# The impact of labor unions on the disclosure of non-GAAP earnings

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**ABSTRACT**

This study examines the impact of a key corporate stakeholder, labor unions, on the use of non-GAAP earnings. The authors hypothesize that labor unions can increase or decrease the managers' propensity to disclose non-GAAP earnings. On the one hand, when faced with strong unions, managers may wish to withhold private information from labor unions, resulting in less disclosure of non-GAAP earnings by more unionized firms. On the other hand, non-GAAP earnings may be used to adversely influence the perception of company's outlook to improve management's position in labor contract re-negotiations. The main test results show a negative relationship between the strength of labor unions and the likelihood of reporting non-GAAP earnings. Additional analyses find that more unionized firms still predominantly make income-increasing non-GAAP adjustments and that the size of non-GAAP adjustments does not vary across levels of unionization. This paper adds to the growing literature on the effects of labor unions on voluntary disclosure and on the determinants of non-GAAP earnings.

Keywords: labor unions, non-GAAP earnings, determinants of voluntary disclosure, impact of corporate stakeholders

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## INTRODUCTION

In the beginning of this century, Regulation G (Reg-G) was promulgated to regulate the non-GAAP financial measures voluntarily released by public companies due to concern about potential opportunism underlying these alternative metrics.[1] The disclosure of non-GAAP financial measures, however, continued to gain traction with public companies over the two decades after Reg-G despite the greater scrutiny and more stringent reporting requirements imposed by regulators (Black, Black, Christensen, and Heninger, 2012; Black, Christensen, Ciesielski, and Whipple, 2021). The prevalent use of non-GAAP earnings even prompted the U.S. accounting standards setters to discuss whether it is necessary to standardize certain widely used non-GAAP financial measures (FASB, 2021, 2023a, 2023b).

The continual growth in the use of non-GAAP measures post-Reg-G signals that these alternative measures are to stay indefinitely. Therefore, it is important for all capital market participants to gain a better understanding of the information contained in the non-GAAP measures, the effects of these measures, as well as the factors influencing the use and the choices of non-GAAP metrics. This study takes a step toward better understanding the impact of a key corporate stakeholder, labor unions, on the use of non-GAAP earnings.

This paper investigates whether the strength of labor unions has an increasing or decreasing effect on the reporting of non-GAAP earnings per share (EPS). On the one hand, managers faced with strong unions may prefer to maintain an opaque information environment without revealing too much private information to labor unions (Healy and Palepu, 2001; Hilary, 2006). As a result, strong unions may make managers reluctant to provide more voluntary disclosure about the company's prospects through non-GAAP earnings. The strength of labor unions would therefore decrease the reporting of non-GAAP earnings. On the other hand, several prior studies posit that managers may elect income-decreasing accounting methods or use voluntary disclosure to signal a poor outlook for a better bargaining position in labor contract re-negotiations (DeAngelo and DeAngelo, 1991; D'Souza, Jacob, and Ramesh, 2000; Bova, 2013; Hamm, Jung, and Lee, 2018). It is therefore possible that non-GAAP earnings, a channel of voluntary disclosure, can also be used to accomplish the same objective. This predicts that firms with stronger unions will use more non-GAAP earnings, although non-GAAP earnings disclosed for such purpose are likely lower than comparable GAAP earnings (i.e. with income-decreasing non-GAAP adjustments) since managers would be inclined to signal a poor outlook in this case.

This study employs the dataset first constructed by Bentley, Christensen, Gee, and Whipple (2018) to test whether labor unions affect the reporting of non-GAAP earnings. Bentley et al. (2018) compiled a large dataset of manager-disclosed non-GAAP EPS by examining quarterly earnings announcements of public companies for year 2003 and later to determine whether non-GAAP EPS was disclosed by managers for each fiscal quarter.[2] A logistic model is adopted to estimate the likelihood of managers' disclosure of non-GAAP earnings in at least one fiscal quarter of a year on the firm-year measure of union strength and other control variables for

[1] A key provision in Reg-G is to require public companies that disclose non-GAAP financial measures to present the most comparable GAAP metrics and provide a reconciliation between the non-GAAP measures and their most comparable GAAP counterparts.

