Do Managers Withhold Good News from Labor Unions?

Richard Chung
Griffith University, Australia

Bryan Byung-Hee Lee
University of Macau, Macau

Woo-Jong Lee*
The Hong Kong Polytechnic University, Hong Kong

Byungcherl Charlie Sohn
University of Macau, Macau

October 2013

Abstract

With scarce empirical support, prior literature argues that managers tend to withhold good news and promote bad news to preserve their bargaining power against labor unions. This paper provides evidence on this rarely supported argument. Using comprehensive firm-level data in Korea where labor unions have a long tradition of making credible threats, we find that overall disclosure frequency is negatively related to labor union strength, and that this relation is more pronounced in firms with good news. We also find that firms with strong labor unions withhold good news during the labor negotiation period and release it in a gradual fashion afterwards and this pattern is more prominent than that of the firms with weak or no unions, implying that managers time news disclosure considering bargaining schedules to achieve better outcomes in labor negotiations. These results are robust to a battery of sensitivity tests.

Key Words: Labor Union, Disclosure, Timing Disclosure

JEL classification: G14, J50, M41, M54

Do Managers Withhold Good News from Labor Unions?

1. Introduction

Managers facing organized labor often take strategic actions to lower a firm's perceived ability to meet a wage demand. Such managers tend to hold less cash (Klasa, Maxwell, and Ortiz-Molina, 2009), cut dividends (DeAngelo and DeAngelo, 1991), manage earnings downward (DeAngelo and DeAngelo, 1991), miss analysts' forecasts (Bova, 2013), and strategically choose accounting methods (Bowen, Ducharme, and Shores, 1995; Cullinan and Bline, 2003; D'Souza, Jacob, and Ramesh, 2000) to project a negative picture and, as a result, better cope with labor's wage demands. In a similar vein, earlier research argues that such managers are reluctant to share information on firms' prospects with labor so as to preserve bargaining power (Kleiner and Bouillon, 1988; Leap, 1991; Hilary, 2006). Surprisingly, however, empirical evidence to support the claim that management strategically shares information with labor unions is scarce. This paper, thus, aims to fill this gap by exploring strategic disclosure policies of unionized firms.

We posit that managers facing organized labor tend to disclose less on average, and that they withhold good news and promote bad news to paint a pessimistic picture about the firms' prospects. We also predict that this asymmetric news disclosure is more prominent during the collective bargaining process than it is during other periods of the year. Consistent with the prediction, we find strong evidence that labor union strength is negatively associated with disclosure frequency using a large sample of Korean listed firms for the 2003-2007 period. Furthermore, we report that this negative association between union strength and disclosure frequency is mainly driven by good news firms. We also find that mangers time news disclosure

by withholding good news during the labor bargaining period and then releasing it in a gradual fashion when the bargaining is over. Withholding good news during the labor negotiation period stems from managers' strategic disclosure policy, which is intended to reduce the excessive surrender of the company resources to the unions. Our main findings are robust to controls for management compensation structure, Korean corporate culture, and endogeneity of union strength, different variable specifications, and other various sensitivity tests.

In establishing the empirical association between labor union and disclosure activities, we particularly benefit from Korean contexts for the following reasons. First, Hilary (2006) argues that using raw disclosure may not capture the whole information flow because management can reveal information to financial markets through various alternative channels. However, the regulatory body of Korea, the Financial Supervisory Service (FSS, similar to the SEC in the U.S., http://englishdart.fss.or.kr/) requires all Korean listed companies to disclose their material information to the public simultaneously before they provide the information to a limited number of market participants such as financial analysts, institutional investors, foreign investors, etc (KSE 2002; KRX 2005).[1] In so doing, disclosing firms have to file details of their disclosure on the Korea Investor's Network for Disclosure (KIND) System which is operated by the Korean stock market, as well as on the Data Analysis, Retrieval and Transfer (DART) System which is operated by the FSS. We term this Reg FD (Regulation Fair Disclosure). As a result of Reg FD, important corporate information relevant to firm value must be disclosed in a fair and timely manner. This naturally enables us to address Hilary's (2006) concern because the Reg FD rules preclude other sources of information flow from Korean firms to the public and thereby making

---

[1] The Korean stock market specifies the "material" information subject to Reg FD by disclosure regulation. It includes "Future Business & Management Plan", "Forecasts of Sales, Operating Income, Continuing Business Income Before Tax (or Ordinary Income), or Net Income", "Preannouncement of Sales, Operating Income, Continuing Business Income Before Tax (or Ordinary Income), or Net Income" and "Major Managerial Issues" (KSE 2002; KRX 2005).

their fair disclosures the only outcome of firms' strategic disclosure policy.

Besides the advantage of an empirical proxy for disclosure quality, we also have good reasons to pay attention to Korean companies. In the U.S., empirical evidence on labor unions has been largely scarce because no comprehensive firm-level measure of unionization rate is yet available.[2] In contrast, Korean listed firms are required to report the number of union workers in their annual reports from which we can retrieve comprehensive firm-level unionization rate for each firm in a given year. This study thus takes advantage of such a unique disclosure requirement in Korea.

Furthermore and more importantly, the labor union plays a significant role as a non-financial stakeholder in Korea. In an annual report published by the World Economic Forum (WEF) in 2009, South Korea fell six places in global business competitiveness, landing 19th.[3] The WEF attributed the decline in part to the difficulty of hiring and firing employees, which leaves employers to work out temporary employment contracts. On the WEF's labor-management relations list, Korea ranks the 3rd to the last. With their proud tradition of fierce protests harking back to their resistance against the military dictatorships of the 1970s and 80s, labor unions in Korea still remain radical and often militant.[4] Accordingly, labor unions' threats are perceived as highly credible in Korea, which provide sufficient incentives for management to initiate actions against such threats. To the extent that the unionization rate validly proxies for the

---

[2] With admitting this potential limitation, some recent papers have employed industry level measures of unionization rate based on survey data for U.S. firms (Chen, Kacperczyk, and Ortiz-Molina, 2011; Hilary, 2006; Matsa, 2010). For example, to measure labor strength, Hilary (2006) uses the interaction of the industry-level unionization rate (i.e., the percentage of employees in the 3-digit industry who are represented by a union) and the firm-level labor intensity (i.e., the firm's number of employees scaled by total assets). More recently, other studies try to construct the firm-level data by aggregating establishment-level data from the FMCS (Federal Mediation and Conciliation Service) but it is also far from comprehensive. Note that Chyz, Leung, Li, and Rui (2011) identify less than 300 distinct firms from FMCS. Notably, this "estimated" firm level proxy for unionization rate can suffer from nontrivial measurement errors.

[3] See "Union's Absurd Demands Only Jeopardize Korean Auto Industry (*Chosunilbo*, 22 March 2010)", available at http://english.chosun.com/site/data/html_dir/2010/03/22/2010032200780.html.

[4] "Militant Labor Activism Can't Protect Jobs (*Korea Focus*, 10 August 2009)", available at http://www.koreafocus.or.kr/design2/layout/content_print.asp?group_id=102694.

magnitude of these threats, we expect that a Korean sample would provide us with a more powerful test.[5]

Our findings add to the disclosure literature in several ways. Healy and Palepu (2001) note the absence of evidence in the literature about the effect of agency problems on corporate disclosures. We contribute by showing how agency problems, attributable to the informational dynamics between management and employees, affect disclosure strategy. In a recent paper, Bova (2013) documents that, in the face of organized labor force, managers tend to miss analysts' consensus forecasts by taking less action to guide forecasts downward when estimates are too high, but more action to deflate earnings when expectations are too low. By focusing on fair disclosures, this paper expands the scope of disclosure to a broader level which takes place even before managers communicate with analysts.

Our paper also complements Hilary's (2006) findings on the positive association between labor union strength and information asymmetry by suggesting a specific channel how information asymmetry of unionized firms becomes more severe in financial markets. We also contribute to the literature on disclosure costs. Apart from the potential benefits of disclosures (e.g., reduced cost of capital), there are also costs if the disclosures reveal proprietary information about the firm's prospects to related parties such as business competitors (Verrecchia, 2001). We contribute to this stream of research by identifying employees as another important information user especially when they exhibit excessive rent-seeking behavior. Recognizing the incentives and behaviors of management and labor unions is particularly important for both parties in the labor negotiation process. We also contribute to the research stream on mangers' "timing" of information flow. DeAngelo and DeAngelo (1991) document that firms report lower

---

[5] Similarly, Lara, Manuel, Osma, and Mora (2005) attribute persistent income decreasing strategies in code law countries to the existence of strong labor unions.

income and cut dividends during union negotiations. According to Chen and Mohan (1994), managers are more likely to change earnings announcement dates when the earnings are less than expected. In contrast, Liberty and Zimmerman (1986) do not find evidence that managers conduct income-decreasing earnings management during labor negotiations. Bova (2013) finds that unionized firms are more likely to miss mean consensus analysts' earnings forecasts to signal a negative outlook to their unions, but this tendency is not restricted to the period just before the labor negotiation process. We add a piece of evidence supporting managerial timing of disclosure in the context of labor relations by showing that managers in unionized firms withhold good news during the collective bargaining process and then release it in a smooth fashion subsequently.

More importantly, we specifically propose asymmetric disclosure behaviors to withhold good news and promote bad news in unionized firms. While various incentives can motivate management to release or withhold their private information (Healy and Palepu, 2001; Verrecchia, 2001), the incentive to withhold good news and promote bad news has not been frequently discussed in the literature. The only exception is that managers do so in the period immediately preceding option grant dates to lower the exercise price of their options (Yermack, 1997; Aboody and Kasznik, 2000).[6] On the other hand, there is abundant evidence that management has incentives to withhold bad news for various reasons, such as career concerns (Nagar, Nanda, and Wysocki, 2003; Kothari, Shu, and Wysocki, 2009). By focusing on their incentives to gain favorable terms in the labor negotiation process, we add a new piece of evidence to this literature on very rare cases in which management withholds good news and promotes bad news.

---

[6] One may consider managers' tendency to quickly disclose bad news to reduce litigation risk as another exception but this case does not necessarily require management to withhold good news (Skinner, 1994; 1997).

This paper is organized as follows: Section 2 introduces institutional background for Korean labor markets; Section 3 reviews prior literature and develops the main research hypotheses; Section 4 explains variable measurements and the empirical design; Section 5 describes our data and sample and provides the main empirical results; Section 6 conducts sensitivity tests; and Section 7 concludes.

2. Institutional Background

2.1 Labor Negotiations

Labor negotiations in Korean industry have several unique characteristics. Despite no existence of clear rationale, it has been a long tradition for the management and labor unions to do the annual wage negotiations in spring in Korea (and Japan).[7] The collective bargaining is done once a year in most Korean firms and the timing is the second calendar quarter for the majority of firms. Most firms start wage negotiations in April since management and labor unions can start the negotiation three months in advance to the calendar month of previous year's negotiation settlement, which is usually June. That is, most Korean firms do not finish their collective bargaining in the early part of the second quarter but use the whole second quarter.

The typical labor negotiations in Korea take the form of collective bargaining in which all the topics including wage increases, work condition improvements, compensation packages for the union leaders who commit to union-related works only are dealt with at the same time without any sequence. Once the labor contract is signed by the manager and labor union, it is not subject to renegotiation in general. Thus newly revealed good news after the wage negotiation is over may be considered by the labor union in the subsequent period wage bargaining but does

---

[7] This collective bargaining is called "spring labor offensive" or "*shunto*" because it falls in spring every year. See "South Korea's Workers Return to the Streets (*The Economist*, 29 April 1999)", available at http://www.economist.com/node/202276.

not provoke renegotiations.

2.2 Corporate Structure

The corporate structure and culture are also unique in Korea. Many firms are affiliated to a business group called "Chaebol." This business group provides internal funding and support to its member firms. For example, Samsung Life Insurance has played a role as the internal bank for the member firms in Samsung Group since Chaebol is prohibited from holding a bank by law in Korea. The performance of each individual legal entity, not the performance of the whole member firms in a Chaebol, is the base for incentive pay determination. The corporate culture in Korea is not the same as either that of Japan or the U.S. Sometimes the benefit of the whole business group can dominate the benefit of individual firms like in Japanese firms. However, labor negotiations are primarily on individual firm-basis like in U.S. firms.

