclosure, as its employees receive the competitive market wage regardless of the firm's profitability. At the other extreme, when employees have all the negotiation leverage, employees should extract all of the firm's profits as compensation. In this second setting, the firm should have a greater incentive to keep information asymmetric in order to weaken employee bargaining positions and, ultimately, retain more profits for its shareholders.

We proxy for employee negotiation leverage using the percentage of unionized employees in the firm's industry. The literature observes that unionized employees have more negotiating power than their non-unionized counterparts, due in large part to the union's ability to negotiate on behalf of an entire group of workers. Additionally, the prior literature has used the percentage of unionized employees as a proxy for employee negotiation leverage. For example, Bova (2011) and Hilary (2006) use union density as proxies for employees' negotiation strength. Both articles find indirect evidence that the firm's incentive to keep information

asymmetric with the market is increasing in these proxies – a result consistent with management’s incentive to disclose less information in the face of an above-market rent-extracting employee base. This leads to the following hypothesis:

H2: There is a negative relation between labor negotiation leverage and a firm’s voluntary disclosure.

The Cramton et al. (2008) model suggests that employee stock ownership leads to a weaker incentive for employees to extract rents through costly strikes. The decrease in the incentive arises as employee compensation becomes more closely linked to the stock returns of the firm, leading to any costly negotiation frictions (e.g., extended negotiations or strikes) impacting employee compensation to a greater extent.

Following the arguments in Cramton et al. (2008) and the inferences from H1 and H2, if a firm has an incentive to disclose less information the greater its employees’ negotiation leverage, and if employee ownership mitigates employees’ incentive to extract rents, then we should observe employee ownership having a more significant effect on improving disclosure, the greater the negotiation leverage of the employee base. This leads to our final hypothesis:

H3: The positive relation between employee ownership and the level of a firm’s voluntary disclosure is stronger for firms with high labor negotiation leverage.

We note that the hypotheses suggested above are separate and distinct from those found in the literature which conjectures that equity-based compensation should reduce a manager’s

agency issues, and in turn improve disclosure. A good example of a paper from this literature is Nagar, Nanda, and Wysocki (2003). Focusing on top managers' stock-based incentives, Nagar et al. find that stock-based incentives can reduce agency problems between managers and shareholders, and thus increase the incentives for managers to disclose information. The differences between the hypotheses conjectured in Nagar et al. and the hypotheses posited in our article are as follows. First, we focus on employee ownership for *non-manager employees* as opposed to employee ownership for managers. Thus, the market participant that receives equity-based compensation in our model (i.e., the non-manager employee) differs from the one that makes the disclosure decision (i.e., the manager). In contrast, the market participant that receives equity-based compensation in Nagar et al. (i.e., the manager) is the same one that makes the disclosure decision. Second, Nagar et al. conjecture that the manager will disclose more information due to equity-based compensation mitigating the *manager's* agency problem. In our paper, the manager discloses more information due to equity-based compensation reducing the incentive of non-manager employees to extract rents. To sum: Nagar et al. explore variation in disclosure through stock ownership's ability to reduce a manager's incentive to shirk, while our paper explores disclosure differences through stock ownership's ability to mitigate non-manager employees' incentive for rent extraction.

Finally, by assessing the interaction between a firm's union density and the equity ownership of its employees in H3, we are able to more accurately distinguish between the economic phenomenon documented in Nagar et al. and the economic phenomenon posited in our paper. We can make this distinction because managers are typically non-unionized. Thus, if our results are simply capturing equity ownership's ability to mitigate managers' agency costs, we should find evidence consistent with H1 but *not* H3, as disclosure should then vary

independently of non-manager employee negotiating power. Conversely, evidence consistent with H3 would provide support for the hypotheses posited in this paper.

3. Measurement of Dependent and Test Variables

3.1. Voluntary Disclosure Proxies

We use several proxies to capture different aspects of firms' disclosure practices: (1) management guidance, (2) conference calls, and (3) annual report readability. Given the importance of management guidance in recent disclosure research (see below), we employ five guidance-based proxies. We further consider two dimensions of each of conference calls and readability. Finally, we form an aggregate disclosure proxy by averaging the nine disclosure metrics. We view this contribution as important for three reasons. First, the construct we are interested in is discretionary disclosure, which clearly is multi-dimensional. Thus, a single proxy is unlikely to cover all facets of financial transparency. Second, the use of multiple proxies increases the generalizability of our results. Third, using alternative measures mitigates the possibility that results using one particular disclosure proxy capture some factor other than disclosure, and that this other factor is driving our results.

Management Guidance

Perhaps the most widely used disclosure proxy in recent accounting research is management guidance (or management earnings forecasts).⁶ Management guidance is typically issued by managers through press releases. In addition to a forecast, management guidance typically includes additional qualitative disclosures. For example, Baginski, Hassell, and

⁶ See Hirst, Koonce, and Venkataraman (2008) for a review of the large literature on management earnings forecasts as a disclosure proxy.

Kimbrough (2004) find that about three quarters of management forecasts include a discussion and explanation for the forecasted performance (see also Hutton, Miller, and Skinner 2003 and De Franco, Hope, and Larocque 2011). Baginski et al. (2004) show that management forecasts are accompanied by disclosures that link the forecasted performance with both internal management actions (e.g., new products, prices, strategies, and capital investments) and external issues (e.g., input prices, legal actions, and exchange rates). They argue that these attributions potentially aid investors by confirming known relations between attributions and performance or identifying additional causes of performance.

Additionally, research shows that firms issue guidance to align the market's expectations with their own earnings assessments (King, Pownall, and Waymire 1990). In other words, managers use guidance to mitigate information asymmetry between investors and managers or to preempt litigation concerns (Coller and Yohn 1997; Marquardt and Wiedman 1998). Research also indicates that managers issue guidance as they care about their reputations for transparent and accurate reporting (Graham, Harvey, and Rajgopal 2005). In sum, management guidance has been shown to be an effective way of improving the firm's information environment and thus its overall financial transparency.

In our empirical tests, we first include an indicator variable (MF) that equals one if the firm issues guidance that particular year, otherwise zero. Second, as many firms provide more than one earnings forecast per year, we measure the number of guidance events per year and use the log of one plus the number of forecasts issued (NMF). Our third and fourth measures are based on Chen, Chen, and Cheng (2008) and reflect whether investors consider the information in the press release to be good or bad news. In particular, following Chen et al. (2008) we measure cumulative abnormal returns centered on the forecast date, and define positive

(negative) abnormal returns as good (bad) news. The third and fourth measures are then the log of one plus the number of good news (*NGMF*) and bad news (*NBMF*) forecasts during the year, respectively.

Finally, our most comprehensive metric is a measure of the quality of management guidance based on the Francis, Nanda, and Olsson (2008) management forecast score (*MFS*). This score measures how “specific” the forecasts are. It is equal to 1 for qualitative guidance (e.g., earnings outlook improved), 2 for open-ended guidance (e.g., earnings should exceed the prior period), 3 for range guidance (e.g., earnings fall between x and y), and 4 for point guidance (i.e., an actual earnings estimate). Following Francis et al. (2008), we then sum the scores for each firm by year. We use both quarterly and annual management earnings guidance to construct our guidance measures.

Conference Calls

We use conference calls as our second set of disclosure metrics. A number of studies use conference calls to study firms’ voluntary disclosure decisions (e.g., Frankel, Johnson, and Skinner 1999; Bowen, Davis, and Matsumoto 2002; Bushee, Matsumoto, and Miller 2003, 2004; Rogers and Van Buskirk 2009). Our measurement of conference calls is straightforward and consistent with prior research. Specifically, we collect the number of conference calls held by the firm for each year from BestCalls.com. We measure both the existence of a conference call (*CC*) in a given year and (the log of one plus) the number of conference calls (*NCONF*) held that year.

Annual Report Readability

Our third group of disclosure proxies is quite different from the first two. Here we focus on financial report readability, which captures characteristics (rather than the content) of disclosure. Regulators argue that it is imperative that company financial reports be more readable and easier to comprehend. For example, the SEC has guidelines in place that encourage firms to use plain English in their financial disclosures (SEC 1998). The idea is that reports that are difficult to read increase information-processing costs for investors and hence constitute lower quality disclosures.⁷

Following Li (2008), we use two statistics to measure annual report readability. First, we compute the Fog index, which has been employed in several recent studies (e.g., Li 2008; Biddle, Hilary, and Verdi 2009; Lawrence 2011). This index, which is based on computational linguistics, is a direct measure of the readability of text. Specifically, it captures reading complexity as a function of syllables per word and words per sentence (Li 2008, 225).

The second measure, the length of the annual report, may appear less intuitive at first sight. However, the underlying idea is that, *ceteris paribus*, longer documents are more difficult to read and process for users of financial statements.⁸ We measure length as the log of the number of words in the annual report. An obvious alternative explanation for a lengthy document is that the firm is more complex. Thus, our multivariate tests control for numerous factors related to firm complexity. In other words, this measure can be considered the document length beyond what is explained by normal factors (or excessive length). Finally, we multiply both the Fog

⁷ The Director of the SEC's Office of Investor Education and Assistance states that "Probably the most familiar theme is plain language. The swamp of legalese found in many annual reports and mutual fund prospectuses can frustrate even the most experienced investor. Not surprisingly, investors consistently have been telling us that disclosures should contain language that the average investor, not the average lawyer, can read and understand" (Schock 2007).

⁸ For example, the SEC strongly suggests that firms avoid lengthy documents (SEC 1998).

index and length by -1, so that the ensuing scores (*FOGINV* and *LENGTHINV*) are increasing in disclosure quality (and thus consistent with our other disclosure proxies).

Aggregate Disclosure Measure

Last, to mitigate measurement error in the individual disclosure components, and to provide evidence based on an overall disclosure metric, we aggregate all nine proxies into one aggregate score. Specifically, following Biddle et al. (2009), we first normalize all nine individual disclosure proxies between zero and one by the following formula:

$$Normalized_DISC_{it} = \frac{Rank(DISC_{it}) - \min Rank(DISC)}{\max Rank(DISC) - \min Rank(DISC)}$$

and then take the average of these nine measures as our summary statistic for financial disclosure (*DSCORE*).