[2] Their sample period begins from 2003 as 2003 is the year in which the requirements of Reg-G began to apply. The sample period in the original study of Bentley et al. (2018) ends in 2012. However, the dataset is made available to all interested researchers and updated to include data for subsequent years by Dr. Kurt Gee. The sample period of this study is for 2004 - 2021 as the union membership data used in this study are for the period of 2003 - 2020. More details about the sample are discussed in the section of Sample Sections and Descriptive Statistics.

firm characteristics that may stimulate the disclosure of non-GAAP earnings. Following Hilary (2006), union strength is measured as the percentage of employees who are union members in the industry in which the company operates, adjusted by total assets and the number of employees of the company during the year.

The main test results indicate that the stronger the labor unions the less likely managers would disclose non-GAAP earnings. This finding is robust to the use of an alternative, industry-level measure of union strength and additional control for the existence of net loss. Additional analyses also examine the direction and magnitude of non-GAAP EPS adjustments made by the sample firms through a contrast of those attributes between firms with high- v.s. low union strength. Findings of the additional analyses show that firms with above-median union strength still predominantly make income-increasing non-GAAP adjustments. The tendency to make income-increasing adjustments is even marginally stronger among more unionized firms. While the mean value of non-GAAP adjustments is lower for the high-unionization subsample than that of its low-unionization counterpart, the difference is no longer statistically significant after adjusting for the level of the reported EPS.

Overall, the results of this study are consistent with the findings of prior literature that, in the presence of strong labor unions, managers are reluctant to reduce information asymmetry through increased disclosure, including the use of non-GAAP earnings. This study contributes to the literature by adding more evidence concerning the influence of labor unions on the choice of voluntary disclosure as well as on the incentives underlying the use of non-GAAP financial measures.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The accounting scandals at the turn of the 21st century led to more stringent regulations and more scrutiny of financial reporting. While Reg-G imposed more stringent guidance on the use of non-GAAP earnings, prior research (Black et al., 2012; Black et al., 2021) reported that the reporting non-GAAP earnings continued to proliferate in the last decade. The continual growth in the use of non-GAAP earnings even prompted the standard setters to contemplate actions that could improve the usefulness of reported GAAP earning and/or the standardization of non-GAAP earnings (FASB 2021, 2023a, 2023b).

As a form of voluntary disclosure, while non-GAAP metrics can often be used opportunistically to exclude income-decreasing items, they also allow managers to convey their private information about their companies to investors as with other forms of voluntary disclosure (Black, Christensen, Ciesielski, and Whipple, 2018). In fact, the information contents of non-GAAP earnings have been examined by multiple prior studies, which generally conclude that non-GAAP earnings are deemed useful by both sophisticated and unsophisticated investors (Bhattacharya, Black, Christensen, and Larson, 2003; Brown and Sivakumar, 2003; Venter, Emanual, and Cahan, 2014; Elliot, Hobson and White, 2015; Bradshaw, Christensen, Gee, and Whipple, 2018)

As non-GAAP earnings are disclosed to either inform or mislead financial statement users, corporate stakeholders, such as financial analysts and boards of directors, would inevitably influence the reporting of non-GAAP earnings. For example, Christensen, Gomez, Ma, and Pan (2021) document an increase in the propensity of managers to report non-GAAP EPS as well as a deterioration in the quality of non-GAAP earnings after brokerage analysts stop following the firm. Board characteristics, such as their independence and compensation contracts are also

associated with the use of non-GAAP earnings (Frankel, McVay, and Soliman, 2011; Isidro and Marques, 2013).

The effects of labor unions on firm's operating performance and innovation have been examined extensively in economics literature since the publication of the book "What Do Unions Do?" by Freeman and Medoff (1985). Accounting researchers have also examined the effects of labor unions on managers' accounting choices and more recently, on voluntary disclosure (Liberty and Zimmerman, 1986; DeAngelo and DeAngelo, 1991; D'Souza et al., 2000; Bova, 2013; Chung, Lee, Lee, and Sohn, 2016; Hamm et al., 2018). Managers faced with strong labor unions may have incentives to adopt accounting methods or voluntary reporting practices that portray a gloomy picture of the firms to undermine the bargaining position of labor unions. For example, DeAngelo and DeAngelo (1991) note that firms report lower income during union negotiations. D'Souza, Jacob, and Ramesh (2000) find that unionized firms are more likely to choose the method for adopting SFAS 106 that resulted in a larger recognized liability and lower net income in the year of adoption. Bova (2013) reports an increased propensity of unionized firms to miss analysts' earnings forecasts by either actively reporting lower earnings or by passively avoiding walking down the expectations of analysts in advance.