The group firm structure may affect management compensation, which in turn can influence managerial disclosure strategy. For example, pay level is higher for Chaebol firms than non-Chaebol firms on average. Managers of Korean firms are also granted incentive pay such as stock options but it is not as prevalent as in U.S. firms. Chaebol firms are more likely to use stock options in their executive compensations. Cash bonus and stock options are usually based on the accounting performance rather than stock prices. This supports our premise in the following section that managers have incentives to withhold good news from labor unions because mitigating excessive wage increases can help report higher accounting profits.

In Korea, labor negotiations are conducted on the firm level. Sometimes labor unions in the same industry can take industrial actions together at the same time to maximize their bargaining power against their management, or they do wage negotiations under the guidance by the upper level union associations. However, it is highly unlikely that the member firms in the

same Chaebol conduct their labor negotiations on the business group level, even if a business group like Chaebol can affect its member firms' unionization status.

The KIND system, from which we extract the disclosure data, does not allow a business group like Chaebol to disclose either group-wide news or its member firms' news. Only an individual legal business entity can disclose its own news. Of course, a Chaebol can disclose group-wide or member firm-specific news through other channels such as press releases but this is out of our study's scope.

3. Related Literature and Hypothesis Development

3.1 Labor Union and Disclosure

There is a stream of research on the unions' role in diverse corporate decisions on operating, financing, and investing activities. Empirical research on the effect of labor unions on firm performance typically addresses the related operating productivity or costs. Previous findings suggest a trade-off between the costs and benefits of a labor union with regard to its effect on firms' operating profitability. A labor union typically has a positive effect on the productivity of a firm (Bronars and Deere, 1994; Hirsch, 1991). However, the effect of unions on the improvement of productivity is offset by escalated labor compensation costs, eventually leading to reduced profitability (Bronars and Deere, 1994).

Managers' strategic incentives arising from considerations for favorable bargaining positions against labor unions also have a substantial impact on corporate financing decisions. As maintaining a high level of corporate liquidity can encourage workers to raise their wage demands, a firm with external finance constraints has an incentive to use the cash flow demands of debt service to improve its bargaining position with workers (Matsa, 2010). Such liquidity

concern also motivates managers to hold less cash in order to shelter corporate income from labors' demands (Klasa et al., 2009).

The research also consistently shows that labor unions influence investment decisions. For example, unions limit the level and riskiness of firms' investments (Bronars, Deere, and Tracy, 1994). The rationale for this empirical regularity is that because unions are rent-seekers, they use the threat of a strike to appropriate quasi-rents that would otherwise flow to investments (Hirsch, 1992), thus reducing management's incentives to make risky investments.

Hilary (2006) investigates the effect of labor union strength in terms of its capital market consequences. Using several proxies for information asymmetry, he documents a positive association between labor union strength and information asymmetry. However, he does not investigate the direct channel through which managers facing strong labor unions bring about information asymmetry in the financial market. In sum, labor unions play a significant role in key aspects of corporate decisions and give rise to important capital market consequences.

Despite labor's impact on diverse corporate decisions and market consequences, much less is known about its impact on firms' disclosure policy. Various incentives can motivate managers to disclose or withhold their private information (Healy and Palepu, 2001; Verrecchia, 2001). Managerial commitment to quickly and fully disclose private information, good or bad, can reduce information asymmetry (Glosten and Milgrom, 1985; Diamond and Verrecchia, 1991; Verrecchia, 2001; Healy and Palepu, 2001), which in turn increases firm value.[8] However,

---

[8] Information asymmetry exists when certain investors (informed investors) have private information on a firm, whereas others (uninformed investors) do not. The level of information asymmetry is important in capital markets because uninformed investors require compensation for taking risks in trading with informed investors, which indicates that information asymmetry is positively related to the cost of capital. Diamond and Verrecchia (1991) suggest that more frequent disclosure results in greater liquidity because of reduced information asymmetry, which in turn lowers the cost of capital. Merton (1987) offers the Investor Recognition Hypothesis, which posits that investors with insufficient knowledge of a certain firm (i.e., uninformed investors) will not purchase that firm's stock. Accordingly, if greater disclosure activity enables investors to assess a firm's value more accurately and reduces the cost of processing firm-specific public information, such activity will induce more uninformed investors

existing theories suggest that disclosure costs that arise from the proprietary nature of information may sometimes prevent full disclosure (Verrecchia, 2001). When disclosure is costly to the firm, a manager attempting to maximize firm value will disclose information only if it is favorable (e.g., Verrecchia, 1990). Managers know that the labor unions actively collect and use firms' information on operating, financing, and investing activities and the related outcomes to enhance their wage negotiation ability. Therefore, labor unions apparently generate costs regarding managers' full disclosure. As a result, managers facing organized labor take strategic actions when deciding whether and how much information to disclose.[9] The above discussions lead to our first testable hypothesis (in alternative form):

H1: Managers' disclosure frequency decreases with the strength of the labor union, *ceteris paribus*.

3.2 Labor Union and Asymmetric Disclosure

Related studies document several incentives to withhold a certain type of news (i.e., asymmetric disclosure behaviors). Managers have incentives to withhold *bad* news relative to *good* news under a standard agency problem where managerial disclosure preferences are not aligned with those of shareholders (Healy and Palepu, 2001; Verrecchia, 2001; Kothari et al.,

---

to trade the firm's stock. In sum, the negative association between disclosure activity and information asymmetry is evident in both theoretical and empirical studies.

[9] On the other hand, as Jensen and Meckling (1976) argue, if unions become entrenched and force extreme underinvestment and/or extract too much rent, then agency costs increase and the overall stakeholders, including unions, are worse off. Thus, under the rent-seeking theory, unions can be effective monitors as long as they are not entrenched. A recent study provides additional support for unions' monitoring role. Among others, Chen et al. (2010) argue that because union workers' contractual wages and benefits are similar to the payoff on risky debt, unions are likely to have preferences similar to those of bondholders. If so, the union strength will limit managerial actions that shift wealth away from bondholders, who accordingly charge a lower cost of debt. Consistent with this argument, they report that the cost of debt decreases with union strength, implying that unions reduce agency costs of debt. Based on such a monitoring role of labor unions, one may predict a positive association between labor union strength and disclosure quality. However, it is difficult to believe that unions can indeed participate in disclosure decisions and force management to disclose more. Rather, it is more reasonable to posit that managers consider the possible role of the labor force in deciding whether and how much they disclose.

2009). This differential disclosure incentive stems from a variety of factors, including formal compensation contracts, career concerns, reputation concerns, and empire building (Ball, 2009; Graham, Harvey, and Rajgopal, 2005; Khan and Watts, 2009; LaFond and Watts, 2008). For these reasons, managers often delay bad news disclosures in practice (Graham et al., 2005).

Relative to the abundant evidence for incentives to withhold bad news, evidence for the opposite (i.e., incentives to withhold good news) remains few and far between. To our knowledge, two exceptions can explain why managers promote bad news and delay good news disclosure. First, litigation risk can motivate managers to quickly reveal bad news as they face a greater loss function with bad news (Kasznik and Lev, 1995; Skinner, 1994, 1997; Baginski, Hassell, and Kimbrough, 2002). Second, managers do so in hope of influencing the exercise price of their options (Yermack, 1997; Aboody and Kasznik, 2000).

We propose labor union strength as the third motive that induces managers to delay good news and prompt bad news disclosures. Hilary (2006) cites evidence which suggests that revealing information in a unionized environment weakens management's position during the collective bargaining process. It is particularly true if a firm creates a sufficient rent as labors are quasi rent-seekers. We thus expect that managers' tendency not to reveal private information is more pronounced in firms with good news, leading to cross-sectional differences in disclosure activities across good versus bad news firms. Based on this reasoning, we formalize our second hypothesis (in alternative form):

H2: Managers' disclosure of good (bad) news decreases (increases) with the strength of the labor union, *ceteris paribus*.

3.3 Labor Union and Disclosure Timing

Prior literature examines managerial timing in various arenas. For example, DeAngelo and DeAngelo (1991) document that firms report lower income and cut dividends during the labor negotiation process. In contrast, Liberty and Zimmerman (1986) do not find evidence that managers conduct income-decreasing earnings management during labor negotiations. Chen and Mohan (1994) document that managers are more likely to change earnings announcement dates when earnings are less than expected, and that this tendency is more pronounced in small firms. More closely related papers to our study are Yermack (1997) and Aboody and Kasznik (2000). They report that managers withhold good news and promote bad news in the period immediately preceding option grant dates to lower the exercise price of their options. However, prior studies on disclosure timing, especially in terms of labor relations, are relatively scant. Bova (2013) finds that unionized firms are more likely to miss analysts' earnings forecasts using both earnings management and expectations management to signal a negative outlook to their unions, but this tendency is not restricted to the period just before the labor negotiation process. Though his paper focuses on firms' meet-or-beat forecast strategy rather than on comprehensive news disclosures, it motivates us to draw another interesting prediction.

In previous sections, we have considered the effect of union strength on the average level of news disclosure throughout the year. However, managers not only reduce (increase) the annual level of good (bad) news disclosures facing strong labor unions but also can time when to intensify and relax such asymmetric news disclosures taking labor negotiation schedules into account. In other words, managers can withhold good news and promote bad news during the collective bargaining process to a greater extent than during other periods of the year. However, mangers cannot withhold good news forever (if it is subject to the mandatory disclosure) and will release it to the market when the bargaining process is over. Similarly, the accelerated

announcement of bad news during the bargaining process will cause an abnormal decrease of bad news disclosures subsequently. We expect that this temporal pattern of asymmetric disclosure within a year will be more prominent for the firms with stronger labor unions. Unlike U.S. firms, Korean firms engage in yearly collective bargaining. Since the vast majority of Korean firms follow Japanese tradition of *Shunto* to bargain in the second calendar quarter of the year, we can test this within-year temporal pattern of the asymmetric disclosure in the spirit of an event study. We formalize this test as our third hypothesis (in alternative form):

H3: Managers' disclosure of good (bad) news decreases (increases) during the collective bargaining process with subsequent reversals, and this timing of asymmetric news disclosure is more pronounced for firms with stronger labor unions, *ceteris paribus*.

4. Research Design

To test our main hypotheses, we follow prior studies for regression specification. As recognized by Larcker and Rusticus (2010), however, a complete structural determinant model of disclosure quality has not been developed. Healy and Palepu (2001) suggest various motives for voluntary disclosure such as capital market transactions, corporate control, stock compensation, litigation, management talent signaling, and proprietary cost. We adopt equity offer dummy to control for capital market transaction motives (Lang and Lundholm 1993). We include return on assets (ROA), loss dummy, and contemporaneous stock return to control for managers' concerns about the firm performance because of corporate control problems (Warner, Watts, and Wruck, 1988; Morck, Shleifer, and Vishny, 1990; DeAngelo, 1988), and firm size, and industry dummy to control for their concerns about takeover threats (Brennan, 1999). We also control for managers' concerns on the proprietary cost by including the Herfindahl-Hirschman index on the

rationale that the proprietary cost incurred by disclosures is larger when industry competition is intense (Verrecchia, 2001; Dye, 2001). We also include the control variables adopted in Larcker and Rusticus (2010), which are the natural logarithm of the number of shareholders, length of operating cycle, the presence of a Big auditor, book-to-market ratio, number of analysts following the firm, and leverage. We add a Chaebol dummy and foreign ownership because they may be important factors affecting the corporate governance of Korean firms. Specifically, we estimate the following regression to test our main hypotheses:

$$
\begin{aligned}
DEP_{it} = {} & a_0 + a_1 Union_{it} + a_2 Log(\#Owners)_{it} + a_3 Offer_{it} + a_4 RET_{it} + a_5 Loss_{it} + a_6 HHI_{it} \\
& + a_7 OpCycle_{it} + a_8 BigAudit_{it} + a_9 Size_{it} + a_{10} BM_{it} + a_{11} Log(\#Analysts)_{it} + a_{12} LEV_{it} \quad (1) \\
& + a_{13} ROA_{it} + a_{14} Chaebol_{it} + a_{15} ForOwn_{it} + \sum Year + \sum Ind + \varepsilon_{it}
\end{aligned}
$$

where *DEP = Log(#Disclosures)* is the natural logarithm of one plus the number of disclosures for firm *i* in year *t* in testing H1. To gauge labor union strength (*Union*), which is the variable of our main interest, we define two measures – union existence and unionization rates. *Union*, thus, equals either unionization rate (which is the proportion of the number of union members to the number of total employees), or the union existence (which equals one if some employees are union members, and zero otherwise).[10] The detailed definitions of all the variables are summarized in Appendix A. We estimate Eq. (1), which includes year and industry fixed effects, using pooled regressions with standard errors clustered at the firm level (Petersen, 2009).[11, 12] Hypothesis 1 predicts that coefficient a_1 is negative.

