Labor Union Elections and Managers' Incentives to Manipulate Earnings

by

Anand Raghu

An honors thesis submitted in partial fulfillment

of the requirements for the degree of

Bachelor of Science

Undergraduate College

Leonard N. Stern School of Business

New York University

May 2011

Professor Marti G. Subrahmanyam	Professor Ashwini K. Agrawal
Faculty Adviser	Thesis Advisor

Abstract

Recent studies have debated the impact of union elections on firm earnings management. I utilize data regarding union elections from various firms in the late 20th century to estimate the effects of union elections on firm earnings management, and specifically on firm discretionary accruals. Regression estimates indicate that union elections cause firms to employ more negative discretionary accruals in order to deflate earnings. Overall, the evidence is strongly supportive of the theory that labor unions have a significant impact on managers' decisions to manipulate earnings.

Acknowledgements

A special thanks to Professor Ashwini Agrawal for advising me on this research project. Your patience and guidance proved to be invaluable in the preparation of this thesis. I appreciate all of your guidance and insight that you provided me on the research topic and more importantly on the academic research process as a whole. I learned a lot through this project and I thank you for the opportunity for allowing me to work on this project from its inception. I am truly grateful for all of your support and mentorship.

Thank you Professor Marti Subrahmanyam for all of your guidance on this research project and thank you for organizing this program. I learned a great deal, and I thoroughly enjoyed this experience.

Thanks you Jessica Rosenzweig for your support and planning of the honors program and thank you for arranging the trip to meet Warren Buffet.

Contents

I. Introduction

Currently, corporate governance research focuses on defining the role of managers, directors, and outside shareholders, and determining how information flows between these stakeholders, such as the shareholder voting of directors, the directors' appointment of managers, and the managers' reporting of earnings. Comparatively, there has been limited academic research targeted towards understanding the workers' influence within a corporation. Labor unions at public corporations may be able to indirectly influence or restrict the information flow between managers and outside shareholders, as firms may attempt to manage their earnings, through the use of accruals, prior to labor union contract negotiations in order to obtain better labor contracting terms. However, the academic studies that address this issue have reached mixed conclusions regarding the impact of labor unions on firm earnings management. While Liberty and Zimmerman (1986) test for earnings management in the quarter and year of labor contract negotiations and find no evidence of earnings management, Bova (2009) discovers that firms tend to miss earnings estimates prior to labor union contract negotiations. As a result, the evidence on whether firms manage earnings to mitigate union bargaining power remains inconclusive. I seek to study this topic in order to provide greater insight into the role of workers within a corporation by measuring their influence on managers' incentives to manipulate earnings.

Empirical identification of the impact of union elections on firm earnings management requires detailed information about union elections and a concrete measure of earnings management. I use union election information from the National Labor Relations Board (NLRB) from 1977 to 2009 to create a comprehensive dataset of

elections for all firms during this period. For a concrete measure of earnings management, I use discretionary accruals, which capture the difference between cash flows and income, as the main proxy and calculate it for all of the firms. Using these data, I study the impact of labor unions on firm discretionary accruals in companies that had a union election and in companies that had a union election in which the union won during the sample period. I also evaluate the relative influence of union elections on nondiscretionary accruals and return on assets during the sample period.

Estimates of the impact of union elections suggest that the presence of union elections in the past cause sample treatment firms to decrease their discretionary accruals by approximately 8.5%. However, examining the effect of union election wins on discretionary accruals shows that it has no impact on discretionary accruals. While union elections significantly affect discretionary accruals, both union elections and election wins have a relatively weaker impact on nondiscretionary accruals than discretionary accruals. Additionally, union elections have no impact on firm return on assets, while election wins cause a .6% decrease in return on assets. All of these results are consistent with each other, and they demonstrate that labor unions have a statistically and economically significant impact over manager's decisions to use discretionary accruals to signal a negative outlook. Managers have an incentive to manipulate earnings, by specifically deflating them, in order to gain greater bargaining power against labor unions during contract negotiations. As a result of this, managers may hope to gain more favorable contract terms with these unions. While union elections have a strong impact on discretionary accruals, election wins do not have an impact, suggesting that the mere attempt of workforce unionization is enough to influence manager's decisions regarding earnings management. Consistent with these explanations, union elections and election

wins have a weaker impact on nondiscretionary accruals, which are often used to stabilize volatile earnings, than discretionary accruals. Further providing more detail to this theory, election wins have a significant effect on return on assets but union elections do not, implying that labor unions begin to influence a firm's operating profits only if an election has resulted in a victory for the union.

Further understanding the role of workers could have a significant academic and practical impact. In terms of an academic impact, this paper can initiate a new set of research targeted towards studying the power that employees actually possess. Also, future corporate governance academic papers may begin to include the impact of labor unions and workers in addition to the impact of creditors and equity holders if unions possess a significant influence over managers' decisions. On a more practical level, if the impact of unions within a firm were large enough, corporate valuations would then need to account for this in order to calculate a more accurate enterprise value. In particular, large labor unions can exert significant influence over management decisions, enough to force managers to stray from their goals of maximizing shareholder value. As a result, firms with dominant labor unions may be plagued with slower growth compared to firms with non-union workers. This could then entail an implicit union discount in the enterprise value of firms with prevailing labor unions. Most importantly, this research project can evince the importance of workers within a firm and attempt to analyze to their impact on various stakeholders within a corporation.