The theory that unionized firms make accounting and disclosure choices to reduce earnings is equivocally supported, however. Liberty and Zimmerman (1986) also examine whether managers depress earnings around contract negotiations but find no evidence in support of this theory. Cullinan and Knoblett (1994) study accounting choices related to inventory and depreciation but do not find any association between the level of unionization and the propensity to adopt more income-decreasing choices on a large scale. Hamm et al. (2018) argue that temporary depression of earnings may not be a good strategy for lowering labor costs, as a more volatile earnings pattern can increase the perceived risk and, in turn, the compensation demanded by employees. Instead, they predict and find a positive relation between labor union strength and earnings smoothing.

While the findings of prior studies on whether managers make income-decreasing accounting choices to minimize the labor contracting costs are mixed, the effect of labor unions on management's incentives for disclosure appears less ambiguous. Even though managers are usually motivated by capital market considerations to supply private information about the business to reduce information asymmetry, potential proprietary, political, or contracting costs associated with such information may deter increased disclosure (Healy and Palepu, 2001). Drawing on prior literature, Hilary (2006) documents a positive relation between the level of unionization and multiple measures of information asymmetry. Using a sample of Korean companies, Chung et al. (2016) also document a negative relation between the strength of labor unions and the quantity of corporate disclosure.

In the presence of strong labor unions, managers may be reluctant to convey private information through disclosure of authentic, informative non-GAAP earnings as they prefer to shield valuable information from labor unions. At the same time, in the presence of strong unions managers' incentives for opportunistic use of non-GAAP earnings to manage perceived performance upward are likely weaker. Both reasonings would lead to the prediction of a lower propensity to disclose non-GAAP earnings in the presence of strong unions.

Alternatively, it is plausible that non-GAAP earnings, if deflated, can also be used as a means by managers to proactively dim the perception of labor unions about the company to influence labor contract negotiations. It would therefore predict increased use of non-GAAP earnings among more unionized companies, although these non-GAAP earnings are likely lower

than reported GAAP earnings. Since the impact of labor unions on the use of non-GAAP earnings may be increasing or decreasing, the main hypothesis is stated in the null form below.

Hypothesis: There is no relation between labor unions and the use of non-GAAP earnings.

## RESEARCH DESIGN

Equation (1) below is estimated using logistic regression to test the Hypothesis.

$$\begin{aligned}\text{Prob}(NG_{i,t}) = {} & \alpha + \beta_0 UNION_{i,t-1} + \beta_1 SIZE_{i,t-1} + \beta_2 SPECIAL_{i,t} + \beta_3 LITIGATE_{i,t} \\ & + \beta_4 BIG4_{i,t} + \beta_5 GUIDANCE_{i,t} + \beta_{6-14} \text{Industry Indicators}_t \\ & + \beta_{15-31} \text{Year Indicators}_i + \varepsilon_{i,t}\end{aligned} \quad (1)$$

$NG_{i,t}$, is an indicator variable that equals one when the company discloses non-GAAP earnings in addition to reported GAAP results for any fiscal quarter of the fiscal year and zero otherwise. $UNION_{i,t-1}$, is a firm-year measure of the level of unionization. Following Hilary (2006), a firm-level measure is constructed as the percentage of employees who are union members in the industry, times the number of employees of the firm and divided by total assets. Industry-level union membership data are obtained from the Union Membership and Coverage Database from the CPS (www.unionstats.com).[3] Several control variables are included for the effects of several known determinants of non-GAAP earnings following Brown, Christensen, Elliott, and Mergenthaler (2012). $SIZEe_{i,t-1}$ is the logarithm of one plus the sales revenues for the previous fiscal year. $SPECIAL_{i,t}$ is an indicator variable that equals one if the company report special items in any fiscal quarter of the fiscal year and zero otherwise. $LITIGATE_{i,t}$ is also an indicator variable that equals one if the company operates in an litigious industry and zero otherwise.[4] $BIG4_{i,t}$ is an indicator variable coded as one for companies that are audited by Big 4 accounting firms and zero otherwise. $GUIDANCE_{i,t}$ is an indicator variable coded as one if at least one management forecast for EPS is issued in any quarter of the fiscal year and zero otherwise. Control variables for the fixed effects of year and industry are also included when estimating equation (1).