3.2. Measurement of Employee Ownership and Labor Negotiation Leverage

Employee Ownership

We measure employee ownership with a continuous variable. For every public traded U.S. firm from 1999 – 2007, we search Form 5500 filings for any evidence of employee stock ownership plans (ESOPs), 401(k) plans that allow an investment in employer stock as an option, deferred profit sharing plans in which part of the profit sharing contribution is invested in employer stock, and employer stock bonus plans.⁹ If a Form 5500 filing indicates the existence of one of the four aforementioned employee ownership vehicles, we take the business entity's

⁹ We access Form 5500 filing data from the King of Pension Funds database from Judy Diamond Associates Inc. and from Douglas Kruse and Joseph Blasi. These data are available from 1999 onward. To derive our employee ownership variable, we calculate the aggregate equity holdings of all firms with ESOPs, leveraged ESOPs, 401 (k)s, deferred profit sharing plans, and stock bonus plans, from 1999 – 2007.

EIN number from the filing and match it to its firm's EIN number in Compustat.¹⁰ We then aggregate the market value of the equity stakes in employer stock across these four employee ownership vehicles for a given firm in a given year. We next divide this value by the firm's total employees for a given year to create a firm-specific, annual measure of equity in employer stock held per employee. Finally, due to skewness in the data, we take the log of one plus the equity in employer stock held per employee to generate the variable, *EO*. Any publicly-traded firm with at least one equity ownership vehicle that has strictly positive levels of employer stock will have a strictly positive value for *EO* in a given year.

When assessing the total sample of firms with either ESOPs or non-ESOP employee ownership vehicles (or both), roughly 29.7% of the firms have ESOP plans while 83.4% have non-ESOP plans.¹¹ Interestingly however, the ESOP plans account for 71.4% of the aggregate equity in the sample across all plans while non-ESOP plans account for 28.6% of the aggregate equity. Thus, while non-ESOP plans (in particular 401(k) plans) seem to be a more popular vehicle for employee investment in terms of the number of firms employing them, ESOPs hold more equity inside them than all the non-ESOP plans combined.

Employee Negotiation Leverage

To proxy for employee negotiation leverage, and correspondingly the employee base's ability to extract above-market rents from the firm, we utilize data from the *Union Membership and Coverage Database*. The database, compiled from the Current Population Survey (CPS), provides private and public sector labor union membership, coverage, and density estimates. The

¹⁰ An Employer Identification Number (EIN) is also known as a Federal Tax Identification Number, and is used to identify a business entity. As many publicly-traded firms have multiple business segments, multiple EINs can belong to the same firm.

¹¹ The percentage does not add to 100% because some firms have both an ESOP and a non-ESOP plan.

CPS represents a joint effort conducted by the Bureau of Labor Statistics and the Census Bureau, and provides data on the union density of a firm's industry for our sample and control firms. Unionization rate is defined as the number of unionized workers in the firm's industry as a percentage of all the employees in the firm's industry.¹² The *Union Membership and Coverage Database* calculates the percentage based on 3-digit SIC industry codes through 2002 and 6-digit NAICS industry codes after 2002. Because the data are updated annually, we update the variable for every firm each year.

4. Research Design

4.1. Instrumental Variable Analysis

It is important for our study to address issues related to potential endogeneity of employee ownership. For our primary analyses we use an instrumental variable approach (2SLS) to control for other factors associated with employee ownership. However, we note both that our multivariate tests include numerous control variables motivated by prior research and that our robustness section provides several additional analyses including changes tests, a firm fixed effects specification, tests for alternative explanations, tests assessing effects related to Reg FD, and various matching-based procedures, to help further reduce the likelihood that alternate motivations for employee ownership are omitted correlated factors in our results.

In the first stage of the 2SLS estimation, we use three instrumental variables for employee ownership that are motivated by research in finance and economics.¹³ These instruments are strongly related to employee ownership but are not significantly associated with

¹² The use of unionization at the industry-level (which is consistent with Hilary 2006), is supported by prior literature which suggests that the pressure of unions is not limited to their own firms but spills over to other firms in the same industry (e.g., Rosen 1969). The magnitude of this industry spill-over effect appears to empirically dominate the firm-specific direct effect (e.g., Bronars, Deere, and Tracy 1994).

¹³ We additionally control for union density, firm size, financial leverage, growth, profitability, and M&A activity.

the error term in the disclosure equation. The first instrument is the effective tax rate (*CASHETR*). *CASHETR* is motivated by Beatty (1994; 1995) who finds that tax considerations are important factors for ESOP adoption.¹⁴ To capture the tax effect, we use the effective tax rate based on cash payments of tax in the past five years, *CASHETR*, computed as per Dyreng, Hanlon, and Maydew (2008). Based on prior research we expect a positive coefficient on *CASHETR*.

The second instrument we calculate is “local beta” (*LOCBETA*), which proxies for employees’ outside opportunities within the region (Oyer 2004; Pirinsky and Wang 2006). Oyer (2004) argues that if an employee’s outside opportunities are positively correlated with his current employer’s stock price, then equity compensation serves to index the employee’s compensation to outside opportunities, which in turn aids firms with employee ownership to retain employees. Kedia and Rajgopal (2009) hypothesize and find evidence that firms are more likely to provide equity compensation when the firm’s stock price co-moves with that of its regional competitors. Based on this evidence we predict a positive coefficient on *LOCBETA*.

Our third instrument is also based on the idea that location may lead to firms using employee ownership as a retention device. Specifically, non-compete agreements limit the employees’ outside opportunities and therefore aid in retention. However, U. S. states vary in terms of enforcement of such contracts (Garmaise 2009; Kedia and Rajgopal 2009). Kedia and Rajgopal (2009) find evidence that in states (e.g., California) where non-compete contracts are

¹⁴ The National Center for Employee Ownership (NCEO) also summarizes five significant tax benefits of ESOP to employers: (1) contributions of stock are tax-deductible, (2) cash contributions are deductible, (3) contributions used to repay a loan the ESOP takes out to buy company shares are tax-deductible, (4) Sellers in a C corporation can get a tax deferral, and (5) dividends to repay an ESOP loan are tax-deductible. Please see <http://www.nceo.org/main/article.php/id/8/> for details. Moreover, employers’ contributions to other employee ownership vehicles are tax-deferred and enjoy certain other tax benefits. For example, Brown, Liang, and Weisbenner (2006) identify that by making matching contributions in the form of company stock instead of cash to a 401(k) plan, a dividend paying company could receive a future tax deduction for all dividends paid on shares held in the plan in addition to the initial deduction for the value of the shares themselves.

difficult to enforce, employee ownership is used more often as a retention device. Thus, we expect a negative coefficient on *NCOMPENF* – a non-compete enforceability index, measured by state, which is increasing in enforceability.

4.2. 2SLS Models

We test whether voluntary disclosure is increasing in employee ownership (and decreasing in union bargaining power) by running the following two-stage estimation:

$$EO_{it} = a_0 + b_1 CASHETR_{it} + b_2 LOCBETA_{it} + b_3 NCOMPENF_{it} + b_4 UNIONR_{it} \\ + b_5 SIZE_{it} + b_6 LEV_{it} + b_7 GROWTH_{it} + b_8 ROA_{it} + b_9 MA_{it} + u_{it}$$

$$DISC_{it} = \alpha_0 + \beta_1 Pr EO_{it} + \beta_2 UNIONR_{it} + \beta_3 Pr EO_{it} \times UNIONR_{it} + \gamma CONTROLS + \varepsilon_{it}$$

In the above equations, *EO* is the logarithm of one plus the aggregate employee ownership level scaled by the number of total employees for firm *i* in year *t* and *PrEO* is the predicted value of *EO* from the first stage. *UNIONR* is the union density of the firm's industry for a given year, and *DISC* is either one of our nine disclosure proxies or the aggregate disclosure score. Note that when *MF* and *CC* are dependent variables, we use Probit estimation clustered by firm. Because of skewness in the data, for *NMF*, *NGMF*, *NBMF*, *MFS*, and *NCONFC*, we take the log of one plus the number (as in Francis et al. 2008), and then estimate the regression using the standard errors clustered by firm. Finally, for annual report readability and the aggregate disclosure score, we use the standard errors clustered by firm in the regressions.¹⁵

¹⁵ For the count data (*NMF*, *NGMF*, *NBMF*, *MFS*, and *NCONFC*), we have alternatively used negative binomial regression clustered by firm. The results are very similar and no inferences are affected.

For our guidance and conference call tests, we base our choice of control variables (*CONTROLS*) on prior research (Hilary 2006; Chen et al. 2008; Francis et al. 2008). Specifically, we include controls for firm size (*SIZE*); an indicator variable equal to one for industries with high litigation risk (SIC codes 2833-2836, 3570-3577, 7370-7374, 3600-3674, 5200-5961, 8731-8734) and zero otherwise (*LIT*); financial leverage (*LEV*); sales growth (*GROWTH*); return on assets (*ROA*); an indicator variable equal to one if the firm has a seasoned equity offering during the year and zero otherwise (*SEO*); an indicator variable equal to one if the firm engages in a merger and acquisition as per the SDC Platinum M&A database, zero otherwise (*MA*); standard deviation of operating earnings in the last five years (*EARNVOL*); and the number of analysts following the firm as per IBES (*ANALYFOL*). Finally, to ensure that results are not driven by omitted industry-level factors, we control for industry competition using the Herfindahl index of a firm's industry (*HERFIN*) and for industry profitability using the median industry-level return on assets (*IROA*).

For the annual report readability tests, we follow Li (2008) and include *SIZE*; *GROWTH*; firm age (*AGE*); special items scaled by total assets (*SI*); *EARNVOL*; number of business segments (*NBSEG*); number of geographic segments (*NGSEG*); *SEO*; *MA*; *HERFIN*, *IROA*, and an indicator variable equal to one if the firm is incorporated in Delaware, zero otherwise (*DLW*). For tests using *DSCORE*, we include *all* control variables from the other regressions tests. All regression models also include year fixed effects.