The remainder of the paper proceeds as follows. Section II contains institutional background describing labor union elections, earnings management, and a relevant practical case study of the issue. Section III describes the data. Section IV contains the analysis. Section V concludes.

II. Institutional Background

2.1 Labor Unions

Labor Unions in the United States are governed by the National Labor Relations Act (NLRA), which provides the legal framework that workers use to become unionized. The NLRA guarantees the right to collectively bargain for every worker who is organized into unions through procedures that the act clearly outlines. While there are several ways a group of workers can become unionized under the NLRA, the most common method of forming new unions is through representation elections (Farber and Western 2001). There are several steps involved in this process (Lee and Mas 2009; DiNardo and Lee 2004) and it begins when a group of workers petitions the NLRB to hold a representation election after deciding to organize and form a union. To be legally granted an election, at least 30 percent of the workforce must sign the petition, and this is done typically over no longer than a six month period. The NLRB then determines the appropriate bargaining unit, and it holds an election at the work site. A simple majority of support amongst the workers is needed to win the election, and a win generally means the union is certified as the exclusive bargaining agent for the unit and that the employer is then legally required to bargain with the union in good faith.

The formation of labor unions in the United States initially began in the late nineteenth century and reached its peak in the early twentieth century; however, this trend has reversed itself in the recent decades as the national union membership rate has dropped consistently. This phenomenon can be partially explained by the presence of an unfavorable environment that affects union bargaining power. For example, the threat of a costly strike used to be an important element in a labor union's power to achieve

improvements in wages and working conditions. However in recent decades, this threat has been significantly diminished by the threat and use of strike replacement workers (LeRoy 1995; Olson 1998). In addition to the unfavorable environment, some researchers have argued that the decline in unions has been caused by an intensification of managerial opposition to unionization (DiNardo and Lee 2004), which include: hiring management consultants to advise employers on tactics to discourage unionization, firing union activists, and engaging in unfair labor practices. In contrast, other researchers have argued that other recent developments, such as innovation in labor saving technologies, and increased openness to international trade, have contributed to union decline (Farber 2001; Katz and Autor 1999; Acemoglu, Aghion, and Violante 2001). Regardless of the reasons, the union membership rate has continued to decline and currently stands at 11.9% of the workforce in the United States in 2010.

2.2 Earnings Management

Earnings management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of a company or to influence contractual outcomes that depend on reported accounting numbers (Healy and Wahlen 1999). The most common forms of earnings management include: unsuitable revenue recognition, inappropriate accruals or estimates of liabilities, and excessive provisions and generous reserve accounting. Unsuitable revenue recognition typically occurs when companies with outstanding customer contracts recognize unearned revenue before all of the products and services have been delivered. Through this early recognition, managers boost the current period earnings while detracting from future earnings. The use of

accruals in earnings management is considerably more sophisticated as managers use their discretion to control earnings by modifying various asset or liabilities accounts. Similarly, managers can also use provision and reserve accounts to manipulate earnings, because these accounts are discretionary and can be easily changed based on management outlook.

Corporate governance research measures earnings management most commonly through calculating discretionary accruals which take into account all of the changes in a company's balance sheet. As a result, it is seen as a comprehensive measure that captures the majority of earnings management within a company. Companies may use these accruals to modify their financial statements within legal boundaries, and certain industries may require the use of accruals due to their volatility and uncertainty. However, these accruals can also be used to temporarily boost or reduce income depending on the desired outcome. Companies have the opportunity to manage earnings, because their reported income includes both cash flows and changes in firm value that are not reflected in current cash flows. While cash flows are relatively easy to measure, computing the change in firm value that is not reflected in current cash flows often involves a great deal of discretion. These accruals of income capture the difference between firms' cash flows and income, so they can be modified to achieve a desired outcome.

2.3 Case Study

The issue of labor unions and earnings management is quite relevant in the world today as many large corporations are constantly affected by this issue. For example, General Motors (GM), a multinational automobile manufacturer that employs over

209,000 workers, was plagued with this issue during the recent financial crisis and received a great deal of media attention when this issue became nationally publicized. The company ran into financial problems by the end of 2007, but it was faced with conflicting options in terms of how to disclose this information to its various stakeholders. On the one hand, the company wanted to appear finally strong in order to avoid further media or government scrutiny. On the other hand, the company wanted to share with its workers its financially distressed position in order to facilitate better contract negotiation terms with the labor unions.