If the presence of strong unions deters managers' incentives to convey private information through the reporting of non-GAAP earnings, a significantly negative coefficient, $\beta_o$, is expected on the main independent variable, $UNION_{i,t-1}$. Alternatively, observing a significantly positive $\beta_o$ may suggest that management is more likely to use non-GAAP earnings to bring down the perception of the company by labor unions to improve management's bargaining position. However, if this is the case, one would expect to see increased use of income-decreasing non-GAAP adjustments rather than income-increasing adjustments in arriving at the non-GAAP earnings.

[3] This database provides the percentages of respondents who indicated that they are union members in their responses to the monthly household Current Population Survey within each industry as defined by Census Industry Code. The authors thank Drs. Barry Hirsch and David Macpherson for making the data available.

[4] Litigious industries include the following SIC code: 2833 - 2836, 8731 - 8734, 3570 - 3577, 7370 -7374, 3600 – 3674.

## SAMPLE SELECTION AND DESCRIPTIVE STATISTICS

The sample for this study stems from the non-GAAP EPS dataset used in Bentley et al. (2018). Bentley et al. (2018) create a large sample of manager-disclosed non-GAAP EPS by searching form 8-Ks to determine whether each company explicitly reported non-GAAP EPS in their quarterly earnings announcements.[5] The construction of the sample of this study begins with the dataset provided by Bentley et al. (2018) with 198,695 quarterly earnings announcements. Of this dataset, annual financial information is no longer available in the Compustat Annual database for 76,827 quarterly earnings announcements. The remaining quarterly earnings announcement pertain to 38,216 distinct firm years. The sample size is further decreased by another 3,942 firm years due to missing either the percentage of union members in the industry or the number of employees of the firm required for measuring the firm-year level of unionization. Another 29 observations are lost due to missing annual sales revenues. As a result, the final sample consists of 34,245 unique firm years ranging from fiscal 2004 to 2021.

Descriptive statistics for the sample are reported in Table 1. The mean of $NG_{i,t}$ is 0.48, suggests that the use of non-GAAP earnings is prevalent, as non-GAAP EPS are reported for nearly half of the firm years in the sample. While the firm-year level of unionization ($UNION_{i,t-1}$) is used in the main test, the unadjusted, industry-year percentages of union members ($MEMP_{i,t-1}$) are also presented in Table 1 for reference. The industry-level data indicate that, on average, about 6.45% of the employees are union members. About 65% of the sample firms report special items in their quarterly financial results for at least one fiscal quarter of the year, and close to one-third (28%) of the companies in the sample operate in a litigious industry. Table 1 also shows that the vast majority of the companies in the sample (74%) are audited by big-4 accounting firms. Finally, while non-GAAP earnings and special items are common, management forecasts are not as widely used. Management EPS forecasts are available for only 16% of the firm years in the sample.

Table 2 presents the Pearson and Spearman coefficients of correlation among variables. At the univariate level, the propensity to disclose non-GAAP earnings is negatively associated with the level of unionization, regardless of whether the level of unionization is measured at firm-year level or at industry-year level. The Pearson correlation coefficient between $NG_{i,t}$ and $UNION_{i,t-1}$ is -0.044 (p-value < 0.0001) and -0.011 between $NG_{i,t}$ and $MEMP_{i,t-1}$ (p-value = 0.049). The correlation coefficients also suggest that the use of non-GAAP earnings increases with firm size, and the existence of special items and management forecasts and is more prevalent among firms audited by big-4 accounting firms.