---

[10] Litigation risk also influences the incentive for corporate disclosure (Skinner, 1994). We expect stock returns, loss indicators, ROA, firm size and industry dummies to sufficiently capture the litigation risk of a firm as in prior studies (Simunic, 1980). However, it should be noted that Korea is a code law country with a strong German law origin and Korean firms are therefore rarely exposed to shareholder litigation (La Porta, Lopez-De-Silanes, and Shleifer, 2006).

[11] For industry classification, we rely on a 3-digit KSIC (Korea Standard Industry Code, which is very similar to SIC) defined by the Bureau of Statistics. We then construct 29 industry dummies to capture industry-specific effects on disclosure activities.

[12] We also repeat all the regressions in this paper using the Fama and MacBeth (1973) method after correcting serial correlations and find that the main implications are unaltered.

To test H2 and H3, we manually read the content of each piece of news and classify it into good, bad, or neutral news. See Appendix B for the detailed criteria of news classifications and the examples of good, bad, and neutral news. We redefine *DEP = Log(#News Disclosures)* as *Log(#Good News Disclosures)* or *Log(#Bad News Disclosures)*, which are the natural logarithms of one plus the number of good or bad news disclosures for firm *i* in year *t*, respectively, and regress Eq. (1) for the whole sample. Hypothesis 2 predicts that coefficient a_1 is negative (positive) for the good (bad) news disclosure.

To test H3, we redefine *DEP = Log(#News Disclosures)* as *Log(#Good News Disclosures)* or *Log(#Bad News Disclosures)*, which are the natural logarithms of one plus the number of good or bad news disclosures for firm *i* in "month *m*", respectively, and construct quarter indicator variables *Q1*, *Q2*, and *Q3* or month indicator variables from January to November, which takes the value of one if the news is disclosed in the corresponding quarter or month, and zero otherwise. We then interact each of these timing indicators with *Union* to see whether the impact of *Union* on good and bad news disclosures is different in the second calendar quarter (or in the months from April to June) compared to other quarters (or months) of the year. Hypothesis 3 predicts that the coefficients on *Union*Q2*, *Union*April*, *Union*May*, and *Union*June* are negative (positive) for the good (bad) news disclosure.

5. Empirical Results

5.1 Data description

Our sample covers non-financial companies listed on the Korean Stock Exchange from 2003 to 2007. In our sample period, all listed firms are required to report the number of union members and the number of total employees in the electronic corporate filing services of the

Financial Supervisory Services (FSS, equivalent to the SEC in the U.S.). We hand-collect the data to construct the firm-year level unionization rate measures (the fraction of the number of union members to the number of total employees). In addition to the union data, we retract the annual frequency of disclosure data from the Korea Investor's Network for Disclosure (KIND) System, and financial data and ownership data from two databases developed by the Korea Listed Companies Association (KLCA) and the Korea Investors Service (KIS), respectively. We also read the individual news disclosed by our sample firms from the KIND System and manually classify them into good, bad, or neutral news. The observations are deleted if the data on firm-year level unionization rates or on the main variables used in our analyses are missing. To alleviate concerns over potential problems arising from the existence of extreme outliers, we winsorize observations that fall within the top and bottom 1% of the annual empirical distributions of our major research variables. We follow the standard procedure of dropping the data on financial institutions. After applying these sample selection criteria, we have a final sample of 2,084 firm-years and 372 unique firms during our sample period.

Table 1 Panel A shows that the average unionization rate is 34.3% in our sample, whereas the average number of disclosures is 2.34 per year.[13] This indicates that material news disclosure is not a daily management activity for Korean firms. However, its standard deviation is 3.48, indicating that the variation of disclosure frequency across firms is fairly large. The average number of good, bad, and neutral news disclosures is 1.22, 0.39, and 0.73 per year, respectively. One notable observation is the book-to-market ratio (*BM*). Its mean value is 1.846, which is well known as the "Korea discount", meaning that the market value is lower than the book value of

---

[13] We find that 591 firm-year observations have zero union members. To make sure that our results are not driven by these no-union samples, we repeat our analyses after excluding them but the tenor of our findings is unaltered.

equity. As shown in many papers (e.g., Black and Kim, 2012), this is a characteristic of the entire sample of Korean listed firms.

Panel B compares firm characteristics across the high versus low unionization subsamples. We divide samples into two by the sample median of unionization rates. This shows that firms with a high unionization rate make fewer disclosures than their counterparts, consistent with our Hypothesis 1. They also disclose less good news and more bad news (the difference is statistically significant), consistent with our Hypothesis 2. They are larger, followed by more analysts, owned by more foreign investors, and more likely Chaebol firms as well. Their book-to-market ratio and leverage are also higher while their operating cycle is shorter. Both firms with high and low unionization rates have a similar degree of number of shareholders (*Log(#Owners)*), equity offer activity (*Offer*), stock return (*RET*), loss reporting propensity (*Loss*), market competition (*HHI*), ROA, and hiring Big auditors. However, these univariate comparisons do not control for other factors affecting disclosure frequency or asymmetric disclosure of good versus bad news. We address this issue in the multivariate regression analyses in the following subsections.

[INSERT TABLE 1 ABOUT HERE]

5.2 Do Mangers Reduce Disclosures When Facing Strong Labor Unions?

We investigate the effect of labor union strength on managers' choice of disclosure frequency using Eq. (1) and report the empirical results in Table 2. Column (1) shows that the coefficient on the union existence dummy is negative and significant at the 1% level (-0.182, p-value < 0.01). The result is similar when the continuous variable, unionization rate, is used in column (2). Its coefficient is negative and significant at the 1% level (-0.200, p-value < 0.01). The effect of a labor union on the decrease in disclosures is also economically significant. The

17

number of disclosures decreases by 23.8% when a labor union emerges in a firm, and by 7.8% when the unionization rate increases by one standard deviation of its distribution, holding other variables at their means.[14] The adjusted R^2 is about 40%, indicating that Eq. (1) is well specified to explain managers' decision regarding disclosure frequency. We use clustered OLS regressions for columns (1) and (2) after taking a natural logarithm of *#Disclosures*. However, *#Disclosures* is the left-side-censored variable at zero, which violates the assumption of a normal distribution of the dependent variable for OLS. To address this concern, we use negative binominal regressions with the same specifications in columns (3) and (4).[15] The results are qualitatively similar except that the statistical significance declines to the 6% level when the unionization rate is used as the main test variable in column (4). In sum, the results in Table 2 are consistent with H1 that managers for firms with stronger labor unions are less likely to make contemporaneous disclosures, possibly to increase their bargaining power during the labor negotiation process.

Turning to the control variables, managers' disclosure propensity increases in the number of shareholders, equity offer dummy, firm size, and analyst coverage, and decreases in the book-to-market ratio. Disclosure frequency also increases for the client firms of Big auditors. This is generally consistent with prior studies (Lang and Lundholm, 1993; Larcker and Rusticus, 2010). The coefficient on the Chaebol dummy is positive and significant in columns (1) and (2) but insignificant in columns (3) and (4). The coefficients on stock return, loss dummy, Herfindahl-Hirschman index, operating cycle, leverage, ROA, and foreign ownership are insignificant.

---

[14] The mean of the number of disclosures is 2.337, so its log value = log(1+ 2.337) = 1.205. When a union emerges, this log value decreases by 0.182 (the coefficient on union existence dummy), making a new log value = 1.205 – 0.182 = 1.023. Its raw value = exp(1.023) = 2.782, which becomes 1.782 after subtracting 1. So the percentage change is (1.782 – 2.337)/2.337 = -23.8%. In a similar way, exp(1.205 – 0.200*0.281) – 1 = 2.155, (2.155 – 2.337)/2.337 = -7.8%, where -0.200 is the coefficient on unionization rate and 0.281 is the standard deviation of unionization rate.

[15] The negative binomial specification is preferred when a dependent variable ranges among nonnegative integers (Rock, Sedo, and Willenborg, 2000). We also redo Eq. (1) using Poisson regressions with raw disclosure frequency data and find that the results of Table 2 hold robust. Using these alternatives does not change the tenor of our findings in subsequent analyses as well.

[INSERT TABLE 2 ABOUT HERE]

5.3 Are Managers More Likely to Withhold Good News Disclosures?

Next, we examine the possibility of the asymmetric effect of union strength on managers' good versus bad news disclosure propensity. We read the individual disclosures of all the sample firms and classify them into good, bad, or neutral news manually. Panel A of Table 3 shows that on average, 45.0% (18.8%) of the sample firms disclose good (bad) news at least once during the sample period.[16] Similar to earlier findings based on U.S. firms, Korean firms disclose good news more often than bad news (e.g., Lev and Penman, 1990).

The regression results using these data are reported in Panel B of Table 3. For brevity, we only report the results using the unionization rate but the results using the union existence dummy are qualitatively the same. As shown in column (1), when the dependent variable is *Log*(#*Good News Disclosures*), the coefficient on *Union* is negative and significant at the 1% level (-0.183, p-value = 0.01). In contrast, it is positive (though insignificant) in column 2 (0.013, p-value = 0.78) when the dependent variable is *Log*(#*Bad News Disclosures*). We find a similar result using the negative binominal approach in columns (3) and (4). In sum, the results in Table 3 Panel B support our second hypothesis (H2) that managers withhold good news and promote bad news to a greater extent when their labor unions are stronger. We omit the explanations for the coefficients on control variables in this and following tables since they are qualitatively similar with those reported in Table 2.

[INSERT TABLE 3 ABOUT HERE]

5.4 Do Managers Time Good versus Bad News Disclosures according to Labor Negotiation Schedules?

---

[16] 938/2,084 = 45.0%, 391/2,084 = 18.8%

Our analyses thus far have examined the average disclosure behavior of firms throughout the year. In doing so, we posit that managers can withhold some news (e.g., good news) permanently from labor unions. However, managers can also withhold some news *temporarily* to weather a collective bargaining schedule given the amount of annual disclosures. It may be more interesting and important to test whether managers constrain (promote) good (bad) news disclosures during the labor negotiation process to a greater extent than during other periods of the year when their labor unions are strong because we claim that managers withhold good news and promote bad news primarily to preserve better positions during the collective bargaining process to cope with labor unions' rent seeking behavior. The results of this analysis are summarized in Table 4. For brevity, we report the results using the unionization rate only but the results using the union existence dummy are qualitatively similar. For economy's sake, we report only the results using the negative binominal approach, which is more conservative, but the results using OLS are almost identical. Columns (1) and (2) report the results for good news disclosures. We first regress Eq. (1) after adding three quarter-indicator variables, *Q1*, *Q2*, and *Q3*, and their interactions with *Union* in column (1). In this firm-month data analysis, the coefficient on *Union*, which can be interpreted as the effect of union strength on good news disclosures in the fourth quarter, is insignificantly negative. More importantly, the coefficient on *Union*Q2* is significantly negative (-0.435, p-value = 0.02). This indicates that the results reported in Table 3 on managers' withholding good news from strong unions is concentrated in the second quarter. In column (2), we replace quarter indicators with month indicators and repeat the analysis. The coefficient on *Union* is negative and significant (-0.437, p-value = 0.04), implying that managers withhold good news in December. More importantly, the coefficient on *Union*Month* is negative only for April and June and significantly so for June (-0.621, p-value =

0.08), implying that managers' good news withholding is more pronounced in April and June. In contrast, the coefficients on the interaction variables are more positive in July, August, October, November, January (in subsequent year), and February (in subsequent year) than that of December. This means that managers withhold good news in the second quarter, especially in June during the collective bargaining process and then gradually disclose part of it in the subsequent months after the bargaining is over. The results of similar analysis for bad news disclosures are shown in columns (3) and (4). We find no significant seasonal pattern in this analysis. Overall, our third hypothesis (H3) that managers' asymmetric news disclosure facing strong labor unions is more pronounced during the collective bargaining process and reversed subsequently is partially supported by the results in Table 4.[17]