5. Sample and Correlations

5.1. Sample and Descriptive Statistics

Our sample starts from the intersection of CRSP-Compustat-IBES and Edgar 10K filings.¹⁶ After requiring data on test and control variables, we have a final sample of 22,452 firm-year observations for our primary analyses, of which 7,614 (or 33.9%) have non-zero employee ownership. As Panel A of Table 1 shows, the sample is quite evenly spread across our sample period, 1999 – 2007. The sample is also spread across a number of industries (Panel B), with the exceptions of the relatively stronger representation from Business Services (9.84%), Electronic & Other Electric Equipment (8.92%), Chemical & Allied Products (8.39%), and Electric, Gas, & Sanitary Services (8.14%). Table 2, Panel A provides descriptive statistics for the dependent, test, and control variables used for the 2SLS analyses. All variables are defined in the Appendix.

5.2. Correlations

Table 2, Panel B presents Pearson correlations among the dependent and test variables. Spearman correlation results are similar and are not tabulated for brevity. Most importantly, we note that employee ownership (*EO*) is positively and significantly (at the one percent level) correlated with all ten disclosure proxies except *LENGTHINV*.¹⁷ *UNIONR* is negatively correlated with all disclosure proxies.

¹⁶ A major constraint on the final sample size is the ability to compute the Fog index. If we do not require such data, we would have larger samples available for our management guidance and conference call based tests. No inferences are affected if we do not require identical sample sizes for all disclosure proxies.

¹⁷ As the underlying construct used in this study (and prior research) is “excess length” (not raw length), it is not surprising that the observed bivariate correlation between *EO* and *LENGTHINV* is negative. Once we control for *SIZE* the association is positive and significant. For a similar reason, it is not surprising that *DSCORE* and *LENGTHINV* are not significantly correlated.

As expected, the five management guidance variables are all highly correlated. The guidance measures are also positively correlated with the conference call measures. In contrast, the two readability measures exhibit either insignificant or negative correlations with the other disclosure proxies, consistent with readability representing a notably different dimension of financial transparency than the other disclosures. Panel C tabulates correlations among the control variables.¹⁸ As correlation results do not control for differences in firm or industry characteristics, we now turn to multivariate tests.

6. Empirical Results

6.1. Primary Analyses

For all the disclosure proxies, the first stage of the 2SLS estimation, which has an adjusted R^2 of 13.5%, is the same and models variations in employee ownership (Table 3, Panel A). We observe that, consistent with theory and prior research, *CASHETR* and *LOCBETA* load positively and significantly, while *NCOMPENF* is negative and significant.¹⁹ In addition, employee ownership is positively (negatively) related to *SIZE*, *ROA*, and *MA* (*LEV* and *GROWTH*).²⁰

As discussed in Section 4, we base our choice of control variables for the second stage of the 2SLS on prior research, which suggests that a different set of controls may be appropriate for

¹⁸ The highest correlations are between *SIZE* and *ANALYFOL* (0.63), *IROA* and *LIT* (-0.45), and *ROA* and *EARNVOL* (-0.43). Variance inflation factors do not suggest that multicollinearity is an issue in our multivariate tests (i.e., no VIFs are larger than 3.96). Nevertheless, we have reestimated the analyses after excluding each of the controls one at a time and no inferences are affected.

¹⁹ The adjusted R^2 of this model excluding the three instruments is 11.4%. We further conduct untabulated analyses of “weak instruments.” The F-statistic for whether the instruments equal zero is 185.66, which greatly exceeds the critical value for weak instruments of 12.83 using the tests suggested by Stock, Wright, and Yogo (2002) and Larcker and Rusticus (2010).

²⁰ As we include firms with no employee ownership in the sample, we have also run the analysis using Tobit in the first stage. Results are similar and no inferences are affected. In addition, we have rerun the analysis after restricting the sample to include only observations with non-zero employee ownership. Again, no conclusions are altered.

guidance and conference calls compared with readability. Thus, we report results for guidance and conference calls together in Panel B of Table 3 and for readability in Panel C.

In Panel B, the adjusted (or pseudo) R^2 s of the voluntary disclosure models range from 20.4% to 45.1%. Several of the control variables are significantly associated with discretionary disclosure. For example, consistent with prior research, ROA, M&A activities, and analyst following are all consistently positively and significantly correlated with disclosure. More importantly, the table shows that, after controlling for endogeneity of employee ownership, employee ownership (*PrEO*) is positively and significantly (at the five percent level or better using a two-tailed test) related to firm-provided voluntary disclosure. This result is consistent with H1, holds for all seven guidance and conference call disclosure proxies, and is robust to the inclusion of an extensive set of control variables motivated by prior research. In addition to being statistically significant, the effect is also economically meaningful. For example, increasing *PrEO* from the first quartile (1.62) to the third quartile (3.51), increases the number of management earnings forecasts by 0.79 ($=0.419 \times (3.51-1.62)$).²¹

Second, the estimated coefficient on *UNIONR* is negative and significant at the one percent level in all models. These findings (which support H2) suggest that firms respond to stronger bargaining power from employees by suppressing financial information. This finding is in line with the proprietary cost hypothesis tested in prior research (e.g., Bens, Berger, and Monahan 2011). Third, the interaction term is positively and significantly associated with all disclosure proxies examined. These findings support H3 and highlight the importance of investigating employee ownership and employee bargaining power jointly.

²¹ Given the mean of *UNIONR* is 0.111, on average the marginal effect of *PrEO* is $0.13 + (0.102 \times 0.111) = 0.141$. The mean of *NMF* is 1.97 for the entire sample. Thus, $\frac{\partial \text{LOGNMF}}{\partial \text{LOG PrEO}} = \frac{1}{1 + \text{NMF}} \frac{\partial \text{NMF}}{\partial \text{LOG PrEO}} = 0.141 \Rightarrow \frac{\partial \text{NMF}}{\partial \text{LOG PrEO}} = (1 + 1.97) \times 0.141 = 0.419$.

Panel C of Table 3 shows the results of the annual report readability tests. The findings are similar to those reported in Panel B. That is, the disclosure levels using both *FOGINV* and *LENGTHINV* are increasing in employee ownership. Further, *UNIONR* is negatively associated with both *FOGINV* and *LENGTHINV*. Finally, there is a statistically significant positive interactive effect between employee ownership and the degree of unionization. We conclude based on these results that there is strong evidence that employee ownership is associated with readability. Further, consistent with the guidance and conference call results, there is also a significant negative effect of unionization on readability (consistent with the proprietary cost hypothesis).

Finally, Panel D repeats the analyses using the aggregate disclosure score (*DSCORE*), and includes *all* control variables employed in panels B and C. The findings are similar to those reported before and provide further support for our hypotheses.²²

Taken together, across our ten disclosure proxies, we find strong evidence that a firm's incentive to disclose information is increasing with employee ownership and decreasing in employee bargaining power. The results additionally suggests that employee ownership's role in improving transparency is larger, the greater the bargaining power of a firm's employees. Thus, using both a recent and large sample of firms, we complement and extend prior research by (1) showing these relations for several voluntary disclosure metrics (i.e., increasing the generalizability of the results), (2) *simultaneously* testing for the effects of labor power and employee ownership (i.e., a potentially omitted variable in prior research), and (3) drawing *explicit* conclusions about a firm's incentive to keep information opaque by looking directly at

²² As an example of economic significance, increasing *PrEO* from Q1 (1.62) to Q3 (3.51) increases the disclosure score (*DSCORE*) by 0.092 ($= 0.049 \times (3.51-1.62) \times 100$). Given that the mean of *UNIONR* is 0.11, on average the marginal effect of *EO* is $0.044 + (0.044 \times 0.111) = 0.049$. For comparison, moving from Q1 to Q3 for *ROA* increases *DSCORE* by 0.01.

voluntary disclosure proxies, as opposed to *implicit* conclusions drawn from market proxies for information asymmetry.

6.2. Robustness Tests

In our main analyses, we use an instrumental variables approach to control for endogeneity of employee ownership. In addition, we include a large number of control variables motivated by prior research. Equally importantly, we test for an interaction effect. As Rajan and Zingales (1998) emphasize, focusing on interaction terms makes it more difficult to envision a consistent theory in which causality is reversed yet the subsample results hold. Nevertheless, we conduct additional tests to mitigate the possibility that our results are affected by endogeneity. Specifically, we conduct changes tests, a test of the effect of Reg FD (a “pseudo natural experiment”), a test for alternative reasons to have employee ownership, and several matching-based tests. We discuss these tests below.

Changes Tests

We reexamine the relation between employee ownership and voluntary disclosure using two changes specifications in Table 4.²³ A changes analysis can help in mitigating possible concerns regarding correlated omitted variables and direction of causality. Specifically, for our first test, we identify firms that have no employee ownership at year $t-1$ but have non-zero employee ownership in year t and retain non-zero employee ownership in year $t+1$ during our sample period. Then we take data for firm i at year $t+1$ and at year $t-1$, and take the difference. The intercept is differenced out, leaving $INIT=1$ for all the firms. We put an extra initial “D” for

²³ As there is no meaningful variation in unionization rates over such a small period, this sensitivity analysis focuses solely on employee ownership.

our dependent variable (*DSCORE*), and other independent variables to indicate the change specification. In this sample of 541 employee ownership initiation firms, we observe a positive and statistically significant estimated coefficient on *INIT* in Panel A. The result is also economically meaningful: initiating employee ownership is associated with an increase in *DSCORE* of 10.3%.²⁴

As an alternative approach, we employ firm fixed effects. This effectively means that we measure deviations from the firm mean, so again the firm is used as its own control. We report these results in Panel B. The model has an adjusted R^2 of 72.6% and the estimated coefficient on *EO* is positive and statistically significant. The findings of both the firm fixed effects specification and the changes test support our hypothesis and also mitigate the possibility of “some other factor” explaining our previously reported results.

Effect of Reg FD

We hypothesize that management’s incentive to keep information opaque with the market is likely to be different in the periods prior to and after the inception of Regulation FD (Reg FD). Prior to Reg FD, managers could maintain an informational advantage over their employees by not only curtailing public disclosure, but by also engaging in private communications with analysts. Thus, pre-Reg FD, managers had an alternate route to keep information asymmetric with employees if they decided to forgo the strategy of an opaque disclosure policy. However, managers no longer have the ability to communicate privately with analysts, post-Reg FD (e.g., Herrmann, Hope, and Thomas 2008). Thus, post-Reg FD, managers should have a larger incentive to utilize an opaque disclosure policy in order to maintain their informational

²⁴ Our changes test captures the average treatment effects for firms adopting employee ownership on the treated, which generally differ from the average treatment effects for all firms. Which concept is more appropriate depends on the population of interest (Heckman, Ichimura, and Todd 1998; Wooldridge 2002).

advantage over employees. It follows that the results of our article should be stronger, post-Reg FD. In Table 5, we partition the sample into a pre-Reg FD subsample and a post-Reg FD subsample. To make the sample size more comparable, we only use the data leading up to 2002 for the post-Reg FD subsample. Consistent with our predictions, we find that the coefficients of interest are signed correctly, larger in magnitude, and more significant in the post-Reg FD partition. We believe that these results further strengthen the inferences drawn in our study.