In November 2007, GM reported a massive loss, which was its worst quarterly return and the fourth-largest loss for any company since 1990, after having reported profits for the previous four quarters[1]. Despite this loss, the managers of GM appeared to be cautiously optimistic about the future of the company as they still managed to have strong sales and operating margins in Latin America and Asia. Less than a month after the release of the loss, GM was forced to renegotiate its labor union contracts which affected 73,000 of its employees[2]. Although extensive details of the negotiations have not been provided to the public, one can conjecture that the managers of GM portrayed a darker, more distressed image of the company to the union workers in order to receive better terms. However, the union workers were not willing to concede and eventually declared a strike, the first nationwide walkout since 1970, which ultimately expedited their negotiations and eventually led to an agreement between the two parties. As the financial situation of GM continued to worsen in the following year, the company was forced to renegotiate its contracts with its workers simultaneously while lobbying for

[1] Ken Bensinger's "AUTOMOBILES; Doubts cast on GM's prospects; The carmaker posts a stunning $39-

[2] Micheline Maynard's "U.A.W. and G.M. Are Still at Odds"

extra funding from the U.S. government. Although the unions agreed to several concessions which would ultimately help the company to cut costs and eliminate the wage and benefit gap, GM's financial troubles progressively escalated, and the company was finally forced to declare bankruptcy in June 2009.

In addition to having a practical relevance, there has been some academic research that has analyzed the issue of labor unions and earnings management. Most notably, in one of the first investigations of earnings management in a unionized setting, Liberty and Zimmerman (1986) test for earnings management in the quarter and year of labor contract negotiations, but they find no evidence of earnings manipulation, which may have been because of the lack of precise data that was available during the time of their study. In another case, Bova (2009) discovers that firms tend to miss earnings estimates prior to labor union contract negotiations; however, he does not necessarily attribute this directly to earnings management. Overall, academic findings have been inconclusive in addressing the issue of earnings management and labor union negotiations, so I seek to shed more light onto this issue by using a more comprehensive database of unions and a more concrete measurement of accruals to estimate earnings management in order to obtain more accurate results.

III. Data

The dataset for this project is constructed using several sources of information. First, I collect information about labor union elections that have been documented by the National Labor Relations Board (NLRB) from 1977 to 2000 (Holmes 2006). The NLRB is an independent government agency that is in charge of conducting elections for labor union representations and with investigating and remedying unfair labor practices. This

dataset from the NLRB includes all of the union elections that have taken place in each corporation over the given time period, and for each election, there is information regarding the details of the election and whether the election was successful or not. In order to create a more comprehensive dataset, I supplement this information with additional information from elections that occurred from 2000 to 2009, which is available on the NLRB website (Agrawal 2010).

Second, I collect information about discretionary total accruals (DTA), which serve as the main proxies for earnings management, for each corporation based on the modified version of the Jones model (Yu 2007). This model estimates discretionary accruals from regressions of total accruals on changes in sales and property, plant, and equipment within each industry. I first define total accruals to be the difference between net income and cash flow from operations. This difference should be accounted for by changes in various balance sheet accounts. I believe that the change in sales and property, plant and equipment should account for at least a portion of this difference and that the changes in these accounts are nondiscretionary and are needed to stabilize the earnings of the company. However the difference in cash flow and net income that is not accounted for by the changes in these accounts should be considered discretionary. Thus, my goal is to calculate the discretionary accruals for each company and their change over time.

Using discretionary accruals to measure earnings management does have certain drawbacks. First, for firms with merger and acquisition activities, discontinued operations, or significant foreign currency accounts, the amount of the accrual is often misestimated by using a balance sheet approach. Second, discretionary accruals are more likely to be overestimated for firms with extreme performance, strong growth, or volatile

cash flows. However, discretionary accruals are commonly used as a good proxy for earnings management, because they are fairly accurate in most instances.

Third, I use Compustat to get all of the financial and accounting information for each company in the ExecuComp database for the years 1988 to 2009. I begin in 1988, because this is the earliest year that cash flow from operations, a key input in estimating accruals, is provided on Compustat. I use the ExecuComp database for my list of companies, because it contains a list of 3057 corporations that are a superset of the S&P1500 for which accounting and financial information is available on the Compustat database.

In order to create my desired dataset from all of this information, I first begin by creating two initial datasets: one which contains information about all of the union elections, and another that calculates the discretionary accruals for each firm. Initially, I begin with the NLRB union dataset that has information regarding elections from 1977 to 2000. I append to this dataset the additional information for elections that occurred in the period 2000 to 2009. This creates a comprehensive dataset that includes information from all of the union elections from 1977 to 2009.

The new union dataset contains a great deal of information regarding union elections at various firms, but the accounting or financial information for many of these firms are not available, so I need to streamline this large dataset to only include the companies that are in the ExecuComp database. I begin this process by creating a table of all of the companies in the ExecuComp database along with certain key information such as a unique identifier for each company, the company's stock ticker, and where the company is headquartered. I then create a search string for each company by deleting any common endings like inc, co, company, -cl a, and –cl b in order to produce a broad

set of matches with the union database. Finally, I import this table and the union dataset into Microsoft Access in order to facilitate easier matching between the two tables.

In Microsoft Access, I use an inner join query to find the matches between the two tables. The SQL code for the query that I use is:

*SELECT *FROM [NLRB], * FROM [ExecuComp]*
WHERE [NLRB] INNER JOIN [ExecuComp]
ON [NLRB].Employer LIKE "" & [ExecuComp].SearchStr & "*"*

where NLRB refers to the union dataset, ExecuComp refers to the table of ExecuComp companies, and Employer and SearchStr are two fields in their respective tables. Following this match, I use an intensive of process of hand matching the results to ensure that these matches are accurate and relevant. In any cases of uncertainty, I use additional information such the state of headquarters or the industry of the firm to determine accuracy and relevancy. While there were originally 137,092 records in the union database, the inner join query and the intensive hand matching result in a dataset of 11,310 records.