[INSERT TABLE 4 ABOUT HERE]

Figure 1 plots the number of monthly good and bad news disclosures by unionized and non-unionized firms. We can clearly see that the frequency of good news disclosure decreases significantly during the second calendar quarter (i.e., April to June). Even though this pattern is common for both groups, the decrease of good news disclosure during the second quarter is more prominent for unionized firms, which is statistically tested by the significantly negative coefficient on *Union*Q2* in column (1) of Table 4. The frequency of good news disclosure

---

[17] In contrast with our findings, Bova (2013) documents that managers' behavior of missing analysts' forecasts is not concentrated just prior to the collective bargaining process only but observed in a similar level throughout the remaining period. He suggests several reasons: i) it is difficult to specify which period's earnings need to be manipulated since wages are also positively correlated with profitability changes from several previous years, ii) missing analysts' forecasts just prior to the negotiation process becomes less credible over time because labor negotiations are repeated games, iii) it is also important for managers to keep sending bad earnings signals until the bargaining is over, not just prior to it, because it takes time to set mutually agreeable provisions. We think that these concerns are less critical in our setting. Specifically, unlike accounting earnings, news is not a summary measure of a firm's profitability of a specific period but can affect firm value for the unspecified present and future periods. Repeating to miss analysts' forecasts just prior to the bargaining process hardly seems unintentional but good news, especially "soft talks", can be withheld during the bargaining process repeatedly due to either managerial discretion or no existence of good news. Thus, its credibility as a signal decreases over time to a less extent than the meet-or-beat signal. Finally, we include not only the period just before the negotiation process (i.e., early April) but also the whole period of the process (i.e., mid April to June).

returns to its original level after the second quarter, showing a pattern of reversal as posited in H3. This is consistent with positive coefficients on the interaction variables between *Union* and month-indicators for July, August, October, November, January, and February in column (2) of Table 4. In contrast, there is no distinct seasonal pattern in bad news disclosures for both unionized and non-unionized firms, which is confirmed by the bad news results in Table 4.

[INSERT FIGURE 1 ABOUT HERE]

One may question whether managers' strategic timing of news disclosures can be effective to constrain wage increases in repeated games with unions in a multi-period setting. Unions may not be deceived repeatedly by the same tactic if they can learn from their past experiences in collective bargaining.[18]

However, there can be a possibility for the strategic timing of disclosure to be effective in a repeated game setting. First, unions' revision of prior beliefs by learning from the previous bargaining may not be complete to form unbiased expectations about firms' prospect when the true amount of good news in each period is uncertain to them.[19] Unions may adjust their expectations toward the true amount of good news as the game is repeated. But this learning process requires time and managers can still exploit this time lag until the complete adjustment, if possible, is reached. Since unions' expectations contain errors, which are negatively correlated over time, the level of actual wage increase is cyclical. Even though the long-term average level of wage increases may not be lower than that under full disclosure, the incumbent managers with finite tenure can draw low wage increases at least in current bargaining if they are at the right

---

[18] This is consistent with Pope and Peel (1981), who suggest that full disclosure is the equilibrium at the collective bargaining between the management and labor unions assuming no information processing costs because unions, if they are rational, can form unbiased expectations themselves about the real status of firm performance even without managerial disclosures.

[19] This uncertainty argument is supported by prior studies such as Dye (1985) and Jung and Kwon (1988). Unions are not certain about whether managers do not disclose information or they do not have any information.

time of the cycle. In this sense, withholding good news is still beneficial to some managers, if not to all. Our argument is consistent with Kennan (2001) who shows through an analytical model in a repeated game setting that the effect of private information concealment by buyers on constraining the level of sellers' offer price is cyclical when the level of private information is not perfectly permanent, and thus buyers have a strong incentive to withhold their private information about the true amount of good news to prevent sellers from learning about it. Pope and Peel (1981) also acknowledge that managers can introduce forecast errors in unions' expectations by withholding information.

Second, the information we are dealing with in our study is subject to voluntary disclosure. Managers are not required to disclose qualitative information. For quantitative information such as quarterly sales amount, managers are not enforced to disclose it earlier than the specified mandatory schedule. Therefore, it is managers' choice whether they will disclose the withheld good news after the bargaining is over. If they expect that disclosing this information may result in unions' adverse reactions at the next bargaining, they can remain silent. On the contrary, they can disclose it gradually if they believe that unions' adverse reactions at the next bargaining would be minimal. Our result on H3 is driven mainly by the latter case where strategic timing is less costly to the management.

Third, the withheld good news is disclosed not abruptly but gradually after the bargaining is over. If managers withhold good news to constrain excessive wage increases during the collective bargaining, it is not desirable for them to frustrate unions by disclosing it abruptly as soon as the bargaining is over. Instead, they will disclose it in a smoother way as if the news being disclosed had newly arrived. In Table 4 where more detailed timing indicators are added, good news disclosure decreases in April and June and then increases not only in July and August

but also in October, November, January and February. This increase is most significant in November and January, not in July and August. As a result, unions can be convinced, at least to some extent, that managers did not have good news at previous bargaining.

Fourth, managers are more likely to withhold information if it is more difficult to verify. That is, managers tend to withhold qualitative news to a greater extent than they do quantitative news to cope with collective bargaining. We manually count the number of words contained in each qualitative disclosure, sum it up across all disclosures made by the same firm per year, and then transform one plus this sum into natural logarithm to construct a new disclosure variable (*Log(#Words)*). We regress Eq. (1) after replacing the dependent variable with this variable. The results are reported in column (1) of Table 5. The coefficient on *Union* is negative and significant (-0.328, p-value = 0.04) indicating that the amount of information contained in each piece of news is smaller when unions are stronger. This confirms that managers use qualitative news to manipulate information flows to unions. To see whether managers also manipulate the information content of quantitative news, we compare management forecast accuracy between weak and strong union firms.[20] We regress management forecast errors (for both sales and earnings forecasts) on *Union* and the same control variables in Eq. (1). Forecast errors are computed by (forecasts – actual values)/fiscal year-end stock prices. As shown in columns (2) and (3) of Table 5, the coefficient on *Union* is insignificant. This implies that managers are reluctant to manipulate quantitative news to deter excessive wage increases because its reality can be easily verified by unions subsequently. Rather, managers reduce the amount and clarity of qualitative news during the collective bargaining period because it is more difficult for unions to

---

[20] Due to data characteristics (i.e., management forecasts are issued in a pre-determined format), we could not measure the amount of quantitative news in a parallel way by counting its number of words as we did for the qualitative news. Since quantitative news such as quarterly sales or earnings forecasts are mainly numerical, it is not meaningful to count its number of words.

verify the implications of withheld and subsequently revealed qualitative news. Thus, we conclude that our findings on the managers' strategic timing of news disclosures reported in Table 4 are mainly driven by firms' suppressing "soft talks" containing good news which are considered less material by unions (Hutton et al., 2003).

[INSERT TABLE 5 ABOUT HERE]

6. Sensitivity Tests

6.1 Addressing Endogeneity Issue

These findings can have an alternative explanation. Firms are usually less profitable, more financially distressed, and have lower growth potential in the U.S. when their labor unions are stronger (DeAngelo and DeAngelo, 1991; Liberty and Zimmerman, 1986). Thus they have less good news and more bad news to disclose. That is, the lower (higher) disclosure frequency of good (bad) news is not necessarily due to managerial discretion to cope with wage demands but may be due to poorer company fundamentals. If we see Table 1 Panel B, Korean firms are also more leveraged (*LEV*) and have lower growth potential (i.e., higher *BM*) when they have a union or when their unionization rate is higher. However, they are more profitable (even though the difference is statistically insignificant) and more likely to be Chaebol member firms, which implies that the fundamentals of strong union firms are not the same as those of U.S. firms. We have also included in Eq. (1) *RET, Loss*, and *ROA* to control for the effect of firm profitability on both union strength and disclosure, *LEV* to control for the effect of financial distress, and *BM* to control for the effect of growth. Nevertheless, we try to control for the possible endogeneity of union strength more formally using 2SLS regressions. It is not easy to find a good instrumental variable for this method. Fortunately, however, we do have it for Korean data, which is the ratio

25

of the number of female employees to the number of total employees (*Female*). When the

number of female employees is larger in a firm, its union tends to be weaker. That is, the firm is

less likely to have a union and, if it does, its unionization rate is lower (e.g., Antos et al., 1980;

Hirsch, 1980). In contrast, there is no theoretical or empirical evidence that can establish a

relation between the female worker ratio and disclosure frequency. In short, the female worker

ratio is strongly correlated with union strength but minimally correlated with managerial

disclosure.

We regress the union existence dummy or unionization rate on *Female* and other

explanatory variables such as firm size, leverage, ROA, loss, female CEO and Chaebol dummies,

and year and industry fixed effects in the first stage regression and report the results in Pane A of

Table 6. We adopt *Female* and industry dummy following Antos et al. (1980) and Hirsch (1980)

with other common firm characteristics to potentially affect the degree of unionization. As

expected, the coefficient on *Female* is significantly negative. Specifically, it is -0.769 and -0.194

in column (1) for union existence and column (2) for unionization rate, respectively, both

significant at the 1% level. As for control variables, larger, higher leveraged firms are more likely

to be strongly unionized. Profitability is marginally negatively related to union existence. Using

the fitted value of *Union*, we repeat our main analyses in Tables 2 and 3 and summarize the

results in Panels B and C of Table 6, respectively. The coefficient on the fitted value of *Union* is

still negative and significant for both columns (1) and (2) in Panel B, consistent with H1. Its

magnitude is even larger than that of the corresponding coefficient in Table 2. This indicates that

managers' general tendency of reducing disclosures when their unions are stronger is maintained

after controlling for the endogeneity of union strength. The second stage regression results using

good news are similar in Panel C. When we use *Log(#Good News Disclosures)* as the dependent

variable, the coefficients on the fitted value of *Union* are significantly negative in both columns, consistent with Table 3 and H2.

One possible concern on the validity of female worker ratio as the instrumental variable for *Union* in Eq. (1) is that it can affect disclosure level through the existence of female CEO. Francis et al. (2009) document that female CFOs are more conservative in their financial reporting. Extending this logic, female CEOs also can be more conservative and thus disclose less (more) good (bad) news. The female worker ratio tends to be higher in firms run by female CEOs. To further address this concern, we hand-collect the female CEO indicator information for each firm-year and additionally control for it in the second stage regression.[21] As expected the coefficient on the female CEO indicator is negative and significant (untabulated). More importantly, the main inference in this study is not affected by this control – the fitted value of *Union* maintains its negative sign and significance. In short, the results of robustness tests in this subsection alleviate the concern that our previously reported main results might be driven by the endogenous feature of union strength.

[INSERT TABLE 6 ABOUT HERE]

Another candidate for the endogeneity or correlated-omitted variable problem is product market competition. If firms' investment strategies are more interdependent with their rivals in highly concentrated product markets, they prefer a less informative disclosure policy because the proprietary information can be used strategically by their potential competitors (Clarke, 1983; Gal-Or, 1985; Bhattacharya and Ritter, 1983; Brander and Eaton, 1984; Ali, Klasa, and Yeung, 2009). In contrast, firms can also reduce their disclosures when products are good substitutes in highly competitive markets (Darrough, 1993). If firms operating in the oligopolistic industry

---

[21] We already include it in the first stage regression to account for its possible effect on the union strength. Its coefficient is not significant (see Panel A of Table 6).

have stronger unions than those in a standardized consumer product industry, their reduced disclosures may not result from their union strength but from their fear of proprietary information being used by their competitors. However, the level of market concentration proxied by *HHI* does not differ between high and low unionization firms as shown in Panel B of Table 1, and we already control for *HHI* in our regression analyses. To address this concern more formally, we partition the total sample into i) high and low *HHI* firms, ii) consumer product industry and the other industries, and then repeat our main analyses in Tables 2, 3 and 4. We also interact *HHI* with our *Union* variable and repeat the main analyses. Unreported results confirm that the main findings in previous analyses are universal across subsamples of differing levels of *HHI* or two sets of industries, and that the coefficient on *Union*HHI* is insignificant. This indicates that the negative relation between union strength and disclosure and the effect of union strength on the asymmetric disclosure pattern are not driven by product market competition.[22]

One may also argue that labors are more likely organized in more opaque firms. To address this reverse causality concern, we include the natural logarithm of number of analysts followings in the first stage model regressing *Union* against its determinants, and take the residual values for a new proxy for unionization rates. We suppose that the residual values are orthogonal to firms' information environment. We find that our main implications are unaltered when the *Union* variables are replaced with these residuals.