Tests for Potential Omitted Variables

Recent evidence suggests that employee ownership may not always improve employee alignment with shareholders (e.g., Faleye, Mehrotra, and Morck 2006). Specifically, empirical evidence is unclear as to whether employee ownership creates value for shareholders in all circumstances. In an attempt to address these concerns, Kim and Ouimet (2009) argue that, outside of aligning the goals of employees with those of management, firms may also adopt employee ownership plans to substitute wages with employer shares when the firm is cash constrained.²⁵ Additionally, Kim and Ouimet (2009) argue that firms that have employee equity stakes containing more than 5% of the firm's outstanding shares are likely candidates to initiate equity ownership vehicles for reasons consistent with a firm being cash constrained. Interestingly, the sample of firms studied in Faleye et al. (who find muted alignment benefits to employee ownership) assesses firms with ESOPs that have greater than 5% of the firm's outstanding stock. The combined results suggest that firms in which employees own greater than 5% of the company might also have employees whose incentives are not aligned with

²⁵ Kim and Ouimet also suggest that firms may adopt an ESOP in order to form management-worker alliances as in Pagano and Volpin (2005), wherein management bribes workers to garner worker support in thwarting hostile takeover threats. However, no firm has used an ESOP to fight a hostile takeover over our sample period (source: Corey Rosen, former principal of the National Center for Employee Ownership, in private discussion with the authors, May 2011).

shareholders. These results also suggest a potential non-linearity in employee ownership's ability to align incentives between shareholders and employees. To ensure that our results are not being spuriously driven by any effects of employee ownership that are unrelated to employee incentive alignment, we rerun our analysis and remove all firms in which employees own over 5% of the firm's stock. We report the results of these tests in Table 6. The results are similar to those shown in Table 3 and suggest that our inferences are not unduly affected by the factors examined by Kim and Ouimet (2009).

Matching-Based Tests (Untabulated)

Although we primarily rely on an instrumental variable approach as this method provides a control for “unobservables,” in untabulated analyses we also conduct tests using matching-based procedures.²⁶ Specifically, we employ both standard attribute-based matching tests and Propensity Score Matching (PSM). For the former, we match the employee ownership group to a non-employee ownership control group by the following parameters: fiscal year, industry (two-digit SIC codes), and one of four firm characteristics: firm size, leverage, ROA, or growth (while still including the full set of control variables). For the PSM analyses, we first estimate a Probit model using the entire Compustat sample with employee ownership as the dependent variable, and *SIZE*, *GROWTH*, *ROA*, *LEV*, and year and industry indicators as independent variables to obtain the propensity scores. We then require our control firms to have the same fiscal year and industry as our treatment firms. Within this group we pick control firms based on propensity scores. Untabulated statistics show that we obtain a well-balanced sample with this approach. For both attribute and PSM approaches, the results are similar to those reported earlier. In sum,

²⁶ Li and Prabhala (2007) provide a useful discussion for matching (based on “observables”) and IV techniques.

we conclude that our results are robust to controls for endogeneity of employee ownership using a variety of tests and specifications.

6.3. Market Outcome Tests

Hilary (2006) finds that higher unionization rates are associated with larger information asymmetries with the market. Specifically, Hilary (2006) observes that a firm's bid-ask-spread and PIN measure are increasing in the union density of the firm's industry. If employee ownership has a greater effect on improving disclosure the greater the firm's union density, we should also observe that employee ownership mitigates a firm's information asymmetries with the market, the greater the union density of its industry. Separately incorporating a firm's bid-ask-spread and PIN measure as dependent variables, we rerun our main analysis. Focusing on the interaction effect, Table 7 illustrates that as union density increases, bid-ask spreads and PIN measures are decreasing in employee ownership. These results provide further support for our hypotheses and are consistent with employee ownership mitigating the incentive to keep information asymmetric, the greater employees' negotiation power.

7. Concluding Remarks

Research suggests that both the firm and, more broadly, other market participants such as the firm's employees are impacted by the effects of employee ownership. In this study, we examine how employee ownership affects firms' voluntary disclosure choices. In our sample, approximately 850 firms per year have non-zero employee ownership, and the value of total employer stock held by employees per year is approximately 126 billion dollars, suggesting that employee ownership is important for a large portion of the U.S. economy. According to Kruse (2002, Table 1), while 8.8% of employee ownership plans are in publicly held firms, public firms

hold 78% of the value of these plans. These statistics support the economic importance of employee ownership for publicly traded companies.

We contribute to the literature by simultaneously examining the role of employee ownership (alignment effect) and employee negotiation leverage (rent extraction effect) on corporate disclosure. To our knowledge, this is the first study to attempt such a joint investigation. In addition, we capture the multidimensional aspects of both the quality and quantity of voluntary disclosure. Using multiple disclosure proxies improves the generalizability of our results and mitigates the possibility that some “other factor” explains our results.

Our primary analyses use an instrumental variables approach to control for endogeneity of employee ownership. Our main findings are that employee ownership is strongly positively related to financial transparency, and that the effect of employee ownership on disclosure is increasing when employee negotiation power is strong. In contrast, transparency is decreasing in employee negotiation leverage (i.e., unionization rates), consistent with the proprietary cost hypothesis. More broadly, the study identifies a novel capital market benefit to firms’ utilizing employee ownership. Specifically, a firm’s use of an employee ownership plan appears to benefit the firm by not only aligning goals between the firm and its employees, but by also increasing disclosure from the firm to *all* of its stakeholders by mitigating the firm’s need to keep information opaque.

A standard caveat in this line of research is that it is difficult to prove causality. However, we take some comfort in the fact that our empirical results are supported by economic theory. Further, as detailed in the paper, we employ research design features that increase our confidence in the inferences drawn. In addition to using an IV approach, we include numerous control variables motivated by prior research. In robustness tests we report results of changes tests, the

effects of Reg FD, tests of omitted variables, and a battery of matching-based tests. Finally and importantly, we focus on an interaction effect, which further alleviates concerns over potential omitted variables.

REFERENCES

- Baginski, S.P., J.M. Hassell, and M.D. Kimbrough. 2004. Why do managers explain their earnings forecasts? *Journal of Accounting Research* 42 (1): 1-29.
- Beatty, A. 1994. An empirical analysis of the corporate control, tax and incentive motivations for adopting leveraged employee stock ownership plans. *Managerial and Decision Economics*. 15 (4): 299-315.
- Beatty, A. 1995. The Cash Flow and Informational Effects of Employee Stock Ownership Plans. *Journal of Financial Economics* 38: 211-240.
- Bens, D.A., P.G. Berger, and S.J. Monahan. 2011. Discretionary disclosure in financial reporting: An examination comparing internal firm data to externally reported segment data. *The Accounting Review* 86 (2): 417-449.
- Biddle, G.C., G. Hilary, and R.S. Verdi. 2009. How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics* 48 (2-3): 112-131.
- Blasi, J. and P. Kruse. 1991. *The New Owners: The Mass Emergence of Employee Ownership in Public Companies and What it Means to American Business*. New York: HarperBusiness.
- Botosan, C. 1997. Disclosure level and the cost of equity capital. *The Accounting Review* 72 (3): 323-349.
- Bova, F. 2011. Labor unions and management's incentive to signal a negative outlook. Working paper, University of Toronto.
- Bowen, R., A. Davis, and D. Matsumoto. 2002. Do conference calls affect analysts' forecasts? *The Accounting Review* 77 (2): 285-316.
- Bowen, R.M., L. DuCharme and D. Shores. 1995. Stakeholders' implicit claims and accounting method choice. *Journal of Accounting and Economics* 20 (3): 255-295.
- Bronars, S., D. Deere, and J. Tracy. 1994. The effects of unions on firm behavior: An empirical analysis using firm-level data. *Industrial Relations* 33 (4): 426 – 445.
- Brown, S., S.A. Hillegeist, and K. Lo. 2004. Conference calls and information asymmetry. *Journal of Accounting and Economics* 37 (3): 343-366.
- Brown, J.R., N. Liang, and S. Weisbenner. 2006. 401(k) matching contributions in company stock: costs and benefits for firms and workers. *Journal of Public Economics* 90 (6-7): 1315-1346.
- Bushee, B., D. Matsumoto, and G. Miller. 2003. Open versus closed conference calls: The determinants and effects of broadening access to disclosure. *Journal of Accounting and Economics* 34 (1-3): 149-180.
- Bushee, B., D. Matsumoto, and G. Miller. 2004. Managerial and investor responses to disclosure regulation: The case of Reg FD and conference calls. *The Accounting Review* 79 (3): 617-643.
- Chen, S., X. Chen, and Q. Cheng. 2008. Do family firms provide more or less voluntary disclosure? *Journal of Accounting Research* 46 (3): 499-536.
- Coller, M., and T. L. Yohn. 1997. Management forecasts and information asymmetry: an examination of bid-ask spreads. *Journal of Accounting Research* 35 (2): 181-191.
- Cramton, P., H. Mehran, and J. Tracy. 2008. ESOP fables: The impact of employee stock ownership plans on labor disputes. *FRB of New York Staff Report*. No. 347.
- Croson, R. T. A. 1996. Information in ultimatum games: An experimental game. *Journal of Economic Behavior and Organization* 30: 197–212.
- Cukierman, A., A.H. Meltzer. 1986. A theory of ambiguity, credibility, and inflation under discretion and asymmetric information. *Econometrica* 54: 1099–1128.
- Darrough, M. 1993. Disclosure policy and competition: Cournot vs. Bertrand. *The Accounting Review* 68: 534-561.
- De Franco, G., O.-K. Hope, and S. Larocque. 2011. The Effect of Disclosure on the Pay-Performance Relation. Working paper, University of Toronto and University of Notre Dame.
- Dou, Y., O.-K. Hope, and W.B. Thomas. 2011. Relationship-specificity, contract enforceability, and income smoothing. Working paper, University of Toronto and University of Oklahoma.