## EMPIRPICAL RESULTS

### Results of Main Tests

Since the dependent variable, $NG_{i,t}$, is a dichotomous variable indicating whether non-GAAP earnings is reported for a firm year, to test the Hypothesis equation (1) is estimated using the logistic regression. The earlier discussions predict that the disclosure of non-GAAP earnings may be less likely among more unionized firms due to the lack of incentive for management to decrease information asymmetry or to manage expectations upward. In contrast, the propensity to report non-GAAP earnings can increase in the presence of strong unions if non-GAAP

[5] The authors thank Dr. Kurt Gee for making the dataset available.

earnings are used as a tool to adversely influence perceived performance of the firm. Therefore, the coefficient on $UNION_{i,t-1}$ in equation (1) is predicted to be either positive or negative.

The logistic regression results for equation (1) are reported in Table 3. The coefficient on the measure of union strength, $UNION_{i,t-1}$, is negative (-3.897) and significant at 1% level, suggesting that the likelihood of reporting non-GAAP earnings decreases in union strength. As discussed earlier in the section of hypothesis development, a negative coefficient on the union variable is consistent with the contention that, strong unions may deter managers from conveying private information through the disclosure of non-GAAP earnings. While voluntary disclosure can also be used as a means to drive down perceptions of company prospects, the sign of the coefficient on $UNION_{i,t-1}$, does not suggest that non-GAAP earnings are used to achieve this objective.

The coefficients on control variables included in equation (1) are all positive and statistically significant at 1% level. Consistent with findings documented by prior research, the use of non-GAAP earnings is more prevalent among larger firms, firms audited by Big-4 accounting firms, and those which report special items, issue management earnings forecasts, or operate in a litigious industry.

**Robustness Tests**

A couple of sensitivity tests are conducted to ensure the robustness of the main test results. First, equation (1) is re-estimated by substituting the industry-year percentage of employees who are union members ($MEMP_{i,t-1}$) for $UNION_{i,t-1}$ and the results are qualitative similar. The coefficient on $MEMP_{i,t-1}$ (untabulated) is -0.017 and significant at 1% level (p-value =0.001). This result suggests that the finding of a decreasing effect of union strength on the use of non-GAAP earnings is not due to the adjustments made to industry-level of union membership data in constructing the firm-level measure of unionization.

Leung and Veenman (2018) report that a substantial portion of loss firms report non-GAAP earnings and that the percentage increased from 2006 to 2014. Bronars, Deere, and Tracey (1994) document a negative relation between firm profitability and the level of unionization. It may be possible that the measure of labor union strength captures the effect of loss on the reporting of non-GAAP earnings. However, if that is the case, the coefficient on $UNION_{i,t-1}$ should have been positive instead of negative. At any rate, equation (1) is re-estimated with control for the effect of loss by adding an additional independent variable, $LOSS_{i,t}$, which is coded as one for firm years in which reported net income is negative. Untabulated results of this analysis are qualitatively similar, with the coefficient on $UNION_{i,t-1}$ equal to -0.017 (p-value = 0.001).

Bradshaw and Sloan (2002) note a strong tendency for firms to report non-GAAP earnings above comparable GAAP earnings, suggesting that non-GAAP adjustments are predominantly income-increasing. The main test results show that more unionized firms are less likely to make non-GAAP adjustments, which is consistent with the notion that managers are less motivated to convey private information publicly in the presence of strong unions or to positively influence investors' perception of the company performance. However, if some managers, when faced with strong unions, are willing to portray a gloomy picture about the company at the cost of the negative market reactions from missing analyst forecasts (Bova, 2013), would managers also be motivated to achieve the same objective by reporting non-GAAP earnings that are lower than the reported GAAP income?