6.2 Other Sensitivity Tests

We conduct a battery of sensitivity tests to check the robustness of our main findings. First, we repeat our main analyses in Tables 2 and 3 using the change specification to alleviate

---

[22] We also partition our sample into eight industries based on 1-digit KSIC and repeat the main analyses. Our main findings are observed in most of the industry subsamples, indicating that the negative relation between union strength and disclosure frequency and the asymmetric disclosure pattern are not an industry-specific problem.

causality concerns. The results are reported in Table 7. In column (1), we examine whether changes in union existence (i.e., union initiation or union termination) are related to changes in disclosure frequency. We also test whether changes in the unionization rate can explain changes in disclosure frequency in column (2). Note that, in the change specification, we also convert all control variables into change variables. Such first-difference analyses naturally control for firm-specific characteristics that are constant over time, therefore reducing the possibility of a correlated-omitted variable bias. We use *Pr(Δ#Disclosures<0)* as the dependent variable, which is an indicator variable that takes the value of one if the number of disclosures decreases from the previous year, and zero otherwise. The coefficient on *ΔUnion Existence* is positive and significant (2.055, p-value < 0.01) in column (1), suggesting that union emergence (termination) leads to managers' less (more) frequent disclosures. In column (2), changes in unionization rates significantly explain changes in disclosure frequency. The coefficient on *ΔUnionization Rate* is 5.133 and significant at less than the 5% level. We conduct this change specification tests using the good news data and report the results in columns (3) and (4). Here the dependent variable is *Pr(Δ#Good News Disclosures<0)*, which is an indicator variable that takes the value of one if the number of good news disclosures decreases from the previous year, and zero otherwise. The implications in these columns are similar with those of Table 3; that is, managers reduce good news disclosures when the union becomes stronger. In sum, the results using the change specification are consistent with the previous results based on level specification, and mitigate possible concerns about correlated-omitted-variable or weak causality problems.

[INSERT TABLE 7 ABOUT HERE]

The observed seasonal pattern that average level of news (especially good news) disclosures is lower in the second quarter documented in Table 4 can be related to other reasons

rather than managers' withholding good news from unions to preserve better bargaining positions. Customers and business counterparties may want to postpone their purchase orders or contracts until the wage negotiations are settled when each party can have a better idea about the costs of the products and operations for the coming year. In this case, the lower level of good news disclosure is not because managers withhold good news but because they do not have good news in the second quarter. To address this concern, we compute quarterly sales changes and examine their pattern across four quarters.[23] If the above alternative scenario is correct, sales should decrease in the second quarter and then increase in the third quarter abnormally. We find no such evidence (result unreported for brevity). Contrary to the alternative scenario, sales changes are significantly positive in the second quarter and negative in the third quarter. Therefore, the lower level of good news disclosure in the second quarter is not driven by non-existence of good news to the extent that sales data capture the correct level of good news from overall business operations.

The management's compensation structure can affect its incentives in the labor negotiation process. Though not as prevalent as in U.S. firms, managers in some Korean firms are granted incentive pay such as stock options. Since their cash bonuses and stock options are determined mostly based on their firms' accounting performance, they have an incentive to withhold good news during the collective bargaining because constraining excessive wage increases is helpful to maximizing earnings. On the other hand, they may have a counter-incentive to promote good news to boost their firms' stock prices because higher stock prices will lead to their option value increases. To investigate the effect of management compensation

---

[23] Even though sales data do not encompass all types of good news such as signing long-term contracts or building vital strategic alliances with a firm's business counterparties, they can mirror a firm's overall good news because they represent the ongoing core business activities. Please also note that these sales figures are available to outsiders (including labor unions) only about two to three months after each quarter end, so that labor unions cannot infer the withheld news content by referring to a firm's sales amount during the labor negotiation period.

structure on our main findings, we divide our sample into option granting and non-granting firms and repeat the main analysis (result not reported). The negative effect of union strength on *Log(#Disclosures)* and *Log(#Good News Disclosures)* is observed only in option non-granting firms. For option granting firms, the coefficient on the unionization rate is positive and significant. This means that managers' incentives to withhold good news from labor unions are significantly mitigated when they receive stock options because they have a counter-incentive to release more good news to boost firms' stock prices and their option values. We also measure a continuous variable (*%Option*) for the prevalence of option usage as an incentive pay by dividing the number of total options granted to employees by the number of shares outstanding and then interact it with *Union* (result not reported). The coefficient on *Union*%Option* is positive as expected, though not statistically significant.[24] However, these results should be interpreted with caution because the sample size of option granting firms is too small.

Korean corporate culture is unique: a number of firms in Korea belong to a Chaebol, a business group which provides internal funding and support to its member firms. The information environment and union structure of these Chaebol firms can be quite different from that of non-Chaebol firms, and thus the effect of union strength on management's information disclosures may differ between the two. To investigate the effect of Chaebol membership on our main findings, we conduct our main regressions for Chaebol and non-Chaebol firms separately. We find that the negative relation between union strength and disclosure is observed only in non-Chaebol firms (result not tabulated). We conjecture the reasons are: i) Chaebol firms are more likely to grant their managers stock options, thereby providing them with counter-incentives to

---

[24] The lack of significance may be resulted from the measurement errors in *%Option*. Because the number of options granted is not separately reported for the top management and for the rank and file workers in firms' business reports, we could not precisely measure managers' incentives influenced by stock options granted to the management.

promote good news.[25] ii) Chaebol firms are larger and followed by more analysts, thus their information environment is better than non-Chaebol firms. Therefore, their managers have weaker incentives to distort information transmissions to the market and unions because the benefit from news withholding is expected to be smaller. In short, this analysis shows that our main findings on the negative relation between union strength and news disclosures are more pronounced for non-Chaebol firms.

Most labor unions in Korea are affiliated with at least one of two upper level union associations. They are the Federation of Korean Trade Unions (FKTU, *Hankuk Nochong* in Korean) and the Korean Confederation of Trade Unions (KCTU, *Minjoo Nochong* in Korean). These associations set the general guidelines for the direction of union activities and assist specific bargaining processes for individual unions. Our sample contains a subset of 1,097 and 274 member firms for FKTU and KCTU, respectively. As most of the unionized firms in our sample are affiliated with one or both of these associations, we conjecture that the previously reported effect of union strength on disclosure is mainly driven by these affiliated unions.[26] That is, the labor unions that are not affiliated with any of these associations may have unique and different characteristics compared to affiliated unions in terms of its attitudes on firms' policies. Thus, we repeat the analyses in Tables 2, 3, and 4 after excluding these 122 non-affiliated unions. Unreported results show that all the main implications are robust to this change, indicating that our main results presented in previous tables are mainly driven by the firms with association-affiliated unions.

In sum, the results of various sensitivity tests corroborate our main findings that managers reduce good news disclosure (and, to a less extent, promote bad news disclosure) when

---

[25] The Pearson correlation between the indicators for stock option granting and Chaebol is 0.137 (p-value < 0.01).
[26] Only 8% (122 out of 1,371) observations of the unionized firms are not affiliated with any of these associations.

their labor unions are stronger in order to curtail excessive wage demands, and this tendency is more pronounced during the collective bargaining process.

7. Conclusions

Using a large sample of Korean listed firms for which firm-year level unionization rates and the voluntary disclosure frequency data are available, we find that management's overall disclosure frequency is negatively related to the firm's labor union strength. We also report that this tendency for managers to withhold information from strong unions is mainly driven by good news firms. Finally, we find that managers "time" news disclosure by withholding good news during the collective bargaining process and then by releasing it in a gradual fashion subsequently, and that this tendency is more pronounced for the firms with stronger labor unions. Taken together, we provide evidence that managers tend to hide news, especially when it is good, to preserve their bargaining power against labor when their firms have stronger unions.

This paper provides important implications for managers, employees, investors, and researchers. Our findings on the role of labor unions suggest that employees can be a group that incurs another form of agency costs by distorting corporate activities such as disclosures, thereby exacerbating information asymmetry and return volatility. Employees need to understand that managers can react strategically to their rent-seeking wage demands by exercising discretion on the amount of disclosed information and the timing of its disclosure. Since these distortions in managerial activities create costs, an excessive wage demand can be detrimental to both parties. Investors can get a helpful tip for their portfolio selections by recognizing that given the same cash flows, a firm with a stronger labor union can exhibit a different level of risk due to the intensified information asymmetry resulting from the management disclosure strategy, which

may influence its stock price. Researchers can learn a valuable insight from our findings when they investigate the dynamics between corporate members and market participants in terms of agency problems and the cost of disclosures.

Like most empirical studies, our research has limitations. Though we attempt to address concerns about the possible weakness in causality between labor union strength and disclosure frequency, and on the endogeneity in disclosure and union strength by adopting change specifications and 2SLS, the main results documented in this paper is not completely free of these concerns. To the extent that the main variables of interest are determined endogenously and the true levels of managerial disclosure activity and union strength are measured with errors by the adopted proxies, and to the extent that our manual news classifications are subjective, the reported results can be spurious. Notwithstanding, we believe that the consistent results from various robustness analyses ameliorate these concerns, corroborate the negative relation between labor union strength and disclosure frequency, and confirm managerial disclosure timing.

References

Aboody, D. and D. Kasznik, 2000. CEO stock option awards and the timing of corporate voluntary disclosures. *Journal of Accounting and Economics* 29: 73-100.

Ali, A., S. Klasa, and E. Yeung, 2009. Product market competition and corporate disclosure policy. Working Paper, University of Texas at Dallas.

Antos, J., M. Chandler, and W. Mellow, 1980. Sex differences in union membership. *Industrial and Labor Relations Review* 33: 162-169.

Baginski, S., J. Hassell, and M. Kimbrough, 2002. The effect of the legal environment on voluntary disclosure: evidence from management earnings forecasts issued in U.S. and Canadian markets. *The Accounting Review* 77: 25–50.

Ball, R., 2009. Market and political/regulatory perspectives on the recent accounting scandals. *Journal of Accounting Research* 47: 277-323.

Bhattacharya, S., and J. Ritter, 1983. Innovation and communication: Signaling with partial disclosure. *Review of Economic Studies* 50: 331-346.

Black, B., and W. Kim, 2012. The effect of board structure on firm value: A multiple identification strategies approach using Korean data. *Journal of Financial Economics*, 104: 203-226.

Bova, F., 2013. Labor unions and management's incentive to signal a negative outlook. *Contemporary Accounting Research* 30: 14-41.

Bowen, R., L. Ducharme, and D. Shores, 1995. Stakeholders implicit claims and accounting method choice. *Journal of Accounting and Economics* 20: 225-294.

Brander, J., and J. Eaton, 1984. Product line rivalry. *American Economic Review* 74: 323-334.

Brennan, N., 1999. Voluntary disclosure of profit forecasts by target companies in takeover bids. *Journal of Business Finance and Accounting* 26: 883-918.

Bronars, S., and D. Deere, 1994. Unionization and profitability: Evidence of spillover effects. *Journal of Political Economy* 102: 1281-1287.

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: 426-451.

Busse, J., and T. Green. 2002. Market efficiency in real time. *Journal of Financial Economics* 65: 415-437.

Chen, H., M. Kacperczyk, and H. Ortiz-Molina. 2010. Do non-financial stakeholders affect the pricing of risky debt? Evidence from unionized workers. *Review of Finance,* forthcoming.

Chen, H., M. Kacperczyk, and H. Ortiz-Molina. 2011. Labor unions, operating flexibility, and the cost of equity. *Journal of Financial and Quantitative Analysis* 46: 25-58.

Chen, C., and N. Mohan. 1994. Timing the disclosure of information: Management's view of earnings announcements. *Financial Management* 23(3): 63-69.