- Dye, R. 1985. Disclosure of non-proprietary information. *Journal of Accounting Research* 23 (1):123-145.
- Dyreng, S.D., M. Hanlon, and E.L. Maydew. 2008. Long-Run Corporate Tax Avoidance. *The Accounting Review* 83 (1): 61-82.
- Easley, D. and M. O'Hara. 2004. Information and the Cost of Capital. *Journal of Finance* LIX (4): 1553-1583.
- Faleye, O., V. Mehrotra, and R. Morck. 2006. When Labor Has a Voice in Corporate Governance. *Journal of Financial and Quantitative Analysis* 41: 489-510.
- Francis, J., D.J. Nanda, and P. Olsson. 2008. Voluntary disclosure, earnings quality, and cost of capital. *Journal of Accounting Research* 46 (1): 53-99.
- Frankel, R., M. Johnson, and D. Skinner. 1999. An empirical examination of conference calls as a voluntary disclosure medium. *Journal of Accounting Research* 37 (1): 133-150.
- Freeman, R., and M. Kleiner. 1990. The impact of new unionization on wages and working conditions. *Journal of Labor Economics* 8 (1): S8-S25.
- Frost, A. C. 2000. Explaining variation in workplace restructuring: The role of local union capabilities. *Industrial and Labor Relations Review* 53: 559-578.
- Garmaise, M. 2011. Ties that truly bind: non-competition agreements, executive compensation and firm investment. Forthcoming, *Journal of Law, Economics, and Organization*.
- Graham, J., C.R. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40 (1-3): 3-73.
- Healy, P.M., A. Hutton, and K.G. Palepu. 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary Accounting Research* 16 (3): 485-520.
- Heckman, J.J., H. Ichimura and P.E. Todd. 1998. Matching as an Econometric Evaluation Estimator. *The Review of Economic Studies* Vol. 65 No. 2: 261-294.
- Herrmann, D.R., O.-K. Hope, and W.B. Thomas. 2008. International Diversification and Forecast Optimism: The Effects of Reg FD. *Accounting Horizons* 22 (2): 179-197.
- Hilary, G. 2006. Organized labor and information asymmetry in the financial markets. *Review of Accounting Studies* 11 (4): 525-548.
- Hirst, E., L. Koonce, and S. Venkataraman. 2008. Management earnings forecasts: A review and framework. *Accounting Horizons* 22 (3): 315-338.
- Hutton, A., G. Miller, and D. Skinner. 2003. The role of supplementary statements with management earnings forecasts. *Journal of Accounting Research* 41 (5): 867-90.
- Jones, D.C., and T. Kato. 1995. The productivity effects of employee stock-ownership plans and bonuses: evidence from Japanese panel data. *American Economic Review* 85 (3): 391-414.
- Jovanovic, B. 1982. Truthful disclosure of information. *Bell Journal of Economics* 13 (1):36-44.
- Jung, W and Y. Kwon. 1988. Disclosure when market is unsure of information endowment of managers. *Journal of Accounting Research* 26 (1): 143 - 153.
- Kedia, S., and S. Rajgopal. 2009. The impact of location on broad based stock option plans. *Journal of Financial Economics* 92: 109-127.
- Kim, E.H., and P.P. Ouimet. 2009. Employee capitalism or corporate socialism? Broad-based employee stock ownership. Working paper, University of Michigan and University of North Carolina.
- King, R., G. Pownall, and G. Waymire. 1990. Expectations adjustments via timely management forecasts: Review, synthesis, and suggestions for future research. *Journal of Accounting Literature* 9: 113-144.
- Kochan, T. A., and H.C. Katz. 1988. *Collective bargaining and industrial relations* (2nd ed.). Homewood, IL: Irwin.
- Kruse, P. 1996. Why do Firms adopt profit-sharing and employee ownership plans? *British Journal of Industrial Relations*. 34 (4): 515-38.

- Kruse, D., 2002. Research evidence on prevalence and effects of employee ownership. Testimony for the Subcommittee on Employer-Employee Relations, Committee on Education and the Workforce, U.S. House of Representatives.
- Kruse, P., J. Blasi, and R. Park. 2009. Chapter 1: Shared Capitalism in the US Economy: Prevalence, Characteristics, and Employee Views of Financial Participation in Enterprises. *Shared Capitalism at Work: Employee Ownership, Profit and Gain Sharing, and Broad-based Stock Options* University of Chicago Press.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A, and Vishny, R. 1997. Legal determinants of external finance. *Journal of Finance* 52 (3): 1131-150.
- Lang, M., and R. Lundholm. 1996. Corporate disclosure policy and analysts behavior. *The Accounting Review* 71(4): 467-492.
- Larcker, D.F. and T.O. Rusticus. 2010. On the use of instrumental variables in accounting research. *Journal of Accounting and Economics* 49 (3): 186-205.
- Lawrence, A. 2011. Individual Investors and Financial Disclosure. Working paper, University of Toronto.
- Leap, T. L. 1991. *Collective bargaining and labor relations* (2nd ed.). New Jersey: Prentice Hall, Englewood Cliffs.
- Li, F. 2008. Annual report readability, current earnings, and earnings persistence. *Journal of Accounting and Economics* 45 (2-3): 221-247.
- Li, K., and N.R. Prabhala. 2007. Self-Selection Models in Corporate Finance. Chapter 2 in: *Handbook of Corporate Finance: Empirical Corporate Finance*. Handbooks in Finance Series, Elsevier/North Holland.
- Marquardt, C.A., and C.I. Wiedman. 1998. Voluntary disclosure, information asymmetry, and insider selling through secondary equity offerings. *Contemporary Accounting Research* 15 (4): 505-537.
- McDonald, I. and R. Solow. 1981. Wage bargaining and employment. *The American Economic Review* 71 (5): 896-908.
- Nagar, V., D. Nanda, and P. Wysocki. 2003. Discretionary disclosures and stock-based incentives. *Journal of Accounting and Economics* 34: 283-309.
- Oyer, P. 2004. Why do firms use incentives that have no incentive effects? *Journal of Finance* 59: 1619-1649.
- Pagano, M., and P. F. Volpin. 2005. Managers, workers, and corporate control. *Journal of Finance* 60 (2):841-868.
- Pirinsky, C. and Q. Wang. 2006. Does corporate headquarters location matter for stock returns? *Journal of Finance* 61: 1991–2015.
- Rajan, R.G., and L. Zingales. 1998. Financial dependence and growth. *American Economic Review* 88 (3): 559-586.
- Raman, K., and H. Shahrur. 2008. Relationship-specific investments and earnings management: evidence on corporate suppliers and customers. *The Accounting review* 83 (4): 1041-1081.
- Reynolds, L. G., S. H. Masters, and C.H. Moser. 1998. *Labor economics and labor relations* (11th ed.). New Jersey: Prentice Hall.
- Rogers, J.L., and A. Van Buskirk. 2009. Shareholder litigation and changes in disclosure behavior. *Journal of Accounting and Economics* 47 (1-2): 136– 156.
- Rodrick, S., and C. Rosen. 2010. *Understanding ESOPS* (2nd ed.). The National Center for Employee Ownership.
- Rosen, S. 1961. Trade union power, threat effects, and the extent of organization. *The Review of Economic Studies* 36 (2): 185 – 196.
- Schock, L. J. 2007. Speech by SEC staff: feedback from individual investors on disclosure (January 19, 2007). Available at <http://www.sec.gov/news/speech/2007/spch011907ljs.htm>.
- Scott, T. 1994. Incentives and disincentives for financial disclosure: Voluntary disclosure of defined benefit pension plan information from Canadian firms. *The Accounting Review* 69 (1): 26-43.
- Securities and Exchange Commission. 1998. A Plain English Handbook: How to Create Clear SEC Disclosure Documents. U.S. Securities and Exchange Commission, Washington, D.C.

Stock, J.H., J.H. Wright, and M. Yogo. 2002. A survey of weak instruments and weak identification in generalized method of moments. *Journal of Business & Economics Statistics* 20: 518–529.

Verrecchia, R. E. 2001. Essays on disclosure. *Journal of Accounting and Economics* 32 (1-3): 97-180.

Wooldridge, J., 2002. *Econometric Analysis of Cross Section and Panel Data*. The MIT Press.

APPENDIX

Variable	Definition (Compustat variables in parentheses)
Test variables	
<i>EO</i>	<i>EO</i> is the logarithm of one plus the aggregate employee ownership level scaled by the number of total employees for firm <i>i</i> in year <i>t</i> and
<i>PrEO</i>	<i>PrEO</i> is the predicted value of <i>EO</i> generated from the first stage of the 2SLS model.
<i>INIT</i>	Indicator variable that takes a value of one if a firm adopted an investment plan which allowed for an investment in employer stock in the previous year and still has the plan in the current year, and zero otherwise.
<i>UNIONR</i>	Number of workers as union members in a firm's industry as a percentage of all the employees in the firm's industry (Union Membership and Coverage Database).
<i>PrEO</i> × <i>UNIONR</i>	The product of <i>PrEO</i> and <i>UNIONR</i> .
Disclosure variables	
<i>MF</i>	Indicator variable that takes the value of one if managers make at least one earnings forecast that particular year, and zero otherwise (First Call).
<i>NMF</i>	Number of management forecasts that particular year. $LOGNMF = \log(1 + NMF)$
<i>NGMF</i>	Number of management good news forecasts that particular year. Management forecasts with positive market-adjusted three-day CARs centered on the forecast date are classified as good news forecasts. $LOGNGMF = \log(1 + NGMF)$
<i>NBMF</i>	Number of management bad news forecasts that particular year. Management forecasts with negative market-adjusted three-day CARs centered on the forecast date are classified as bad news forecasts. $LOGNBMF = \log(1 + NBMF)$
<i>MFS</i>	Management forecast score. We assign a value of 0 if the firm provides no forecast, a value of 1 to the purely qualitative forecast (i.e., no point estimate or range is given), a value of 2 to the forecast with a range estimate, and a value of 3 to the forecast with a point estimate. We sum the values over all forecasts made by the firm that particular year. $LOGMFS = \log(1 + MFS)$
<i>CC</i>	Indicator variable that takes the value of one if a firm holds at least one conference call that particular year, and zero otherwise (BestCalls.com).
<i>NCONFC</i>	Number of conference calls that particular year. $LOGNCONFC = \log(1 + NCONFC)$
<i>FOGINV</i>	A measure of financial statement readability computed following Li

	(2008) multiplied by -1.
<i>LENGTHINV</i>	Natural logarithm of the number of words following Li (2008) multiplied by -1.
<i>DSCORE</i>	An aggregate disclosure measure. We first normalize all nine aforementioned proxies between zero and one by the following formula: $\text{Normalized_}DISC_{it} = \frac{\text{Rank}(DISC_{it}) - \min \text{Rank}(DISC)}{\max \text{Rank}(DISC) - \min \text{Rank}(DISC)}$ and then take the average of these nine measures as our summary statistic for financial disclosure.