In addition to the union dataset, I create a second dataset that contains the DTA for each company from 1988 to 2009. Since both of these datasets have a GVKEY field, which is a unique identifier of each company, I am able to import both these datasets onto STATA and then merge them using their GVKEY. This results in my desired dataset from which I am able to perform the empirical analysis needed to answer my research question.

Table 1 contains descriptive statistics of the sample firms and union elections. The dataset has a total of 14,814 firms and there a total of 10,069 union elections in the dataset of which 4,730 of them resulted in victories for the union. The average total number of votes in a union election is approximately 95 votes with an average of 41votes

supporting the union. The average fractional support of unions across all of the union elections is 50.42%; thus, signifying that nearly 50% of the union elections resulted in a victory for the union.

Table 2 contains descriptive statistics of sample firm characteristics for firms with and without union elections in 1988. Firms with union elections are considerably larger than firms without union elections when comparing their assets under management. Firms with union elections have nearly $8.8 billion in assets whereas firms without union elections have only $0.8 billion in assets. Similarly, firms with union elections have a cash balance of $197 million and earnings before interest and taxes (EBIT) of $752 million, while firms without union elections have a cash balance and EBIT of $49 million and $65 million, respectively. As a result of greater earnings, firms with union elections also have a greater return on assets than firms without union elections. In terms of leverage, both are nearly equivalent. However when comparing the number of employees, firms with union elections have a considerably greater number of employees, approximately 44 million, than firms without elections, which only have roughly 5 million employees. All of these statistics demonstrate that firms with union elections are considerably larger than firms without union elections.

IV. Analysis

The effects of labor union elections on whether firms manage earnings are estimated using the following Ordinary Least Square (OLS) regression model:

$$\begin{aligned} \textit{Dependent Var.} = {} & \alpha + \beta_1(\textit{Election\_Past}_{it}) + \beta_2(\ln(\textit{Assets}_{it})) + \beta_3(\textit{ROA1}_{it})) \\ & + \beta_4(\textit{Leverage\_All}_{it}) + \beta_5(\ln(\textit{Employees}_{it})) + \varepsilon_{it} \end{aligned} \qquad (1)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. In the subsections that follow, the key dependent variables that reflect earnings management in

various firms are DTA_{it} and $NDTA_{it}$, and other dependent variables such as $ROA1_{it}$ and MV_{it} / BV_{it} are used to analyze other aspects of firms that may be impacted by labor union elections. $Election\_Past_{it}$ is an indicator of whether firm *i* has held an union election on or prior to year *t*. $ln(Assets_{it})$ is the log of the total assets of firm *i* in year *t*. This variable is added to control for the differences in earnings management related to the firm size, as measured by assets under management, in order to show that firm size does not significantly impact the use of accruals. $ROA1_{it}$ is a measure of earnings that calculates earnings before interest taxes depreciation and amortization (EBITDA) as a percent of total assets for firm *i* in year *t*. This variable is included to demonstrate that a firm's earnings directly affect its earnings management. $Leverage\_All_{it}$ is the total debt as a percentage of total equity for a firm *i* in year *t*. This variable is added to control for any differences in earnings management that may be attributable to a firm's leverage. $Employees_{it}$ is the total number of employees of firm *i* in year *t*. This variable is included to measure any changes in a firm's earnings management that may be impacted by the number of workers it employs.

The impact of labor union elections, which result in victories for the union, on whether firms manage earnings are estimated using the following Ordinary Least Square (OLS) regression model:

$$Dependent\ Var. = \alpha + \beta_1(Election\_PastWin_{it}) + \beta_2(ln(Assets_{it})) + \beta_3(ROA1_{it})) + \beta_4(Leverage\_All_{it}) + \beta_5(ln(Employees_{it})) + \varepsilon_{it} \quad (2)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. $Election\_PastWin_{it}$ is an indicator of whether firm *i* has held an union election that resulted in a union victory on or prior to year *t*. All of the remaining variables are defined as in Specification 1.

Election_Past$_{it}$ and *Election_PastWin*$_{it}$ are effectively difference-in-difference estimators of the impact of union elections and union election victories on various dependent variables. According to this framework, any firm that has not yet had an election or an election in which the union was victorious can be considered a control firm, while any firm that has had an election or an election that proved to be successful for the union can be considered a treatment firm. This assignment into treatment and control groups is due to the nature of the differences of when union elections were held at the various firms.

4.1 Earnings Management

4.1.1 Impact of Union Elections on DTA

The impact of union elections on firm discretionary total accruals, DTA_{it}, is estimated using the following equation:

$$DTA_{it} = \alpha + \beta_1(Election\_Past_{it}) + \beta_2(ln(Assets_{it})) + \beta_3(ROA1_{it})) + \beta_4(Leverage\_All_{it}) + \beta_5(ln(Employees_{it})) + \varepsilon_{it} \quad (3)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. DTA_{it} is the total discretionary accruals as a percentage of total assets of firm *i* in year *t*. All other variables are defined as in Specification 1. Table 3 contains the regression results.