Chyz, J., W. Leung, O. Li, and O. Rui. 2011. Labor unions and tax aggressiveness, available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1498663.

Clarke, R., 1983. Collusion and the incentives for information sharing. *Bell Journal of Economics* 14: 383-394.

Cullinan, C., and D. Bline, 2003. The effects of labour and accounting choice in Canada. *Contemporary Accounting Research* 2: 135-51.

Darrough, M., 1993. Disclosure policy and competition: Cournot vs. Bertrand. *The Accounting Review* 68: 534-561.

DeAngelo, H., and L. DeAngelo, 1991. Union negotiations and corporate policy. *Journal of*

Financial Economics 30: 3-43.

DeAngelo, L., 1988. Managerial competition, information cost, and corporate governance: the use of accounting performance measures in proxy contests. *Journal of Accounting and Economics* 10: 3-37.

Diamond, D., and R. Verrecchia, 1991. Disclosure, liquidity, and the cost of capital. *Journal of Finance* 46: 1325-59.

D'Souza, J., J. Jacob, and K. Ramesh, 2000. The use of accounting flexibility to reduce labor renegotiation costs and manage earnings, *Journal of Accounting and Economics* 30: 187-208.

Dye, R., 1985. Disclosure of nonproprietary information. *Journal of Accounting Research* 23 (1): 123-145.

Dye, R., 2001. An evaluation of "essays on disclosure" and the disclosure literature in accounting. *Journal of Accounting and Economics* 32: 181-235.

Fama, E., and J. MacBeth, 1973. Risk, return, and equilibrium: Empirical tests. *Journal of Political Economy* 81: 607-636.

Francis, B., I. Hasan, J. Park, and Q. Wu, 2009. Gender differences in financial reporting decision-making: Evidence from accounting conservatism, available at SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1471059.

Gal-Or, E., 1985. Information sharing in oligopoly. *Econometrica* 53: 329-343.

Glosten, L. and P. Milgrom. 1985. Bid, ask, and transaction prices in a specialist market with heterogeneously informed traders. *Journal of Financial Economics* 14: 71–100.

Graham, J., C. Harvey, and S. Rajgopal, 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40: 3-73.

Healy, P. and K. Palepu, 2001. Information asymmetry, corporate disclosure, and capital markets: a review of the empirical disclosure literature. *Journal of Accounting and Economics* 31: 405–40.

Hilary, G., 2006. Organized labor and information asymmetry in the financial markets. *Review of Accounting Studies* 11: 525-548.

Hirsch, B., 1980. The determinants of unionization: An analysis of inter-area differences. *Industrial and Labor Relations Review* 33: 147-161.

Hirsch, B., 1991. Union coverage and profitability among U.S. firms. *The Review of Economics and Statistics* 73: 69-77.

Hirsch, B., 1992. Firm investment behavior and collective bargaining strategy. *Industrial Relations* 31: 95-121.

Hutton, A., G. Miller, and D. Skinner. 2003. The role of supplementary statements with management earnings forecasts. *Journal of Accounting Research* 41: 867-890.

Jensen, M. and W. Meckling, 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3: 305-360.

Jung, W., and Y. Kwon, 1988. Disclosure when the market is unsure of information endowment of managers. *Journal of Accounting Research* 26 (1): 146-153.

Kasznik, R. and B. Lev, 1995. To warn or not to warn: management disclosures in the face of an earnings surprise. *The Accounting Review* 70: 113-34.

Kennan, J., 2001. Repeated bargaining with persistent private information. *Review of Economic Studies* 68: 719-755.

Khan, M. and R. Watts, 2009. Estimation and empirical properties of a firm-year measure of accounting conservatism. *Journal of Accounting and Economics* 48: 132-150.

Klasa, S., W. Maxwell, and H. Ortiz-Molina, 2009. The strategic use of corporate cash holdings in collective bargaining with labor unions. *Journal of Financial Economics* 92: 421-442.

Kleiner, M., and M. Bouillon. 1988. Providing business information to production workers: Correlates of compensation and profitability. *Industrial and Labor Relations Review* 41: 605–617.

Korea Exchange (KRX). 2005. (Amended) Disclosure Regulation of the Korean stock market.

Korea Stock Exchange (KSE). 2002. Disclosure regulation of the Korean stock market.

Kothari, S., S. Shu, and P. Wysocki, 2009. Do managers withhold bad news? *Journal of Accounting Research* 47: 241-276.

La Porta, R., F. Lopez-De-Silanes, and A. Shleifer. 2006. What works in securities laws? *Journal of Finance* 61: 1-32.

LaFond, R., and R. Watts, 2008. The information role of conservatism. *The Accounting Review* 83: 447-478.

Lang, M., and R. Lundholm, 1993. Cross-sectional determinants of analysts' ratings of corporate disclosures. *Journal of Accounting Research* 31: 246-271.

Lara, G., J. Manuel, B. Osma, and A. Mora, 2005. The effect of earnings management on the asymmetric timeliness of earnings. *Journal of Business Finance and Accounting* 32: 691-726.

Larcker, D. and T. Rusticus, 2010. On the use of instrumental variables in accounting research. *Journal of Accounting and Economics* 49: 186-205.

Leap, T., 1991. Collective bargaining and labor relations (2nd ed.). New Jersey: Prentice Hall, Englewood Cliffs.

Lev, B., and S. Penman, 1990. Voluntary forecast disclosures, nondisclosure, and stock prices. *Journal of Accounting Research* 28: 49-76.

Liberty, S., and J. Zimmerman, 1986. Labor union negotiations and accounting choice. *The Accounting Review* 61: 692–712.

Matsa, D., 2010. Capital structure as a strategic variable: evidence from collective bargaining. *Journal of Finance* 65: 1197–1232.

Merton, R., 1987. A simple model of capital market equilibrium with incomplete information. *Journal of Finance* 42: 483-510.

Morck, R., A. Shleifer, and R. Vishny, 1990. Do management objectives drive bad acquisitions? *Journal of Finance* 45: 31-50.

Nagar, V., D. Nanda, and P. Wysocki, 2003. Discretionary disclosure and stock-based incentives. *Journal of Accounting and Economics* 34: 283-309.

Petersen, M., 2009. Estimating standard errors in finance panel data sets: comparing approaches. *Review of Financial Studies* 22: 435-480.

Pope, P., and D. Peel, 1981. Information disclosure to employees and rational expectations. *Journal of Business Finance and Accounting* 8 (1): 139-146.

Rock, S., S. Sedo, and M. Willenborg. 2000. Analyst following and count-data econometrics. *Journal of Accounting and Economics* 30: 351-373.

Simunic, D., 1980. The pricing of audit services: theory and evidence. *Journal of Accounting Research* 18 (1): 161-190.

Skinner, D., 1994. Why firms voluntarily disclose bad news? *Journal of Accounting Research* 32: 38-61.

Skinner, D., 1997. Earnings disclosures and stockholder lawsuits. *Journal of Accounting and Economics* 23: 249-83.

Verrecchia, R., 1990. Information quality and discretionary disclosure. *Journal of Accounting and Economics* 12: 179-94.

Verrecchia, R., 2001. Essays on disclosure. *Journal of Accounting & Economics* 32: 97–180.

Warner, J., R. Watts, and K. Wruck, 1988. Stock prices and top management changes. *Journal of Financial Economics* 20: 461-493.

Yermack, D., 1997. Good timing: CEO stock option awards and company news announcements. *Journal of Finance* 52: 449–76.

Appendix A. Variable definitions

Log(#Disclosures)	The natural logarithm of one plus the number of disclosures
Log(#Good News Disclosures)	The natural logarithm of one plus the number of good news disclosures, either for a given year or month
Log(#Bad News Disclosures)	The natural logarithm of one plus the number of bad news disclosures, either for a given year or month
Log(#Words)	The natural logarithm of one plus the number of total words contained in all qualitative disclosures made by the same firm in year t
Unionization rate	The proportion of the number of union members to total number of employees
Q1, Q2, Q3	An indicator variable which equals one if the individual news is disclosed in the first, second, or third quarter of year t, respectively, and zero otherwise
Offer	An indicator variable which equals one if a firm issues a new equity during a year, and zero otherwise
RET	Contemporaneous buy-and-hold annual returns for the one year period starting from the fourth month after fiscal year-end t-1
Loss	An indicator variable which equals one if a firm reports negative net income, and zero otherwise
HHI	The Herfindahl-Hirschman index based on sales, computed as the sum of squared market shares within the same industry in year t
OpCycle	Operating cycle, measured as the average receivables divided by sales plus the average inventory divided by the cost of goods sold
BigAudit	Big auditor dummy, which equals one if the firm is audited by PWC, KPMG, Deloitte, or Ernst and Young (or their affiliated Korean auditing firms), and zero otherwise
Size	The natural logarithm of fiscal year-end market capitalization
BM	Book value of equity divided by market value of equity
Log(#Analysts)	The natural logarithm of one plus the number of analysts following the firm
Log(#Owners)	The natural logarithm of the number of shareholders
LEV	Leverage, measured as the total debt divided by market value of equity
ROA	Return on assets, defined as the net income divided by total assets
Chaebol	A dummy variable, which equals one if the firm belongs to Chaebol, and zero otherwise. Korean Fair Trade Commission (KFTC) identifies every group of companies of which more than 30% of the shares are owned by controlling shareholders and their affiliated companies. A firm belongs to Chaebol if it is one of these affiliated companies.
ForOwn	Foreign ownership, measured as the ratio of the number of shares owned by foreign investors to the number of total shares outstanding
Female	The ratio of the number of female employees to the number of total employees
Female CEO	A dummy variable, which equals one if a firm is run by a female CEO in year t, and zero otherwise

Appendix B. News classification criteria and examples of news

I. News classification criteria

The corporate disclosure data used in this study are hand-collected from the Korea Investor's Network for Disclosure (KIND) System. The corporate information subject to Reg FD in Korea includes "Future Business & Management Plan", "Forecasts of Sales, Operating Income, Continuing Business Income Before Tax (or Ordinary Income), or Net Income", "Preannouncement of Sales, Operating Income, Continuing Business Income Before Tax (or Ordinary Income), or Net Income" and "Major Managerial Issues" (KSE 2002; KRX 2005). To assess the characteristics of disclosure information, we follow several different methodologies used in prior literature. First, we determine whether earnings forecasts or preannouncements are positive or negative by comparing them with analysts' forecasts. If they exceed the most recently announced financial analysts' consensus forecasts before the disclosure, they are classified as positive news. Otherwise, they are classified as negative. If there is no analyst following, they are compared with prior month's, quarter's or year's earnings performance. However, in some situations, they may not be classified into only one category. For example, a quarterly earnings forecast may be positive when compared with a prior quarter's performance but negative if compared with the same quarter's performance in the previous year. In such a case, it is classified as neutral. On the other hand, we characterize qualitative corporate information such as "Future Business & Management Plan" and "Major Managerial Issues" by judging the sentiment or tone of disclosures (Busse and Green, 2002). This classification criterion may appear subjective but the sentiments and tones of disclosure information are quite straightforward (as shown in the examples below). In many cases, "Future Business & Management Plans" and "Major Managerial Issues" deliver positive news such as new businesses, new markets, new products, new technologies, strategic alliances with other domestic or foreign companies, or a dividend distribution. Negative disclosure usually contains news about the cancellation of contracts, discontinuation of unprofitable business, or withdrawal from foreign markets. If it is not clear whether it has a positive or negative effect on firm value, it is classified as neutral. For example, the news about the change in pricing policy is classified as neutral unless it accompanies an expected positive or negative effect on firms' business prospects. Companies sometimes disclose both earnings news and business plans or managerial issues together. In such cases, the disclosure is classified as positive or negative when both types of news are consistently characterized. Otherwise, it is classified as neutral.

II. Examples of news

1. "Forecasts of Sales, Operating Income, Continuing Business Income Before Tax (or Ordinary Income), or Net Income" or "Preannouncement of Sales, Operating Income, Continuing Business Income Before Tax (or Ordinary Income), or Net Income"

<u>Good news</u>:
SK Co., Ltd. disclosed the following news on January 27, 2005:
"Sales, Operating Income, Ordinary Income, and Net Income for the 4th quarter of 2005 are 4,962, 452, 832, and 612 billion Korean won, respectively, and all these numbers have increased both from the 3rd quarter of 2005 and the 4th quarter of 2004 (detailed past period numbers and ratios of changes included)."