Consequence variables

<i>SPREAD</i>	The bid-ask spread computed as in Hilary (2006) (TAQ).
<i>PIN</i>	The probability of informed trading computed following the procedure outlined in Brown, Hillegeist, and Lo (2004) (TAQ).

Control variables and instrumental variables

<i>SIZE</i>	Natural logarithm of total assets (at).
<i>LEV</i>	The ratio of long-term debt (dltt) to the sum of long-term debt to the book value of equity (ceq).
<i>GROWTH</i>	Current year's growth in sales (sale).
<i>ROA</i>	Earnings before extraordinary item (ib) divided by total assets (at) at the beginning of the year.
<i>EARNVOL</i>	Standard deviation of the operating earnings (oiadp) scaled by last year total assets (at) over the last five fiscal years.
<i>LIT</i>	Indicator variable that takes the value of one if a firm is in industries with high litigation risk (SIC codes 2833-2836, 3570-3577, 7370-7374, 3600-3674, 5200-5961, 8731-8734), and zero otherwise.
<i>SEO</i>	Indicator variable that takes the value of one if a firm has seasoned equity offering that particular year, and zero otherwise (SDC Global New Issues database).
<i>MA</i>	Indicator variable that takes the value of one if a firm engages in a merger and acquisition that particular year, and zero otherwise (SDC Platinum M&A database).
<i>AGE</i>	Number of years since IPO.
<i>SI</i>	Special items scaled by total assets (at).
<i>NBSEG</i>	Number of business segments.
<i>NGSEG</i>	Number of geographic segments.
<i>DLW</i>	Indicator variable that takes the value of one if a firm is incorporated in Delaware, and zero otherwise.

<i>ANALYFOL</i>	Number of financial analysts following the firm that particular year.
<i>HERFIN</i>	The Herfindahl index of firms' sales for each year and 3-digit SIC industry.
<i>IROA</i>	The median of <i>ROA</i> for each year and 3-digit SIC industry.
<i>NASD</i>	Indicator variable that takes the value of one if the stock is traded on the NYSE market, and zero otherwise.
<i>PRICE</i>	Natural logarithm of stock price at the end of the year.
<i>VOL</i>	The yearly median of the 12 monthly volumes (in billions of dollars). The monthly volumes are the median of daily trading volumes.
<i>STDRET</i>	The standard deviation of the daily returns calculated for each firm and each year.
<i>CASHETR</i>	The long-run cash effective tax rate, computed as the sum of income tax paid (txpd) over the previous five years divided by the sum of a firm's pre-tax income (pi) less special items (spi).
<i>LOCBETA</i>	The local betas β^{LOC} is estimated using the following time-series regression over 1999-2007 for each firm: $R_t = \alpha_i + \beta^{LOC} R_t^{LOC} + \beta^{MKT} R_t^{MKT} + \beta^{IND} R_t^{IND} + \varepsilon_t$ where R_t refers to the monthly return of a particular stock, R_t^{LOC} is the monthly return of the stock's corresponding MSA index, R_t^{MKT} is the monthly return of the market portfolio, and R_t^{IND} is the monthly return of one of the 46 Fama-French industries corresponding to stock i . All returns are in excess of monthly T-bill rates. See Kedia and Rajgopal (2009).
<i>NCOMPENF</i>	Non-competition enforceability index compiled by Garmaise (2011)

TABLE 1
Firms Distribution

Panel A Firms Distribution by Fiscal Years

Fiscal Year	Freq.	Percent	EO>0 Freq.	EO>0 Percent
1999	2,316	10.32	588	2.62
2000	2,195	9.78	699	3.11
2001	2,237	9.96	752	3.35
2002	3,019	13.45	1,069	4.76
2003	2,792	12.44	991	4.41
2004	2,688	11.97	955	4.25
2005	2,547	11.34	914	4.07
2006	2,417	10.77	869	3.87
2007	2,241	9.98	777	3.46
Total	22,452	100	7,614	33.91

(Table 1 continued on next page)

Panel B: Firms Distribution by Industries (2-Digit SIC)

Industry	EO>0		Industry	EO>0	
	Freq.	Percent		Freq.	Percent
Agricultural Production - Crops	56	0.25	Leather & Leather Products	118	0.53
Agricultural Production - Livestock	16	0.07	Local & Interurban Passenger Transit	14	0.06
Agricultural Services	29	0.13	Lumber & Wood Products	151	0.67
Amusement & Recreation Services	302	1.35	Metal, Mining	73	0.33
Apparel & Accessory Stores	316	1.41	Misc. Manuf. Industries	255	1.14
Apparel & Other Textile Products	284	1.26	Miscellaneous Repair Services	10	0.04
Auto Repair, Services, & Parking	61	0.27	Miscellaneous Retail	465	2.07
Automotive Dealers & Service Stations	83	0.37	Motion Pictures	113	0.5
Building Materials& Gardening Supplies	63	0.28	Nonmetallic Minerals, except Fuels	37	0.16
Business Services	2,209	9.84	Oil & Gas Extraction	688	3.06
Chemical & Allied Products	1,883	8.39	Paper & Allied Products	241	1.07
Coal Mining	4	0.02	Personal Services	85	0.38
Communications	598	2.66	Petroleum & Coal Products	157	0.7
Eating & Drinking Places	450	2	Pipelines, Except Natural Gas	15	0.07
Educational Services	84	0.37	Primary Metal Industries	390	1.74
Electric, Gas, & Sanitary Services	1,828	8.14	Printing & Publishing	357	1.59
Electronic & Other Electric Equipment	2,003	8.92	Railroad Transportation	85	0.38
Engineering & Management Services	445	1.98	Rubber & Miscellaneous Plastics Product	322	1.43
Fabricated Metal Products	386	1.72	Social Services	33	0.15
Fishing, Hunting, & Trapping	2	0.01	Special Trade Contractors	60	0.27
Food & Kindred Products	533	2.37	Stone, Clay, & Glass Products	138	0.61
Food Stores	180	0.8	Textile Mill Products	118	0.53
Forestry	8	0.04	Tobacco Products	26	0.12
Furniture & Fixtures	197	0.88	Transportation Equipment	460	2.05
Furniture & Homefurnishings Stores	170	0.76	Transportation Services	52	0.23
General Building Contractors	211	0.94	Transportation by Air	193	0.86
General Merchandise Stores	189	0.84	Trucking & Warehousing	230	1.02
Health Services	469	2.09	Water Transportation	70	0.31
Heavy Construction, Except Building	74	0.33	Wholesale Trade- Durable Goods	717	3.19
Hotels & Other Lodging Places	102	0.45	Wholesale Trade- Nondurable Goods	371	1.65
Industrial Machinery & Equipment	1,633	7.27			
Instruments & Related Products	1,540	6.86	Total	22,452	100

TABLE 2
Descriptive Statistics and Correlation Matrix

Panel A: Descriptive Statistics

variable	N	mean	sd	p25	p50	p75
<i>EO</i>	22,452	2.534	3.669	0.000	0.000	6.177
<i>PrEO</i>	22,452	2.534	1.353	1.617	2.636	3.510
<i>UNIONR</i>	22,452	0.111	0.076	0.049	0.101	0.135
<i>MF</i>	22,452	0.399	0.490	0.000	0.000	1.000
<i>NMF</i>	22,452	1.969	3.373	0.000	0.000	3.000
<i>NGMF</i>	22,452	0.963	1.971	0.000	0.000	1.000
<i>NBMF</i>	22,452	0.969	1.847	0.000	0.000	1.000
<i>MFS</i>	22,452	4.221	7.340	0.000	0.000	6.000
<i>CC</i>	22,452	0.547	0.498	0.000	1.000	1.000
<i>NCONFC</i>	22,452	2.606	2.852	0.000	2.000	4.000
<i>FOGINV</i>	22,452	-19.957	1.694	-20.640	-19.675	-18.880
<i>LENGTHINV</i>	22,452	-10.469	0.668	-10.875	-10.426	-10.022
<i>DSCORE</i>	22,452	0.374	0.264	0.149	0.293	0.632
<i>SIZE</i>	22,452	5.956	2.138	4.405	5.970	7.485
<i>LEV</i>	22,452	0.322	0.397	0.007	0.246	0.487
<i>GROWTH</i>	22,452	0.113	0.388	-0.034	0.068	0.184
<i>ROA</i>	22,452	-0.017	0.230	-0.027	0.033	0.079
<i>EARNVOL</i>	22,452	0.109	0.222	0.024	0.049	0.101
<i>LIT</i>	22,452	0.310	0.463	0.000	0.000	1.000
<i>SEO</i>	22,452	0.027	0.161	0.000	0.000	0.000
<i>MA</i>	22,452	0.397	0.489	0.000	0.000	1.000
<i>AGE</i>	22,452	23.538	14.461	12.000	19.000	33.000
<i>SI</i>	22,452	-0.018	0.074	-0.011	0.000	0.000
<i>NBSEG</i>	22,452	2.104	1.508	1.000	1.000	3.000
<i>NGSEG</i>	22,452	2.216	1.790	1.000	1.000	3.000
<i>DLW</i>	22,452	0.004	0.065	0.000	0.000	0.000
<i>ANALYFOL</i>	22,452	6.196	7.785	0.000	3.000	10.000
<i>HERFIN</i>	22,452	0.149	0.144	0.059	0.097	0.186
<i>IROA</i>	22,452	-0.010	0.094	-0.012	0.016	0.038