The results indicate that the presence of union elections is associated with an economically large and statistically significant decrease in the percentage of discretionary accruals, which serve as proxies for earnings management. Column 1 indicates a percentage decrease in discretionary total accruals of -7.1%, and when controlling for the firm's size, return on assets, leverage, and number of employees, the estimate increases to -8.5%. The negative coefficients for firm return on assets and leverage indicate an

inverse relationship with discretionary total accruals, which is consistent with prior research on earnings management. For example, if a company were to have a negative return on assets, then the company's estimated discretionary accruals would be positive in an attempt to counteract the effect on the firm's earnings. The positive coefficient on the number of employees indicates that firms with more employees have greater discretionary accruals; however, this variable is not very economically or statistically significant in estimating total discretionary accruals.

The economic and statistical significance of the coefficient estimates for $Election\_Past_{it}$ are consistent with the notion that union elections cause firms to manage earnings, specifically by using negative discretionary accruals. Academic research has consistently shown that managers of various firms actively attempt to thwart the unionization of the workers, so it is reasonable to believe that managers also manipulate the firm's earnings because of labor union elections. The most plausible explanation for this occurrence seems to be that managers of a firm attempt to convey a negative signal about the firm's financial situation to its workers in order to facilitate better, more cost effective terms in labor contract negotiations. The results in Table 3 serve to reaffirm this conjecture.

4.1.2 Impact of Union Election Wins on DTA

The impact of union election wins on firm discretionary total accruals, DTA_{it}, is estimated using the following equation:

$$DTA_{it} = \alpha + \beta_1(Election\_PastWin_{it}) + \beta_2(ln(Assets_{it})) + \beta_3(ROA1_{it})) + \beta_4(Leverage\_All_{it}) + \beta_5(ln(Employees_{it})) + \varepsilon_{it} \quad (4)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. DTA_{it} is the total discretionary accruals as a percentage of total assets of firm *i* in year *t*. $Election\_PastWin_{it}$ is an indicator of whether firm *i* has held an union election that resulted in a victory for the union on or prior to year *t*. All other variables are defined as in Specification 1. Table 4 contains the results of the regression.

The results indicate that union election wins do not have a statistically significant impact on discretionary total accruals. When controlling for the firm's size, return on assets, leverage, and number of employees, the estimates remain statistically insignificant. Only return on assets and firm leverage are significant, and the explanation for their significance is the same as in Specification 3.

The economic and statistical insignificance of the coefficient estimates for $Election\_PastWin_{it}$ indicate that election wins do not have an impact on firm discretionary accruals; whereas, union elections, in general, have an economic and statistically significant effect on discretionary total accruals. These results demonstrate that the mere attempt of unionization by the workforce, measured through representative elections, can cause managers to employ negative discretionary accruals. This means that victories in these union elections are not necessary for the above condition to hold true.

4.1.3 Impact of Union Elections on NDTA

The impact of union elections on firm nondiscretionary total accruals, $NDTA_{it}$, is estimated using the following equation:

$$NDTA_{it} = \alpha + \beta_1(Election\_Past_{it}) + \beta_2(ln(Assets_{it})) + \beta_3(ROA1_{it})) + \beta_4(Leverage\_All_{it}) + \beta_5(ln(Employees_{it})) + \varepsilon_{it} \quad (5)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. $NDTA_{it}$ is the total nondiscretionary accruals as a percentage of total assets of firm *i* in year *t*. All other variables are defined as in Specification 1. Regression results are presented in Table 5.

The results indicate that union elections have a comparatively smaller impact on nondiscretionary accruals than they have on discretionary accruals. The estimates are both economically and statistically less significant than in Specification 3, with the results estimating a 6.2% increase in nondiscretionary total accruals as a result of union elections. When controlling for the firm's size, return on assets, leverage, and number of employees, the estimates remain around the same magnitude. Return on assets, firm leverage, and the number of employees are all statistically significant according to these results, and the explanation for their significance is the same as in Specification 3.

The relatively small economical and statistical significance of $Election\_Past_{it}$ is consistent with the notion that union elections have a greater impact on firm discretionary accruals than nondiscretionary accruals. The reason that union elections have a small, positive effect on nondiscretionary accruals is because firms use nondiscretionary accruals most commonly to stabilize their earnings. The threat of unionization may cause some firms to take precautions which may increase their costs and lower their earnings; thus, causing the firm to use more positive nondiscretionary accruals in order to stabilize their earnings. While this is a plausible conjecture, it is important to note that union elections have a relative weak effect on nondiscretionary accruals and the results in Table 5 show that the estimate for this effect is only statistically significant at the 10% level.

4.1.4 Impact of Union Election Wins on NDTA

The impact of union election wins on firm nondiscretionary total accruals, $NDTA_{it}$, is estimated using the following equation:

$$NDTA_{it} = \alpha + \beta_1(Election\_PastWin_{it}) + \beta_2(ln(Assets_{it})) + \beta_3(ROA1_{it})) + \beta_4(Leverage\_All_{it}) + \beta_5(ln(Employees_{it})) + \varepsilon_{it} \quad (6)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. $NDTA_{it}$ is the total nondiscretionary accruals as a percentage of total assets of firm *i* in year *t*. $Election\_PastWin_{it}$ is an indicator of whether firm *i* has held an union election that resulted in a union victory on or prior to year *t*. All other variables are defined as in Specification 1. Table 6 contains the results of the regression.