Bad news:
Samsung Electronics Co., Ltd. disclosed the following news on April 13, 2007:
"Sales, Operating Income, Ordinary Income, and Net Income for the 1st quarter of 2007 are 144, 12, 18, and 16 billion Korean won, respectively, and all these numbers have decreased from the 4th quarter of 2006. They also have decreased from the 1st quarter of 2006 except Sales, which has increased (detailed past period numbers and ratios of changes included)."

Neutral news:
Korean Air Co., Ltd. disclosed the following news on February 1, 2006:
"Sales in the passenger division for December 2005 were 3,912 million Korean won, which have increased from November 2005 but decreased from December 2004. Sales in the cargo division for December 2005 were 659 million Korean won, which have decreased both from November 2005 and December 2004. The capacity utilization rate in the passenger division for December 2005 was 68.8%, which has increased both from November 2005 and December 2004, while the capacity utilization rate in the cargo division for December 2005 was 75.6%, which has decreased both from November 2005 and December 2004 (detailed past period numbers and ratios of changes included)."

2. "Future Business & Management Plan" or "Major Managerial Issues"

Good news:
KT Inc. disclosed the following news on January 5, 2005:
"We signed MOU on the extension of strategic alliances with Microsoft. Major contents include: 1) Establishing an R&BD (Research & Business Development) Center under a co-investment scheme, 2) Building this R&BD Center in Korea, 3) Establishing a matching fund to utilize the external contents, technologies, and human resources of this R&BD Center, and 4) Setting up a human resource exchange program that includes seminars, educations, and exchanges of personnel in various business areas."

Bad news:
LS Co., Ltd. disclosed the following news on January 4, 2005:
"At the preliminary decision made in June 2004, the Chinese Ministry of Commerce levied 7% of anti-dumping tariff on our company for our exported optical fibers. The Chinese Ministry of Commerce has conducted additional investigations since then, and sent the formal letter of final decision to our company today. Based on No. 25 of Anti-Dumping Act of the People's Republic of China, the final decision confirmed the 7% tariff set at the preliminary decision."

Neutral news:
Korea Gas Corporation disclosed the following news on June 29, 2006:
"The wholesale prices of natural gas sold to households, industries, and power plants have increased effective on 00:00 a.m. July 1, 2006. This adjustment is due to the increase of oil price in the market (detailed current and adjusted wholesale prices and ratios of changes included)."

Figure 1. Monthly average of disclosure frequency
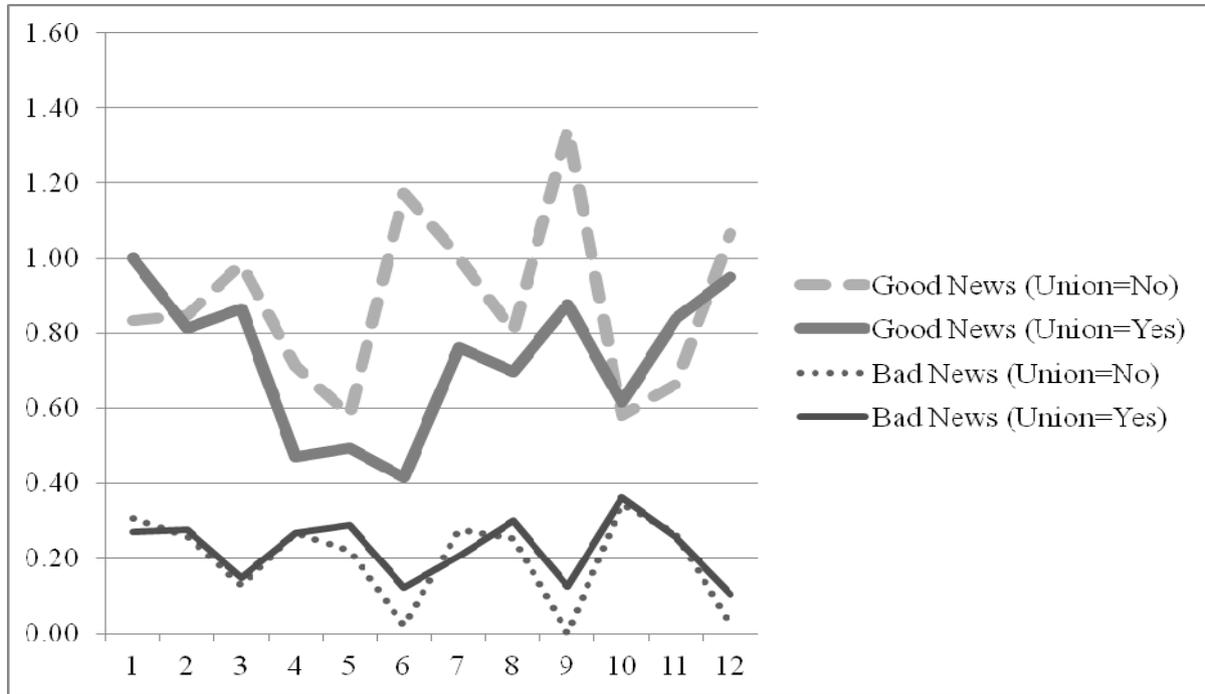
Notes:

This figure illustrates the monthly pattern of disclosure frequency for good and bad news. We count the number of good or bad news disclosed in each month from January to December for all the firms in the sample and then plot the monthly frequency for unionized firms and non-unionized firms separately. Good news disclosure decreases significantly during the second calendar quarter (i.e., April to June) and rebounds afterwards for both unionized and non-unionized firms, and this pattern is more prominent for unionized firms. Bad news disclosure does not have a distinct pattern for both unionized and non-unionized firms, though the tendency of disclosing bad news in the second calendar quarter seems to be slightly stronger for unionized firms.

Table 1. Descriptive statistics

Panel A. Summary statistics (N=2,084)

Variables	Mean	Std. dev.	25th Pctl.	Median	75th Pctl.
Union Existence	0.716	0.451	0.000	1.000	1.000
Unionization Rate	0.343	0.281	0.000	0.381	0.592
#Disclosures	2.337	3.484	0.000	1.000	4.000
#Good News	1.223	2.108	0.000	0.000	2.000
#Bad News	0.385	1.036	0.000	0.000	0.000
Log(#Owners)	8.096	1.165	7.270	7.913	8.733
Offer	0.096	0.295	0.000	0.000	0.000
RET	0.334	1.199	-0.127	0.108	0.509
Loss	0.180	0.385	0.000	0.000	0.000
HHI	0.104	0.053	0.080	0.085	0.111
OpCycle	0.385	0.209	0.250	0.330	0.453
BigAudit	0.581	0.494	0.000	1.000	1.000
Size	25.156	1.678	23.968	24.831	26.031
BM	1.846	1.400	0.834	1.480	2.425
Log(#Analysts)	2.252	2.414	0.000	1.242	4.644
LEV	1.085	1.624	0.126	0.509	1.267
ROA	0.030	0.086	0.009	0.039	0.071
Chaebol	0.188	0.391	0.000	0.000	0.000
ForOwn	0.100	0.149	0.002	0.021	0.149

Table 1 (continued)

Panel B. High vs. low unionization rates samples

Variables	High Unionization		Low Unionization		Difference
	Mean	SD	Mean	SD	p-value
Unionization Rate	0.596	0.121	0.091	0.126	<0.01
#Disclosures	1.844	3.328	2.349	3.064	<0.01
#Good News	1.099	2.049	1.347	2.160	<0.01
#Bad News	0.436	1.175	0.335	0.874	0.03
Log(#Owners)	8.132	1.182	8.060	1.147	0.16
Offer	0.103	0.304	0.090	0.287	0.34
RET	0.340	0.949	0.328	1.405	0.82
Loss	0.192	0.394	0.169	0.375	0.17
HHI	0.105	0.040	0.102	0.064	0.20
OpCycle	0.354	0.184	0.417	0.228	<0.01
BigAudit	0.587	0.493	0.574	0.495	0.53
Size	25.321	1.741	24.991	1.597	<0.01
BM	1.982	1.509	1.711	1.268	<0.01
Log(#Analysts)	2.398	2.490	2.107	2.327	<0.01
LEV	1.276	1.825	0.893	1.367	<0.01
ROA	0.031	0.079	0.029	0.092	0.65
Chaebol	0.230	0.421	0.145	0.352	<0.01
ForOwn	0.111	0.161	0.089	0.136	<0.01

Notes:

This table presents the descriptive statistics for the main variables. Panel A describes the summary statistics of the variables, and Panel B compares simple statistics of the key variables across high and low unionization subsamples. The firm-year observations are classified into the High (Low) Unionization subsample if its unionization rate falls above (below) the sample median. All variables are defined in Appendix A.

Table 2. The effect of union strength on disclosure frequency

Dep. Var =	Log(#Disclosures) OLS		#Disclosures Negative Binomial	
	(1)	(2)	(3)	(4)
Union =	Union Existence	Unionization Rate	Union Existence	Unionization Rate
Intercept	-3.500***	-3.257***	-4.087**	-3.607**
	(<0.01)	(<0.01)	(0.01)	(0.02)
Union	-0.182***	-0.200***	-0.258***	-0.216*
	(<0.01)	(<0.01)	(<0.01)	(0.06)
Log(#Owners)	0.208***	0.211***	0.293***	0.298***
	(<0.01)	(<0.01)	(<0.01)	(<0.01)
Offer	0.161**	0.170***	0.389***	0.405***
	(0.01)	(<0.01)	(<0.01)	(<0.01)
RET	0.006	0.006	0.027	0.027
	(0.58)	(0.60)	(0.31)	(0.30)
Loss	-0.071	-0.058	-0.069	-0.047
	(0.18)	(0.27)	(0.53)	(0.66)
HHI	0.879	0.951	1.031	1.107
	(0.33)	(0.29)	(0.57)	(0.54)
OperCycle	0.023	0.019	0.122	0.121
	(0.81)	(0.85)	(0.53)	(0.53)
BigAudit	0.055*	0.058*	0.165**	0.173**
	(0.09)	(0.08)	(0.01)	(0.01)
Size	0.080***	0.068***	0.053	0.030
	(<0.01)	(<0.01)	(0.22)	(0.48)
BM	-0.061***	-0.065***	-0.153***	-0.159***
	(<0.01)	(<0.01)	(<0.01)	(<0.01)
Log(#Analysts)	0.032***	0.036***	0.093***	0.100***
	(<0.01)	(<0.01)	(<0.01)	(<0.01)
LEV	0.013	0.011	0.029	0.024
	(0.24)	(0.33)	(0.21)	(0.30)
ROA	-0.160	-0.110	-0.248	-0.150
	(0.56)	(0.68)	(0.59)	(0.74)
Chaebol	0.135**	0.137**	0.055	0.060
	(0.01)	(0.01)	(0.55)	(0.52)
ForOwn	0.087	0.076	0.310	0.315
	(0.56)	(0.61)	(0.22)	(0.22)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	2,084	2,084	2,084	2,084
Adj.R^2/Log Likelihood	0.387	0.383	1,724.14	1,719.19

Notes:
This table presents the results of regressing disclosure frequency on firm union strength with control variables. Columns (1) and (2) are based on the OLS regression estimation using the natural logarithm of one plus disclosure frequency as the dependent variable. Columns (3) and (4) are based on the negative binomial regression estimation in which the raw values of disclosure frequency are used as the dependent variables. Regressions include year and industry fixed effects. Standard errors are heteroskedasticity and serial correlation robust, clustered at the firm level. Numbers in parentheses indicate p-values. ***, **, and * denote the statistical significance at the 1, 5 and 10 % levels, respectively (two tailed). All variables are defined in Appendix A.

Table 3. The effect of union strength on asymmetric disclosures for good versus bad news

Panel A. Number of firms disclosing good news or bad news

Year	Total		Good News		Bad News	
	#Firm-years	Average #Disclosure	#Firm-years	Average #Disclosure	#Firm-years	Average #Disclosure
2003	410	2.621	206	1.790	64	0.225
2004	403	2.080	193	1.572	42	0.245
2005	415	2.028	178	1.097	79	0.578
2006	421	2.241	173	1.073	99	0.625
2007	435	2.127	188	1.197	107	0.658
Total	2,084	2.337	938	1.223	391	0.385

Table 3 (continued)
Panel B. Regression results

Dep. Var =	Log(#Disclosures)		# Disclosures	
	OLS		Negative Binomial Regressions	
	(1)	(2)	(3)	(4)
News type =	Good news	Bad news	Good news	Bad news
Intercept	-2.932***	-1.004*	-4.465*	-28.699***
	(<0.01)	(0.08)	(0.04)	(<0.01)
Union	-0.183***	0.013	-0.335**	0.029
	(0.01)	(0.78)	(0.03)	(0.90)
Log(#Owners)	0.199***	0.099***	0.413***	0.350***
	(<0.01)	(<0.01)	(<0.01)	(<0.01)
Offer	0.070	0.012	0.285**	0.115
	(0.26)	(0.74)	(0.03)	(0.61)
RET	0.001	-0.020*	-0.003	-0.058
	(0.94)	(0.07)	(0.95)	(0.40)
Loss	-0.029	0.029	0.040	0.147
	(0.61)	(0.46)	(0.78)	(0.51)
HHI	0.545	-1.315*	1.353	0.418
	(0.55)	(0.05)	(0.57)	(0.91)
OperCycle	-0.003	-0.078	0.357	-0.520
	(0.98)	(0.15)	(0.15)	(0.26)
BigAudit	0.001	0.057**	0.045	0.323**
	(0.99)	(0.01)	(0.59)	(0.02)
Size	0.077***	0.051***	0.044	0.067
	(<0.01)	(<0.01)	(0.45)	(0.45)
BM	-0.057***	0.027***	-0.200***	0.122
	(<0.01)	(<0.01)	(<0.01)	(0.12)
Log(#Analysts)	0.010	0.056***	0.040	0.332***
	(0.40)	(<0.01)	(0.12)	(<0.01)
LEV	0.018	0.004	0.045	-0.075
	(0.10)	(0.49)	(0.17)	(0.29)
ROA	0.604**	0.111	1.513**	1.072
	(0.04)	(0.49)	(0.01)	(0.37)
Chaebol	0.057	0.036	0.116	-0.430**
	(0.32)	(0.40)	(0.36)	(0.02)
ForOwn	-0.014	0.097	-0.124	0.588
	(0.92)	(0.43)	(0.72)	(0.23)
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	2,084	2,084	2,084	2,084
Adjusted / Log Likelihood	0.315	0.324	2,204.10	-58.20

Notes:

This table presents the impact of union strength on *good* and *bad* news disclosures. In this table, we read all disclosures to identify good, bad, or neutral news using the criteria introduced in Appendix B. Panel A shows the proportions of good and bad news disclosures relative to total disclosures. Panel B presents the results of regressing good or bad news disclosure frequency on firm union strength with control variables. Columns (1) and (2) are based on the OLS regression estimation using the natural logarithm of one plus good or bad news disclosure frequency as the dependent variable. Columns (3) and (4) are based on the negative binomial regression estimation in which the raw values of disclosure frequency are used as the dependent variables. Regressions include year and industry fixed effects. Standard errors are heteroskedasticity and serial correlation robust, clustered at the firm level. Numbers in parentheses indicate p-values. ***, **, and * denote the statistical significance at the 1, 5 and 10 % levels, respectively (two tailed). All variables are defined in Appendix A.

Table 4. Labor union strength and managers' timing asymmetric disclosure

Dep. Var =	#Good News Disclosures		#Bad News Disclosures	
	Negative Binomial Regressions		Negative Binomial Regressions	
	(1)	(2)	(3)	(4)
Union	-0.131	-0.437**	0.110	1.218
	(0.34)	(0.04)	(0.63)	(0.10)
Union*Q1	-0.049		0.197	
	(0.76)		(0.42)	
Union*Q2	-0.435**		-0.202	
	(0.02)		(0.49)	
Union*Q3	-0.152		-0.110	
	(0.44)		(0.73)	
Union*Jan		0.527**		-0.555
		(0.02)		(0.47)
Union*Feb		0.035		-1.457*
		(0.88)		(0.06)
Union*Mar		-0.362		-0.854
		(0.19)		(0.30)
Union*Apr		-0.220		-1.482
		(0.42)		(0.10)
Union*May		0.158		-1.237
		(0.58)		(0.13)
Union*Jun		-0.621*		1.428
		(0.08)		(0.34)
Union*Jul		0.142		-1.858**
		(0.62)		(0.03)
Union*Aug		0.208		-1.121
		(0.49)		(0.17)
Union*Sep		-0.138		1.731
		(0.70)		(0.25)
Union*Oct		0.243		-1.023
		(0.44)		(0.20)
Union*Nov		0.500*		-1.475*
		(0.06)		(0.070)
Quarter dummies	Yes	No	Yes	No
Month dummies	No	Yes	No	Yes
Intercept/ controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	3,432	3,432	3,432	3,432
Log Likelihood	-2,357.07	-2,324.13	-1,908.68	-1,779.25

Notes:
This table presents timing of *good* and *bad news* disclosures in relation to labor unions' bargaining schedule using firm-month data. In this table, we read all disclosures to identify *good, bad,* or *neutral news* using the criteria

introduced in Appendix B. We further identify months when a firm makes a *good* or *bad news* disclosure and construct firm-month samples. Then we create three calendar quarter dummies from the first to the third quarters (Q1, Q2 and Q3). We further create 11 month dummies from January to November. We give the value of one if the date of a disclosure belongs to the corresonding quarter (or month), and zero otherwise. We report the negative binomial regression results in which the raw values of *good* or *bad news* disclosure frequency are used as the dependent variables. The intercept as well as coefficients on control variables are omitted for brevity. Regressions also include year and industry fixed effects. Standard errors are heteroskedasticity and serial correlation robust, clustered at the firm level. Numbers in parentheses indicate p-values. ***, **, and * denote the statistical significance at the 1, 5 and 10 % levels, respectively (two tailed). All variables are defined in Appendix A.

Table 5. The effect of union strength on quantitative and qualitative disclosures

Dep. Var =	Qualitative Disclosures	Quantitative Disclosures (Forecast – Actual) / Price	
	(1)	(2)	(3)
Dependent var. =	Log(#Words)	Sales forecast accuracy	Earnings forecast accuracy
Intercept	-6.2911***	0.0505	0.0019
	(<0.01)	(0.20)	(0.81)
Union	-0.3281**	0.0014	0.0002
	(0.04)	(0.65)	(0.64)
Log(#Owners)	0.2896***	0.0008	0.0001
	(<0.01)	(0.37)	(0.49)
Offer	0.4148**	0.0001	-0.0003
	(0.01)	(0.99)	(0.22)
RET	0.0124	0.0000	0.0001
	(0.69)	(0.98)	(0.27)
Loss	0.0443	-0.0006	0.0003
	(0.76)	(0.87)	(0.56)
HHI	-0.6950	-0.0495	-0.0095
	(0.76)	(0.32)	(0.32)
OperCycle	-0.0729	0.0068	0.0013
	(0.78)	(0.19)	(0.33)
BigAudit	-0.0963	0.0037**	0.0007**
	(0.26)	(0.02)	(0.01)
Size	0.2295***	-0.0011	0.0001
	(<0.01)	(0.31)	(0.32)
BM	-0.0165	-0.0002	0.0001
	(0.68)	(0.84)	(0.41)
Log(#Analysts)	-0.0219	0.0005	0.0000
	(0.45)	(0.29)	(0.81)
LEV	0.0594**	-0.0005	-0.0003*
	(0.04)	(0.50)	(0.05)
ROA	-0.1545	-0.0120	-0.0016
	(0.84)	(0.29)	(0.60)
Chaebol	0.1008	0.0010	-0.0008**
	(0.45)	(0.76)	(0.01)
ForOwn	-0.0945	0.0029	-0.0008
	(0.80)	(0.65)	(0.29)
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Observations	2,084	2,084	2,084
Adjusted / Log Likelihood	0.315	2,204.10	-58.20

Notes:
This table presents the impact of union strength on the amount of *qualitative* disclosures and on the quality of

quantitative disclosures. We count the number of words contained in each qualitative disclosure, sum it up across all disclosures made by the same firm per year, and transform one plus this sum into natural logarithm to construct the dependent variable in column (1) (*Log(#Words)*). We compute management forecast errors for sales and earnings forecasts to be used for the dependent variables in columns (2) and (3), respectively, where forecast error = (forecast – actual value)/fiscal year-end stock price. Regressions include year and industry fixed effects. Standard errors are heteroskedasticity and serial correlation robust, clustered at the firm level. Numbers in parentheses indicate p-values. ***, **, and * denote the statistical significance at the 1, 5 and 10 % levels, respectively (two tailed). All variables are defined in Appendix A.

Table 6. Endogeneity tests – two stage regression

Panel A. First stage regression

Dep. Var =	(1) Union Existence	(2) Unionization Rate
Intercept	-12.774	-0.691***
	(0.99)	(<0.01)
%Female Workers (Exogenous)	-0.769***	-0.194***
	(0.01)	(<0.01)
Female CEO	6.283	-0.041
	(0.99)	(0.58)
Chaebol	-0.130	-0.014
	(0.27)	(0.43)
Size	0.248***	0.027***
	(<0.01)	(<0.01)
LEV	0.168***	0.024***
	(<0.01)	(<0.01)
ROA	-0.923*	0.055
	(0.09)	(0.56)
Loss	-0.206*	0.025
	(0.08)	(0.21)
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Observations	2,084	2,084
Log Likelihood/Adj.R^2	-1,000.40	0.232

Panel B. Second stage regression: the relation between disclosure frequency and union strength

Dep. Var =	Log(#Disclosures)	
	(1)	(2)
Union =	Union Existence	Unionization Rate
Fitted value of Union	-1.312***	-1.877**
	(<0.01)	(<0.01)
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Observations	2,084	2,084
Adj.R^2	0.385	0.382

Table 6 (continued)

Panel C. Second stage regression: the relation between *good news* disclosures and union strength

Dep. Var =	Log(#Good news disclosures)	
	(1)	(2)
Union =	Union Existence	Unionization Rate
Fitted value of Union	-1.053***	-1.195**
	(<0.01)	(0.03)
Year Fixed Effects	Yes	Yes
Industry Fixed Effects	Yes	Yes
Observations	2,084	2,084
Adj.R^2	0.310	0.306

Notes:

This table presents the results of 2SLS regressions to control for the possible endogeneity of union strength. Panel A provides the result of the first-stage regression in which *Union* is the dependent variable and *Female* is an instrumental variable. Panel B presents the result of regressing disclosure frequency on *Union*, while Panel C presents the result of regressing *good news* disclosure frequency on *Union*, where *Union* is the fitted value in the first stage regression in Panel A. Regressions include intercept, control variables, year and industry fixed effects. Numbers in parentheses indicate p-values. Standard errors are heteroskedasticity and serial correlation robust, clustered at the firm level. ***, **, and * denote the statistical significance at the 1, 5 and 10 % levels, respectively (two tailed). All variables are defined in Appendix A.

Table 7. Change specifications

Dep.Var.=	Pr(Δ#Disclosures<0)		Pr(Δ#Good News Disclosures<0)	
	(1)	(2)	(3)	(4)
ΔUnion =	ΔUnion Existence	ΔUnionization Rate	ΔUnion Existence	ΔUnionization Rate
ΔUnion	2.055***	5.133**	2.220***	4.747***
	(<0.01)	(0.02)	(<0.01)	(<0.01)
Intercept, ΔControl Variables	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Observations	2,084	2,084	2,084	2,084
Pseudo R^2	0.094	0.093	0.233	0.238

Notes:

This table presents the results of change specifications. It presents the logistic regression estimation results regressing an indicator variable for the decrease in total news disclosure frequency in columns (1) and (2) and for the decrease in good news disclosure frequency in columns (3) and (4) on the change in firm union strength and control variables. Regressions include year and industry fixed effects. Numbers in parentheses indicate p-values. Standard errors are heteroskedasticity and serial correlation robust, clustered at the firm level. ***, **, and * denote the statistical significance at the 1, 5 and 10 % levels, respectively (two tailed). All variables are defined in Appendix A.