Variable definitions are provided in the Appendix. (Table 2 continued on next page)

TABLE 2**Descriptive Statistics and Correlation Matrix (continued)****Panel B: Pearson Correlation Matrix of Test Variables**

	<i>EO</i>	<i>UNIONR</i>	<i>MF</i>	<i>LOGNMF</i>	<i>LOGNGMF</i>	<i>LOGNBMF</i>	<i>LOGMFS</i>	<i>CC</i>	<i>LOGNCONFC</i>	<i>FOGINV</i>	<i>LENGTHINV</i>
<i>UNIONR</i>	0.0555*										
<i>MF</i>	0.2079*	-0.0642*									
<i>LOGNMF</i>	0.2252*	-0.0826*	0.8903*								
<i>LOGNGMF</i>	0.2070*	-0.0789*	0.7235*	0.8823*							
<i>LOGNBMF</i>	0.1905*	-0.0738*	0.7684*	0.8906*	0.6499*						
<i>LOGMFS</i>	0.2274*	-0.0794*	0.9131*	0.9931*	0.8692*	0.8793*					
<i>CC</i>	0.2056*	-0.1073*	0.4207*	0.4375*	0.3996*	0.3969*	0.4415*				
<i>LOGNCONFC</i>	0.2170*	-0.0993*	0.4413*	0.4808*	0.4461*	0.4388*	0.4810*	0.9468*			
<i>FOGINV</i>	0.0337*	-0.0313*	0.0379*	0.0247*	0.0246*	0.0204*	0.0274*	0.0183*	0.0062		
<i>LENGTHINV</i>	-0.0583*	-0.1740*	-0.1169*	-0.1386*	-0.1199*	-0.1226*	-0.1364*	-0.1753*	-0.2062*	0.3523*	
<i>DSCORE</i>	0.2479*	-0.1173*	0.8974*	0.9107*	0.7983*	0.8150*	0.9187*	0.6761*	0.6970*	0.1801*	-0.0055

Variable definitions are provided in the Appendix. (Table 2 continued on next page)

Panel C: Pearson Correlation Matrix of Control Variables

	<i>SIZE</i>	<i>LIT</i>	<i>LEV</i>	<i>GROWTH</i>	<i>ROA</i>	<i>SEO</i>	<i>MA</i>	<i>EARNVOL</i>	<i>AGE</i>	<i>SI</i>	<i>NBSEG</i>	<i>NGSEG</i>	<i>DLW</i>	<i>ANALYFOL</i>	<i>HERFIN</i>
<i>LIT</i>	-0.1411*														
<i>LEV</i>	0.2033*	-0.1644*													
<i>GROWTH</i>	0.0307*	0.0299*	0.0009												
<i>ROA</i>	0.3635*	-0.1667*	-0.0057	-0.0211*											
<i>SEO</i>	0.0871*	-0.0173*	0.0360*	0.0844*	-0.0155										
<i>MA</i>	0.2955*	0.0124	0.0068	0.0654*	0.1054*	0.0750*									
<i>EARNVOL</i>	-0.2709*	0.1533*	-0.0764*	0.1562*	-0.4334*	0.0057	-0.0594*								
<i>AGE</i>	0.4048*	-0.2044*	0.0798*	-0.0789*	0.1764*	0.0058	0.0838*	-0.2510*							
<i>SI</i>	0.0983*	-0.0701*	0.0115	0.0647*	0.4247*	0.0126	0.0016	-0.1069*	0.0872*						
<i>NBSEG</i>	0.3393*	-0.1633*	0.0532*	-0.0093	0.1317*	0.0368*	0.1647*	-0.1335*	0.3053*	0.0278*					
<i>NGSEG</i>	0.1788*	0.0404*	-0.0682*	0.0014	0.0827*	0.0118	0.1047*	-0.0478*	0.0777*	-0.0067	0.2998*				
<i>DLW</i>	-0.0032	-0.0262*	0.0226*	0.0044	-0.0053	0.0018	-0.0071	-0.0015	0.0029	0.007	0.0172*	0.0104			
<i>ANALYFOL</i>	0.6304*	0.1261*	-0.0149	0.0846*	0.1968*	0.0917*	0.3329*	-0.0816*	0.1467*	0.0242*	0.1860*	0.2042*	-0.0112		
<i>HERFIN</i>	-0.0042	-0.1846*	0.0332*	-0.0249*	0.0777*	-0.0208*	-0.0076	-0.0688*	0.0467*	0.0214*	0.0961*	-0.009	0.002	-0.0578*	
<i>IROA</i>	0.2046*	-0.4462*	0.0895*	-0.0406*	0.3171*	-0.0152	0.0162	-0.2185*	0.1996*	0.1269*	0.1060*	-0.0308*	0.0119	-0.0092	0.2077*

*Denotes significance at the 1% level (using a two-tailed test).

TABLE 3**The Impact of Employee Ownership (EO) and Unionization Rate on Disclosure****Panel A: The Determinants of Employee Ownership (First Stage)**

	<i>EO</i>
<i>CASHETR</i>	2.116*** (6.37)
<i>LOCBETA</i>	0.212*** (2.66)
<i>NCOMPENF</i>	-0.219*** (8.56)
<i>UNIONR</i>	-0.967 (1.32)
<i>SIZE</i>	0.481*** (17.24)
<i>LEV</i>	-0.380*** (4.16)
<i>GROWTH</i>	-0.214*** (3.92)
<i>ROA</i>	0.215* (1.73)
<i>MA</i>	0.399*** (5.54)
Constant	-1.600*** (8.80)
Year Fixed Effects	Yes
Observations	22,452
Adj. R-squared	0.135

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.

Panel B: The Impact on Management Forecasts and Conference Calls

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	<i>MF</i>	<i>LOGNMF</i>	<i>LOGNGMFL</i>	<i>LOGNBMFL</i>	<i>LOGMFS</i>	<i>CC</i>	<i>LOGNCONFC</i>
<i>PrEO</i>	0.233*** (7.45)	0.130*** (7.56)	0.080*** (6.43)	0.094*** (7.81)	0.181*** (7.89)	0.081** (2.12)	0.035** (2.02)
<i>UNIONR</i>	-1.553*** (6.12)	-1.199*** (9.14)	-0.899*** (9.54)	-0.710*** (7.77)	-1.541*** (8.73)	-2.414*** (7.91)	-1.071*** (8.18)
<i>PrEO × UNIONR</i>	0.187*** (5.68)	0.102*** (4.98)	0.068*** (4.57)	0.054*** (3.75)	0.139*** (5.11)	0.263*** (6.74)	0.128*** (7.34)
<i>SIZE</i>	0.005 (0.27)	0.002 (0.17)	0.003 (0.35)	-0.005 (0.70)	-0.001 (0.09)	0.018 (0.73)	0.020* (1.69)
<i>LIT</i>	0.246*** (5.51)	0.161*** (5.90)	0.113*** (5.63)	0.122*** (6.35)	0.214*** (5.92)	0.120** (2.20)	0.071*** (2.97)
<i>LEV</i>	-0.234*** (5.31)	-0.069*** (3.66)	-0.042*** (3.06)	-0.041*** (3.18)	-0.097*** (3.83)	-0.251*** (5.33)	-0.105*** (5.05)
<i>GROWTH</i>	0.035 (1.19)	0.025** (2.07)	0.046*** (4.98)	-0.012 (1.41)	0.040** (2.47)	0.140*** (4.61)	0.055*** (4.04)
<i>ROA</i>	0.792*** (8.18)	0.186*** (5.84)	0.151*** (6.38)	0.080*** (3.62)	0.275*** (6.37)	0.261*** (2.77)	0.113*** (2.73)
<i>SEO</i>	0.002 (0.02)	-0.035 (0.82)	-0.003 (0.09)	-0.045 (1.46)	-0.050 (0.89)	0.404*** (4.82)	0.192*** (6.36)
<i>MA</i>	0.105*** (3.99)	0.071*** (4.47)	0.052*** (4.33)	0.041*** (3.61)	0.092*** (4.38)	0.249*** (7.83)	0.132*** (9.15)
<i>EARNVOL</i>	-0.037 (0.60)	0.002 (0.06)	-0.011 (0.55)	-0.007 (0.38)	-0.003 (0.09)	0.038 (0.50)	-0.005 (0.13)
<i>AGE</i>	-0.005*** (3.68)	-0.001 (0.56)	0.000 (0.63)	-0.000 (0.01)	-0.001 (0.86)	-0.010*** (5.76)	-0.005*** (6.24)
<i>SI</i>	-1.087*** (6.25)	-0.233*** (3.74)	-0.032 (0.75)	-0.200*** (4.13)	-0.324*** (3.85)	0.342** (2.05)	0.101 (1.37)
<i>NBSEG</i>	0.062*** (4.89)	0.039*** (5.03)	0.026*** (4.46)	0.026*** (4.70)	0.054*** (5.21)	0.030* (1.90)	0.017** (2.51)
<i>NGSEG</i>	0.026** (2.46)	0.001 (0.10)	-0.005 (0.97)	-0.001 (0.19)	0.003 (0.29)	0.080*** (6.10)	0.038*** (6.93)
<i>DLW</i>	-0.608** (2.30)	-0.296*** (2.95)	-0.194*** (3.54)	-0.162** (1.96)	-0.414*** (3.02)	-0.686* (1.73)	-0.270* (1.70)
<i>ANALYFOL</i>	0.046*** (12.14)	0.032*** (14.93)	0.021*** (13.09)	0.023*** (15.66)	0.043*** (15.07)	0.090*** (15.36)	0.040*** (25.00)
<i>HERFIN</i>	0.378*** (3.11)	0.232*** (3.21)	0.164*** (3.06)	0.143*** (2.91)	0.323*** (3.35)	-0.131 (0.94)	-0.048 (0.71)
<i>IROA</i>	0.351* (1.78)	0.396*** (3.44)	0.296*** (3.33)	0.263*** (3.25)	0.511*** (3.35)	-0.723*** (3.00)	-0.436*** (4.01)
Constant	-1.386*** (16.52)	0.037 (0.92)	0.001 (0.05)	0.009 (0.34)	0.068 (1.26)	0.041 (0.43)	0.498*** (12.46)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,452	22,452	22,452	22,452	22,452	22,452	22,452
Adj. or Pseudo R-squared	0.204	0.293	0.241	0.238	0.295	0.336	0.451

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.