The results indicate that union election wins do not have a statistically significant impact on nondiscretionary total accruals. When controlling for the firm's size, return on assets, leverage, and number of employees, the estimates remain statistically insignificant. Only return on assets, firm leverage, and number of employees are significant, and the explanation for their significance is the same as in Specification 3.

The economic and statistical insignificance of the coefficient estimates for $Election\_PastWin_{it}$ indicate that election wins do not have an impact on firm nondiscretionary accruals. These results are consistent with all of the previous results and with the explanation provided in Specification 4.

4.2 Return on Assets

4.2.1 Impact of Union Elections on ROA

The impact of union elections on firm return on assets, $ROA1_{it}$, is estimated using the following equation:

$$ROA1_{it} = \alpha + \beta_1(Election\_Past_{it}) + \beta_2(Leverage\_All_{it}) + \beta_3(ln(Employees_{it})) + \varepsilon_{it} \quad (7)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. $ROA1_{it}$ is a measure of earnings that calculates earnings before interest taxes depreciation and amortization (EBITDA) as a percent of total assets for firm *i* in year *t*. All other variables are defined as in Specification 1. Regression results are presented in Table 7.

The results of the regression indicate that the union elections do not have an economically or statistically significant effect on firm return on assets. The regression estimates that union elections cause a .3% increase in firm return on assets, and this decreases to 0% and becomes statistically insignificant when controlling for leverage and the number of employees. The negative coefficient of leverage implies an inverse relationship between the two variables and this is consistent with previous academic research (Gup 1980), which states that firms with higher leverage tend to have lower return on assets.

The regression results provide evidence that union elections, $Election\_Past_{it}$, have almost no effect on firm return on assets, which is consistent with the rest of the findings. Although elections affect discretionary accruals, they have almost no impact on return on assets which implies that a firm's operating profits are relatively unaffected by the presence of representative union elections within their workforce. This is consistent with the hypothesis which suggests that firms tend to modify reported earnings through the use of discretionary accruals in order to portray a more negative perspective when dealing with workforce unionization.

4.2.2 Impact of Union Election Wins on ROA

The impact of union election wins on firm return on assets, $ROA1_{it}$, is estimated using the following equation:

$$ROA1_{it} = \alpha + \beta_1(Election\_PastWin_{it}) + \beta_2(Leverage\_All_{it}) + \beta_3(ln(Employees_{it})) + \varepsilon_{it} \quad (8)$$

where subscripts *it* uniquely identify individual observations for firm *i* in year *t*. $ROA1_{it}$ is a measure of earnings that calculates earnings before interest taxes depreciation and amortization (EBITDA) as a percent of total assets for firm *i* in year *t*. All other variables are defined as in Specification 1. Regression results are presented in Table 8.

The results indicate that union election victories have an economically and statistically significant effect on firm return on assets. The regression estimates that election wins will cause a -.6% decrease in return on assets. After controlling for firm leverage and the number of employees, this estimate remains statistically significant at the exact same magnitude. The negative coefficients for firm leverage are consistent with the previous results and are defined as in Specification 7. The positive coefficient on employees denotes that a firm's reported earnings, ROA, increases as the number of employees of the firm increases. While larger firms with a greater number of employees tend to be more profitable than smaller firms, it is important to note that this variable is statistically significant but not economically significant in the regression; implying that it has very little impact on return on assets.

The economic and statistical significance of the coefficient estimates for $Election\_PastWin_{it}$ suggest that a firm's return on assets will be directly affected once a labor union has secured a win in a representative election. This is consistent with the results in Specification 7, and it expands upon them by showing that only election wins, and not union elections in general, have an impact on a firm's operating profits. An explanation for this result is that once a union has been established at a firm, the firm's costs have been shown to immediately increase because of more money usually being

directed towards higher wages and better benefits for its workers. The higher costs then translate into lower earnings, which results in lower return on assets for the firm.

V. Conclusion

The findings in this paper address the recent debate concerning the theoretical and empirical relevance of the influence that labor unions have within a corporation. Specifically, the issue this paper attempts to address is whether firms manage earnings in order to influence labor contracting. While, prior academic research has studied the effect that labor unions have on managers' incentives to manipulate earnings, it has provided inconclusive evidence on whether firms manage earnings to mitigate union bargaining power. This paper seeks to improve upon the existing research by using more comprehensive, reliable data regarding union elections and by calculating discretionary accruals as proxies for earnings management.

Through my research, I find that union elections cause firms to manage their earnings by using negative discretionary accruals. However at the same time, union election victories do not have an impact on these accruals. Furthermore, union elections and election wins have a comparatively weaker impact on nondiscretionary accruals than they do on discretionary accruals; suggesting that nondiscretionary accruals, which are used to stabilize earnings, are relatively unaffected by union elections and election wins, whereas discretionary accruals, which are based on the managers' discretion, are impacted negatively by union elections. This evidence is strongly supportive of the hypothesis and various theories that labor unions influence firm earnings management. Additional analysis also shows that firm return on assets are impacted by election wins

but not by union elections. This further expands upon the previous evidence by suggesting that while union elections impact earnings management, a firm's operating profits are only affected after a union election has resulted in a victory for the union.