To address this question, those sample firms that report non-GAAP earnings are further examined. Unlike the main test, this additional analysis focuses exclusively on those that disclose non-GAAP earnings and is conducted with firm-quarter data rather than firm-year data. The sample of 40,733 unique firm quarters are first split into subsamples based on the level of unionization (above or below sample median) as well as on whether the disclosed non-GAAP EPS exceed the reported GAAP EPS (i.e., income-increasing).[6] This breakdown of the sample by unionization and by the type of non-GAAP adjustments is reported in Panel A of Table 4. As shown in Panel A of Table 4, among the fiscal quarters for which non-GAAP EPS are reported about 80% of them are income-increasing. Among the firm quarters with high (low), above (below)-median level of unionization, 80.8% (79.8%) of the non-GAAP adjustments are income-increasing. While the percentage of high-unionization firms that use income-increasing non-GAAP adjustments is only 1% higher than that of those with below-median level of unionization, the difference is statistically significant at 5% based on a Z-statistic of 2.56.

The magnitude of non-GAAP adjustments made by firms with high- vs. low-level of unionization is also contrasted, and findings are reported in Panel B of Table 4. The average adjustments made by firms in the high-unionization group bring non-GAAP EPS about 24 cents higher than reported GAAP EPS, the mean non-GAAP adjustments made by those in the low-unionization group are about 4 cents higher. However, when the adjustment amounts are further scaled by the reported GAAP EPS, the difference between the two groups is no longer statistically significant. Taken together, these results reveal no evidence that more unionized firms are more likely to make income-decreasing non-GAAP adjustments to signal a poor outlook for the company.

## CONCLUSION

In this study, the impact of an important corporate stakeholder, labor unions, on the reporting of non-GAAP earnings is examined. Drawing from prior literature, it is hypothesized that the strength of labor unions may be positively or negatively associated with the use of non-GAAP earnings. The disclosure of non-GAAP earnings may increase with union strength if non-GAAP earnings are used as an alternative means to manage the perceived performance of the company downward. In contrast, in the presence of strong unions managers may be less motivated to signal their private information via the disclosure of non-GAAP earnings, resulting in a decreased propensity to use non-GAAP earnings among more unionized firms.

The results of this study indicate that, in general, the likelihood of disclosing non-GAAP earnings decreases with the strength of labor unions, regardless of whether the labor union strength is measured by firm or by industry. Additionally, there is no evidence that more unionized firms are predisposed to make income-decreasing non-GAAP adjustments to adversely influence the perceived firm performance. In fact, even more unionized firms are predominantly reporting non-GAAP earnings higher than reported GAAP earnings. Therefore, the findings are more consistent with the notion that managers faced with stronger unions are more reluctant to release private information through via disclosing non-GAAP earnings.

This study contributes to two lines of literature. First, this paper adds to the growing accounting literature on the effects of an important corporate stakeholder, labor unions, on

[6] Since a comparison is made between the GAAP EPS and non-GAAP EPS disclosed by the firms, the subsample here consists of 40,733 firm quarters in which non-GAAP earnings are used rather than the firm years examined in the main results.

corporate financial reporting choices. While existing literature already shows that labor unions can influence the operating choices and performance of companies, relatively less is known about the effects of labor unions on choices of accounting methods and voluntary disclosure. Second, the use of non-GAAP financial measures has become even more prevalent over time even after the implementation of Reg G. With the increased use of non-GAAP earnings, it is important for investors as well as regulators to gain a better understanding of the factors that drive managers' decisions underlying the use of these measures. This study bridges these two growing lines of literature by demonstrating that the strength of labor unions appears an important consideration in managers' decision to disclose non-GAAP earnings.

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**Table 1 Descriptive Statistics**

| | Mean | Median | Standard Deviation | 25th Percentile | 75th Percentile |
|---|---|---|---|---|---|
| $NG_{i,t}$ | 0.484 | 0.000 | 0.500 | 0.000 | 1.000 |
| $UNION_{i,t-1}$ | 0.024 | 0.008 | 0.043 | 0.001 | 0.025 |
| $MEMPCT_{i,t-1}$ | 6.451 | 3.200 | 7.412 | 1.600 | 8.300 |
| $SIZE_{i,t-1}$ | 6.278 | 6.461 | 2.382 | 4.798 | 7.912 |
| $SPECIAL_{i,t}$ | 0.654 | 1.000 | 0.476 | 0.000 | 1.000 |
| $LITIGATE_{i,t}$ | 0.282 | 0.000 | 0.450 | 0.000 | 1.000 |
| $BIG4_{i,t}$ | 0.742 | 1.000 | 0.437 | 0.000 | 1.000 |
| $GUIDANCE_{i,t}$ | 0.163 | 0.000 | 0.369 | 0.000 | 0.000 |