Panel C: The Impact on Readability

	(1) <i>FOGINV</i>	(2) <i>LENGTHINV</i>
<i>PrEO</i>	0.092*** (2.95)	0.139*** (12.53)
<i>UNIONR</i>	-0.727*** (2.71)	-0.853*** (6.62)
<i>PrEO</i> × <i>UNIONR</i>	0.113*** (2.94)	0.061*** (3.88)
<i>SIZE</i>	-0.070*** (3.67)	-0.208*** (31.56)
<i>GROWTH</i>	0.005 (0.15)	0.008 (0.68)
<i>AGE</i>	-0.003* (1.71)	0.003*** (4.39)
<i>SI</i>	0.356** (2.42)	0.704*** (13.10)
<i>EARNVOL</i>	-0.115* (1.83)	-0.168*** (6.61)
<i>NBSEG</i>	0.006 (0.46)	-0.019*** (3.96)
<i>NGSEG</i>	0.071*** (6.31)	0.005 (1.46)
<i>SEO</i>	0.212*** (3.00)	-0.121*** (5.04)
<i>MA</i>	-0.016 (0.51)	-0.109*** (9.32)
<i>DLW</i>	-0.686** (2.17)	-0.204* (1.86)
<i>HERFIN</i>	0.249* (1.72)	0.237*** (4.83)
<i>IROA</i>	0.674*** (3.88)	0.656*** (10.52)
Constant	-19.840*** (260.91)	-9.487*** (365.55)
Year Fixed Effects	Yes	Yes
Observations	22,452	22,452
Adj. R-squared	0.037	0.278

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.

Panel D: The Impact on Disclosure Score

	<i>DSCORE</i>
<i>PrEO</i>	0.044*** (8.57)
<i>UNIONR</i>	-0.395*** (9.85)
<i>PrEO</i> × <i>UNIONR</i>	0.044*** (7.28)
<i>SIZE</i>	-0.012*** (3.38)
<i>LIT</i>	0.047*** (6.05)
<i>LEV</i>	-0.035*** (6.21)
<i>GROWTH</i>	0.013*** (3.51)
<i>ROA</i>	0.093*** (9.04)
<i>SEO</i>	0.014 (1.32)
<i>MA</i>	0.023*** (5.15)
<i>EARNVOL</i>	-0.004 (0.44)
<i>AGE</i>	-0.001*** (2.84)
<i>SI</i>	-0.040** (2.00)
<i>NBSEG</i>	0.010*** (4.47)
<i>NGSEG</i>	0.007*** (3.74)
<i>DLW</i>	-0.127*** (3.22)
<i>ANALYFOL</i>	0.012*** (19.60)
<i>HERFIN</i>	0.070*** (3.39)
<i>IROA</i>	0.090*** (2.90)
Constant	0.263*** (19.17)
Year Fixed Effects	Yes
Observations	22,452
Adj. R-squared	0.351

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.

TABLE 4**The Impact of Initiation and Change in Levels on Disclosure****Panel A: The Impact of Employee Ownership Initiation on Disclosure**

	<i>DDSCORE</i>
<i>INIT</i>	0.103*** (8.89)
<i>DSIZE</i>	0.113*** (3.89)
<i>DLEV</i>	0.037 (1.02)
<i>DGROWTH</i>	-0.047*** (3.30)
<i>DROA</i>	-0.077 (1.51)
<i>DSEO</i>	-0.062 (1.21)
<i>DMA</i>	0.003 (0.17)
<i>DEARNVOL</i>	0.001*** (9.00)
<i>DSI</i>	0.023 (0.16)
<i>DNBSEG</i>	0.039*** (3.40)
<i>DNGSEG</i>	0.008 (0.68)
<i>DANALYFOL</i>	0.003 (1.01)
Observations	541
Adj. R-squared	0.241

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix. (Table 8 continued on next page)

Panel B: The Impact of Changes in EO on Disclosure (Firm Fixed Effects Approach)

	<i>DSCORE</i>
<i>EO</i>	0.004*** (5.48)
<i>SIZE</i>	0.054*** (18.82)
<i>LIT</i>	0.010 (0.70)
<i>LEV</i>	-0.006 (1.47)
<i>GROWTH</i>	-0.009*** (3.07)
<i>ROA</i>	0.036*** (4.28)
<i>SEO</i>	0.009 (1.27)
<i>MA</i>	0.008*** (3.04)
<i>EARNVOL</i>	-0.003 (0.40)
<i>AGE</i>	-0.013 (1.01)
<i>SI</i>	-0.004 (0.22)
<i>NBSEG</i>	0.004*** (2.92)
<i>NGSEG</i>	0.001 (0.33)
<i>ANALYFOL</i>	0.007*** (17.38)
<i>HERFIN</i>	-0.024 (1.14)
<i>IROA</i>	0.100*** (4.03)
Constant	0.339 (0.97)
Firm Fixed Effects	Yes
Year Fixed Effects	Yes
Observations	22,452
Adj. R-squared	0.726

T-statistics are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix. (Table 8 continued on next page)

TABLE 5
The Impact of Employee Ownership on Disclosure Before and After Reg FD

	(1) <i>DSCORE, Before RegFD</i>	(2) <i>DSCORE, After RegFD</i>
<i>PrEO</i>	0.034*** (6.38)	0.061*** (9.59)
<i>UNIONR</i>	-0.171*** (4.21)	-0.306*** (6.09)
<i>PrEO</i> × <i>UNIONR</i>	0.012* (1.84)	0.046*** (6.50)
<i>SIZE</i>	-0.015*** (4.29)	-0.016*** (3.64)
<i>LIT</i>	0.027*** (3.53)	0.060*** (5.92)
<i>LEV</i>	-0.014** (2.11)	-0.019** (2.58)
<i>GROWTH</i>	-0.002 (0.28)	0.015** (2.35)
<i>ROA</i>	0.073*** (6.32)	0.097*** (5.69)
<i>SEO</i>	-0.015 (0.81)	0.082*** (4.30)
<i>MA</i>	0.006 (0.98)	0.007 (0.92)
<i>EARNVOL</i>	0.035*** (2.78)	0.010 (0.69)
<i>AGE</i>	-0.001* (1.86)	-0.001*** (4.24)
<i>SI</i>	-0.018 (0.60)	-0.020 (0.58)
<i>NBSEG</i>	0.005* (1.93)	0.009*** (3.14)
<i>NGSEG</i>	0.010*** (3.95)	0.010*** (4.20)
<i>DLW</i>	-0.050 (1.29)	-0.156*** (2.86)
<i>ANALYFOL</i>	0.010*** (15.67)	0.013*** (17.97)
<i>HERFIN</i>	0.057** (2.29)	0.025 (0.92)
<i>IROA</i>	0.084** (2.18)	0.114** (2.05)
Constant	0.222*** (17.82)	0.236*** (16.69)
Year Fixed Effects	Yes	Yes
Observations	4,511	5,256
Adj. R-squared	0.244	0.381

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.

TABLE 6
The Impact of Employee Ownership on Disclosure Score with the Employees Own Less than 5% of the Firm

	<i>DSCORE</i>
<i>PrEO</i>	0.046*** (8.58)
<i>UNIONR</i>	-0.215*** (4.96)
<i>PrEO</i> × <i>UNIONR</i>	0.029*** (4.16)
<i>SIZE</i>	0.007* (1.80)
<i>LIT</i>	0.051*** (6.51)
<i>LEV</i>	-0.032*** (5.02)
<i>GROWTH</i>	0.009** (2.44)
<i>ROA</i>	0.083*** (7.99)
<i>SEO</i>	-0.007 (0.66)
<i>MA</i>	0.010** (2.02)
<i>EARNVOL</i>	0.009 (0.96)
<i>AGE</i>	-0.001*** (3.44)
<i>SI</i>	-0.042** (1.99)
<i>NBSEG</i>	0.004* (1.73)
<i>NGSEG</i>	0.005*** (2.65)
<i>DLW</i>	-0.094** (2.19)
<i>ANALYFOL</i>	0.008*** (11.81)
<i>HERFIN</i>	0.012 (0.54)
<i>IROA</i>	0.101*** (3.23)
Constant	0.210*** (14.31)
Year Fixed Effects	Yes
Observations	19,817
Adj. R-squared	0.338

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.

TABLE 7
Market Outcome Tests

	(1)	(2)
	<i>SPREAD</i>	<i>PIN</i>
<i>PrEO</i>	-0.000 (0.15)	-0.001 (0.79)
<i>UNIONR</i>	0.005* (1.92)	0.009 (0.89)
<i>PrEO</i> × <i>UNIONR</i>	-0.002*** (6.71)	-0.002* (1.81)
<i>SIZE</i>	-0.004*** (21.07)	-0.014*** (10.92)
<i>LIT</i>	-0.002*** (5.97)	-0.003 (1.27)
<i>LEV</i>	0.006*** (11.45)	0.013*** (4.82)
<i>GROWTH</i>	-0.002*** (7.22)	0.005** (2.27)
<i>ROA</i>	-0.001 (0.75)	-0.042*** (4.00)
<i>SEO</i>	-0.002*** (4.76)	0.001 (0.20)
<i>MA</i>	-0.001*** (3.34)	-0.000 (0.32)
<i>EARNVOL</i>	-0.003*** (4.46)	-0.004 (1.01)
<i>ANALYFOL</i>	-0.000*** (13.05)	-0.002*** (12.66)
<i>NASD</i>	-0.004*** (10.57)	-0.006** (2.57)
<i>PRICE</i>	-0.000* (1.81)	0.000 (0.25)
<i>VOL</i>	0.018*** (5.91)	0.166*** (3.26)
<i>STDRET</i>	0.009*** (6.29)	0.043*** (4.46)
<i>HERFIN</i>	0.000 (0.26)	0.006 (1.18)
<i>IROA</i>	0.013*** (7.43)	0.045*** (4.39)
Constant	0.045*** (55.41)	0.265*** (44.71)
Year Fixed Effects	Yes	Yes
Observations	18,780	3,917
Adj. R-squared	0.502	0.450

T-statistics clustered by firm are presented in the parentheses. * significant at 10%; ** significant at 5%; *** significant at 1% (two-sided test). Variable definitions are provided in the Appendix.