The results in this paper point to several avenues for additional research. Since labor unions influence corporations to engage in earnings management, it could mean that labor unions have the potential to significantly alter management's incentives to maximize shareholder value. Conducting further research to study this concept could have a significant academic and practical impact. In terms of an academic impact, more research can be done to analyze the level of power that employees actually possess. Also, future studies about corporate governance will tend to include the impact of labor unions and workers along with creditors and equity holders. On a more practical level, if the impact of unions on management decisions were large enough, corporate valuations would then need to account for this in order to calculate a more accurate enterprise value. In particular, large labor unions can exert significant influence over management decisions which can cause managers to stray from their goals of maximizing shareholder value. As a result, firms with dominant labor unions may be plagued with slower growth compared to firms with non-union workers. This could entail an implicit union discount in the enterprise value of firms with prevailing labor unions. I find in my research that labor unions impact firm earnings management, but the true power and influence of labor unions remain unknown, which opens the door to several areas of additional research that can be targeted towards further investigating this issue.

References

Acemoglu, Daron, Philippe Aghion, and Giovanni L. Violante. "Deunionization, Technical Change, and Inequality." April 2001. http://www.cepr.org/pubs/dps/DP2764.asp.

Agrawal, Ashwini K. "Corporate Governance Objectives of Labor Union Shareholders: Evidence from Proxy Voting." July 2010. http://ssrn.com/abstract=1285084.

Agrawal, Ashwini K. "The Impact of Investor Protection Law on Corporate Policy: Evidence from the Blue Sky Laws." June 1, 2009. http://ssrn.com/abstract=1424069.

Bensinger, Ken. "AUTOMOBILES; Doubts Cast on GM's Prospects; The Carmaker Posts a Stunning $39-billion Loss. Industry Experts See Bumpy Road Ahead." *Los Angeles Times*, November 08, 2007.

Bova, Francesco. "Labor Unions and Management's Incentive to Signal a Negative Outlook." July 20, 2009. http://ssrn.com/abstract=1436583.

DiNardo, John, and David S. Lee. "Economic Impacts of New Unionization on Private Sector Employers: 1984–2001*." *Quarterly Journal of Economics* 119, no. 4 (November 2004): 1383-441. doi:10.1162/0033553042476189.

Farber, Henry S., and Bruce Western. "Accounting for the Decline of Unions in the Private Sector, 1973-1998." *Journal of Labor Research* 22, no. 3 (2001): 459-85. Accessed April 18, 2011. Business Source Premier, EBSCOhost.

Farber, Henry S. "Trends in Worker Demand for Union Representation." *American Economic Review* LXXIX (1989): 166-71.

Gup, Benton E. "The Financial Consequences of Corporate Growth." *The Journal of Finance* XXXV, no. 5 (December 1980): 1257-265. http://www.jstor.org/stable/2327099.

Healy, Paul M., and James M. Wahlen. "A Review of the Earnings Management Literature and Its Implications for Standard Setting." *Accounting Horizons* 13, no. 4 (1999): 365-83. doi:10.2308/acch.1999.13.4.365.

Holmes, Thomas J. "Geographic Spillover of Unionism." April 2006. http://www.econ.umn.edu/~holmes/papers/geo_spill_april2006.pdf. Federal Reserve Bank of Minneapolis Research Department Staff Report 368.

Katz, L., and D. Autor. "Chapter 26 Changes in the Wage Structure and Earnings Inequality." *Handbook of Labor Economics* 3 (1999): 1463-555. doi:10.1016/S1573-4463(99)03007-2.

Lee, David, and Alexandre Mas. "LONG-RUN IMPACTS OF UNIONS ON FIRMS: NEW EVIDENCE FROM FINANCIAL MARKETS, 1961-1999." February 2009. http://www.nber.org/papers/w14709.

LeRoy, Michael H. "The Changing Character of Strikes Involving Permanent Striker Replacements, 1935–1990." *Journal of Labor Research* 16, no. 4 (September 1, 1995): 423-37. doi:10.1007/BF02685718.
Liberty, Susan E., and Jerold L. Zimmerman. "Labor Union Contract Negotiations and Accounting Choices." *The Accounting Review* LXI, no. 4 (October 1986): 692-711. http://www.jstor.org/stable/247364.

Maynard, Micheline, and Nick Bunkley. "U.A.W. and G.M. Are Still at Odds." *New York Times*, September 19, 2007.

Olson, Craig A. "“The Use of Strike Replacements in Labor Disputes: Evidence from the 1880s to the 1980s." Paper presented at the 1999 Winter meetings of the IRRA, New York City, 1998.

Yu, Fang. "Analyst Coverage and Earnings Management." *Journal of Financial Economics* 88 (2008): 245-71. http://ssrn.com/abstract=828484.