Note: Table 1 reports the descriptive statistics. $NG_{i,t}$ is an indicator variable that equals 1 if a company reports non-GAAP earnings per share for at least one quarter of the fiscal year. UNIONi,t-1 is a firm-year measure of the level of unionization as of the beginning of the fiscal year, calculated as the percentage of union members in the industry in which the company operates times the number of employees of the company and scaled by total assets (in millions) as of the beginning of the fiscal year. $MEMP_{i,t-1}$ represents the percentage of union members in the industry in which the company operates times 100 as of the beginning of the fiscal year. $SIZE_{i,t-1}$ is the logarithm of one plus sales revenue for the previous fiscal year. $SPECIAL_{i,t}$ is an indicator variable that equals one if the company report special items in any quarter of the fiscal year and zero otherwise. $LITIGATE_{i,t}$ is also an indicator variable that equals one if the company operates in a litigious industry of the following SIC code: 2833 - 2836, 8731 - 8734, 3570 - 3577, 7370 -7374, 3600 – 3674 and zero otherwise. $BIG4_{i,t}$ is an indicator variable coded as one for companies that are audited by Big 4 accounting firms for the fiscal year and zero otherwise. $GUIDANCE_{i,t}$ is an indicator variable coded as one if at least one management forecast for earnings per share is issued in any of the quarters of the fiscal year and zero otherwise. All continuous variables are winsorized at 1 and 99 percent.

**Table 2 Coefficients of Correlation**

| | NG | UNION | MEMP | SIZE | SPECIAL | LITIGATE | BIG4 | GUIDANCE |
|---|---|---|---|---|---|---|---|---|
| NG | | **-0.044** | **-0.011** | **0.377** | **0.348** | 0.007 | **0.249** | **0.166** |
| UNION | 0.004 | | **0.492** | **0.119** | **0.020** | **-0.139** | **0.024** | **0.077** |
| MEMP | **-0.018** | **0.675** | | **0.228** | **0.036** | **-0.313** | **0.116** | 0.002 |
| SIZE | **0.374** | **0.199** | **0.198** | | **0.311** | **-0.209** | **0.479** | **0.209** |
| SPECIAL | **0.348** | **0.092** | **0.066** | **0.311** | | **-0.029** | **0.191** | **0.084** |
| LITIGATE | 0.007 | **-0.079** | **-0.331** | **-0.172** | **-0.029** | | **0.031** | **0.092** |
| BIG4 | **0.249** | **0.083** | **0.113** | **0.515** | **0.191** | **0.031** | | **0.158** |
| GUIDANCE | **0.166** | **0.167** | **0.018** | **0.213** | **0.084** | **0.092** | **0.158** | |

Note: Table 2 reports Spearman (lower left-hand side) and Pearson (upper right-hand side) correlation coefficient matrices. All variables are defined in the footnotes of Table 1. Bold values indicate significance at the 0.05 level or stronger (based on two-tailed tests). Firm and year subscripts are omitted for brevity.

**Table 3 Results of Main Tests**

$$\text{Prob}(\text{NG}_{it} = 1) = \alpha + \beta_0\text{UNION}_{i,t-1} + \beta_1\text{SIZE}_{i,t-1} + \beta_2\text{SPECIAL}_{i,t} + \beta_3\text{LITIGATE}_{i,t} + \beta_4\text{BIG4}_{i,t} + \beta_5\text{GUIDANCE}_{i,t} + \beta_{6-14}\text{Industry Indicators}_t + \beta_{15-31}\text{Year Indicators}_i + \varepsilon_{i,t} \quad (1)$$

| | Dependent Variable Prob ($NG_{it}$ =1) | |
|---|---|---|
| $\text{UNION}_{i,t-1}$ | -3.897<br>(-6.27) | *** |
| $\text{SIZE}_{i,t-1}$ | 0.318<br>(18.50) | *** |
| $\text{SPECIAL}_{i,t}$ | 1.170<br>(27.30) | *** |
| $\text{LITIGATE}_{i,t}$ | 0.353<br>(4.45) | *** |
| $\text{BIG4}_{i,t}$ | 0.393<br>(5.90) | *** |
| $\text{GUIDANCE}_{i,t}$ | 0.606<br>(8.93) | *** |
| Intercept | -3.197<br>(-6.25) | *** |
| Industry Indicators | Included | |
| Year Indicators | Included | |
| Number of Firm Years | 34,245 | |
| Pseudo $R^2$ | 32.7% | |

Note: Table 3 reports estimates from the logistic regression of the existence of the disclosure of non-GAAP earnings on the level of unionization and other control variables. T-statistics are reported in parentheses based on robust standard errors clustered by firm. ***/**/* denotes significance at 1%, 5% and 10% levels, respectively. Indicator variables for industry effects are included in the estimation but the coefficients are omitted from the table for brevity. All variables are as defined in the footnotes of Table 1.

**Table 4 Type and Size of Non-GAAP Adjustments by Level of Unionization**

**Panel A: Type of Non-GAAP Adjustments by Level of Unionization**

| | Low Unionization | High Unionization |
|---|---|---|
| Number of Firm Quarters with Income-Increasing Non-GAAP Adjustments | 16,251 | 16,467 |
| Row Percentage | (49.7%) | (50.3%) |
| Column Percentage | (79.8%) | (80.8%) |
| Overall Percentage | (39.9%) | (40.4%) |
| Number of Firm Quarters with Non-Income-Increasing Non-GAAP Adjustments | 4,109 | 3,906 |
| Row Percentage | (51.3%) | (48.7%) |
| Column Percentage | (20.2%) | (19.2%) |
| Overall Percentage | (10.1%) | (9.6%) |
| Total Number of Observations | 20,360 | 20,373 |
| Chi-Squared Statistic of Test of Association | 6.56** | |
| Z Statistic of Test of Difference in Proportions of Income-Increasing Adjustments Between High and Low Unionization | 2.56** | |

**Table 4 Type and Size of Non-GAAP Adjustments by Level of Unionization (Continued)**

**Panel B: Size of Non-GAAP Adjustment by Level of Unionization**

| | Low Unionization | High Unionization | t-Statistic of Test of Difference Between High and Low Unionization |
|---|---|---|---|
| Non-GAAP Adjustments to Quarterly Diluted EPS | 0.2773 | 0.2353 | 2.92*** |
| Non-GAAP Adjustments Quarterly Diluted EPS Scaled by GAAP Quarterly Diluted EPS | 0.0484 | 0.0165 | 0.64*** |

Note: Panels A and B of Table 4 concern non-GAAP adjustments made by sample firms. The statistics reported in Table 4 are based on the quarterly GAAP EPS and quarterly non-GAAP EPS reported by sample firms that disclose non-GAAP EPS in the announcements of quarterly results. Panel A partitions the samples of 40,733 firm-quarter observations into subsamples of firm quarters with above-median level of unionization (high unionization) and below-median level of unionization (low-unionization) in the two columns and reports the number of firm quarters reports for which disclosed non-GAAP EPS exceeds/falls below reported GAAP-EPS (i.e. income increasing/decreasing adjustments) within each subsample in the rows. The first row of Panel B reports the mean values of non-GAAP adjustments for the high- vs. low-unionization subsamples in the two columns, with non-GAAP adjustments calculated as disclosed non-GAAP EPS minus reported GAAP EPS. The mean values reported in the second row of Panel B are calculated as the amount of disclosed non-GAAP EPS minus that of reported GAAP EPS, divided by the amount of reported GAAP EPS. In Panel B, positive (negative) amounts of non-GAAP adjustments indicate that disclosed non-GAAP EPS are higher (lower) than reported GAAP EPS. In Panel A, Chi-Squared statistic for the test of association between the type of non-GAAP adjustment and level of unionization as well as Z Statistic for the test of difference in proportions of income-increasing adjustments between subsamples of high and low levels of unionization are reported in the last two rows of the table. In Panel B, t-statistic for the test of difference between the groups with low- and high-unionization are reported in the last column of the table. ***/**/* denotes significance at 1%, 5% and 10% levels, respectively.