Appendix

Table 1

Sample Descriptive Statistics

Total Number of Firms	14,814	
Total Number of Elections	10,069	
Elections Won	4,730	
	Mean	Std. Dev.
Total Number of Votes	95	311
Votes for Union	41	113
Support for Union (% votes for vs. against)	50.42%	49.79%

Table 2

Sample Descriptive Statistics

	Firms w/ Union Elections (1988)		Firms w/o Union Elections (1988)	
	Mean	Std. Dev.	Mean	Std. Dev.
Assets ($mm)	$8,732	$26,117	$773	$4,030
Cash ($mm)	$197	$664	$49	$420
EBIT ($mm)	$752	$2,067	$65	$341
ROA1 (EBITDA/Asset)	15.36%	7.79%	2.59%	48.93%
ROA2 (EBIT/Asset)	10.87%	7.41%	-2.71%	51.02%
Total Debt to Equity	25.98%	19.30%	25.33%	80.74%
Long Term Debt to Equity	24.17%	18.60%	22.16%	80.50%
Employees (m)	44	109	5	20

Table 3

	Dependent Variable: DTA				
	(1)	(2)	(3)	(4)	(5)
Election_Past	-0.071**	-0.073**	-0.069*	-0.078**	-0.085**
	(0.035)	(0.037)	(0.037)	(0.037)	(0.037)
Assets		0.001	-0.001	0.003	-0.014
		(0.008)	(0.008)	(0.008)	(0.013)
ROA1			-0.442**	-0.524***	-0.600***
			(0.184)	(0.186)	(0.190)
Leverage_All				-0.241***	-0.239***
				(0.077)	(0.078)
Employees					0.024*
					(0.014)
Constant	-0.023	-0.032	0.048	0.099	0.189**
	(0.032)	(0.062)	(0.071)	(0.073)	(0.089)
R^2	0.000	0.000	0.001	0.001	0.001
No. of obs.	16,063	15,976	15,909	15,908	15,814

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

Table 4

	Dependent Variable: DTA				
	(1)	(2)	(3)	(4)	(5)
Election_PastWin	-0.003	-0.001	-0.001	0.001	-0.002
	(0.027)	(0.029)	(0.029)	(0.029)	(0.030)
Assets		-0.002	-0.005	-0.001	-0.016
		(0.008)	(0.008)	(0.008)	(0.013)
ROA1			-0.455**	-0.535***	-0.604***
			(0.184)	(0.186)	(0.190)
Leverage_All				-0.229***	-0.228***
				(0.077)	(0.078)
Employees					0.02
					(0.014)
Constant	-0.080***	-0.066	0.019	0.064	0.138
	(0.021)	(0.060)	(0.069)	(0.071)	(0.086)
R^2	0.000	0.000	0.000	0.001	0.001
No. of obs.	16,063	15,976	15,909	15,908	15,814

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

Table 5

	Dependent Variable: NDTA				
	(1)	(2)	(3)	(4)	(5)
Election_Past	0.062*	0.066*	0.062*	0.069*	0.076**
	(0.035)	(0.036)	(0.037)	(0.037)	(0.037)
Assets		-0.003	-0.001	-0.004	0.016
		(0.008)	(0.008)	(0.008)	(0.013)
ROA1			0.434**	0.497***	0.580***
			(0.184)	(0.186)	(0.189)
Leverage_All				0.183**	0.181**
				(0.077)	(0.078)
Employees					-0.027*
					(0.014)
Constant	-0.024	-0.003	-0.082	-0.120*	-0.223**
	(0.032)	(0.062)	(0.071)	(0.072)	(0.088)
R^2	0.000	0.000	0.001	0.001	0.001
No. of obs.	16,063	15,976	15,909	15,908	15,814

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

Table 6

	Dependent Variable: NDTA				
	(1)	(2)	(3)	(4)	(5)
Election_PastWin	-0.001	-0.001	0	-0.002	0.002
	(0.027)	(0.029)	(0.029)	(0.029)	(0.030)
Assets		0	0.002	0	0.017
		(0.008)	(0.008)	(0.008)	(0.013)
ROA1			0.447**	0.507***	0.584***
			(0.184)	(0.186)	(0.189)
Leverage_All				0.172**	0.171**
				(0.077)	(0.078)
Employees					-0.024*
					(0.014)
Constant	0.027	0.027	-0.056	-0.089	-0.178**
	(0.021)	(0.060)	(0.069)	(0.071)	(0.086)
R^2	0.000	0.000	0.000	0.001	0.001
No. of obs.	16,063	15,976	15,909	15,908	15,814

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

Table 7

	Dependent Variable: ROA		
	(1)	(2)	(3)
Election_Past	0.003*	0.001	0
	(0.001)	(0.001)	(0.002)
Leverage_All		-0.050***	-0.053***
		(0.003)	(0.003)
Employees			0
			0.000
Constant	0.141***	0.157***	0.158***
	(0.001)	(0.002)	(0.002)
R^2	0.000	0.015	0.018
No. of obs.	18,792	18,271	17,901

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

Table 8

	Dependent Variable: ROA		
	(1)	(2)	(3)
Election_PastWin	-0.006***	-0.006***	-0.006***
	(0.001)	(0.001)	(0.001)
Leverage_All		-0.049***	-0.052***
		(0.003)	(0.003)
Employees			0.001**
			0.000
Constant	0.147***	0.161***	0.160***
	(0.001)	(0.001)	(0.001)
R^2	0.001	0.017	0.019
No. of obs.	18,792	18,271	17,901

***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively