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Three Essays on Dual-Class Stock Structure

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

THREE ESSAYS ON DUAL-CLASS STOCK STRUCTURE

A dissertation submitted in partial fulfillment of

the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

BUSINESS ADMINISTRATION

by

Olesya Lobanova

2013

To: Dean David R. Klock
College of Business Administration

This dissertation, written by Olesya Lobanova, and entitled Three Essays on Dual-Class Stock Structure, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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Date of Defense: November 1, 2012

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Florida International University, 2013

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DEDICATION

I dedicate this dissertation to my husband, my daughter, and my parents. Without their support, patience, and love, the completion of this work would not have been possible.

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ABSTRACT OF THE DISSERTATION
THREE ESSAYS ON DUAL-CLASS STOCK STRUCTURE

by

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Florida International University, 2013

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Professor Suchismita Mishra, Major Professor

Dual-class stock structure is characterized by the separation of voting rights and cash flow rights. The departure from a common “one share-one vote” configuration creates ideal conditions for conflicts of interest and agency problems between controlling insiders (the holders of voting rights) and remaining shareholders. The owners of voting rights have the opportunity to extract private benefits and act in their personal interest; as a result, dual-class firms are often perceived to have low transparency and high information asymmetry.

This dissertation investigates the quality of information and the information environment of firms with two classes of stock. The first essay examines the quality of information by studying accruals in dual-class firms in comparison to firms with only one class of stock. The results suggest that the quality of accruals is better in dual-class firms than in single-class firms. In addition, the difference in the quality of accruals between firms that abolish their dual-class share structure by unification and single-class firms disappears in the post-unification period. The second essay investigates the earnings informativeness of dual-class firms by examining the explanatory power of earnings for returns. The results indicate that the earnings informativeness is lower for dual-class

firms as compared to single-class firms. Earnings informativeness improves in firms that unify their shares. The third essay compares the level of information asymmetry between dual-class firms and single-class firms. It is documented that the information environment for dual-class firms is worse than for single-class firms. Also, the finding suggests that the difference in information environment between dual-class firms and single-class firms disappears after dual-class stock unification.

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CHAPTER 1: THE QUALITY OF ACCRUALS IN DUAL-CLASS FIRMS

1.1. Introduction

On May 18, 2012, Facebook Inc. goes public and causes lots of buzz in the investment community around the globe. The company issues two classes of shares with different voting and cash flow rights. This ownership configuration brings forth renewed interest in dual-class share structure among investors and renewed concerns among corporate governance experts. Many questions are raised about this dual-class share structure; how does this structure affect shareholders, firm performance, stock returns, and firm governance? Finance literature investigates dual-class share structure and provides some insights into how dual-class share structure functions. But nevertheless, many questions remain unanswered.

Dual-class firms have typically two classes of stock. The “inferior” class has little or no voting rights and the “superior” class has a disproportionately larger number of votes per share. The segregation of cash flow rights and voting rights creates ideal conditions for conflicts of interest, agency problems, and private benefit extraction by the holders of voting rights. Dual-class stock structure may stoke information asymmetry between controlling insiders with voting rights and the rest of shareholders. Previous studies suggest that companies with dual-class structure exhibit a poor quality of earnings (Francis, Schipper, and Vincent, 2005) and voluntarily release less information compared to single-class firms (Tinaikar, 2006). This lower quality of earnings may be due to accrual management.

On the other hand, managers with voting rights have the incentive to disclose more information to attract investors and reduce the perception of low credibility and

information asymmetry (Warfield, Wild and Wild, 1995). Dual-class share structure also reduces the likelihood that managers are replaced since outside investors have no voting rights. Essentially, dual-class share structure creates a long-term employment contract for the holders of voting rights. In effect, this encourages them to concentrate on the firms long-term rather than short-term goals (e.g. meeting analysts' forecasts or expectations, or showing positive growth trend or profitability) (Nguyen and Xu, 2010). Following this conjecture, managers with voting rights would have less incentive to manipulate earnings.

Thus, different incentives drive the behavior of controlling insiders and consequently influence the quality of publicly available accounting information. This essay examines the quality of accruals in dual-class firms in comparison to firms with only one class of shares in order to draw some conclusions on which incentives dominate the behavior of owners of voting rights.

I document lower levels of discretionary accruals in dual-class firms compared to single-class firms. This result implies that firms with two classes of stock engage in less earnings managements (measured by absolute abnormal accruals). In addition, I show that after dual-class companies unify their shares, the difference in the level of discretionary accruals between newly unified and single class firms disappears. Thus, I find no evidence that controlling insiders have incentives to manipulate earnings. These results are relevant for shareholders of dual-class firms, other market participants, and regulators.

1.2. Literature Review and Development of Hypotheses

Dual-class structure segregates voting rights and cash flow rights and thus exacerbates the problem of the separation of ownership and control. One of the earliest works to examine the conflicts of interest that arise as a result of a separation of ownership and control is by Jensen and Meckling (1976). Their study suggests that the controlling managers may pursue their own interests which may not be aligned with the interests of outside shareholders. Dual-class structure is a perfect example of this separation and misalignment of interests between controlling insiders (who hold the voting rights) and the rest of shareholders.

In one of the earliest study on dual-class structure, DeAngelo and DeAngelo (1985) examine a sample of 45 U.S. common stocks with separate voting (superior) and non-voting (inferior) classes. They document a high level of family involvement in firms with dual-class structure. They also find that managers of dual-class firms have a greater interest in holding voting shares rather than cash flow rights shares. A theoretical study by Grossman and Hart (1988) examines “the optimality” of a “one share-one vote” share structure. They derive scenarios where deviations from a “one share-one vote” structure can be favorable to stockholders. Their findings imply that if dual-class share structure implementation provides benefits, such as lower cost of capital, a firm should be able to establish a dual-class type of structure.

The growing popularity of firms with two classes of common stocks leads to an intuitive question: what are the determinants of the decision to implement dual-class structure? Lehn, Netter, and Poulsen (1990) investigate firm characteristics around dual-class recapitalizations. Their findings suggest that firms with high growth prospects are more likely to adopt dual-class structure. Amoako-Adu and Smith (2001) add to the

literature by focusing on the determinants of dual-class structure at IPO time. They examine stocks with restricted voting rights listed on the Toronto Stock Exchange by way of a logit regression and find that a firm controlled by a family before an IPO has a higher probability of adopting dual-class structure at IPO time. Therefore, the type of controlling stakeholder affects the likelihood of going public with two classes of common stock.

One of the most recent and comprehensive studies on the determinants of dual-class structure is by Gompers, Ishii, and Metrick (2010). They identify several key factors that increase the probability of a firm implementing a dual-class status; these factors include a person's name in the name of the company at the time of an IPO, a company in the media industry, and the number of firms in the same industry.

The quality of accounting information in firms with separate voting and cash flow rights is examined by Fan and Wong (2002). They study a sample of East Asian firms and show that concentrated ownership characterized by divergence from a "one share-one vote" principal is associated with a lower quality of earnings informativeness. In line with this research, Francis, Schipper, and Vincent (2005) focus on the quality of accounting information in a sample of U.S. dual-class firms. They find that earnings are less informative in dual-class firms compared to single-class firms. Jiraporn (2005) also documents a higher level of earnings management in dual-class firms. On the other hand, Nguyen and Xu (2010) show that the level of absolute discretionary accruals is higher for single-class firms than that for dual-class firms implying that dual-class firms engage in less earnings management activities than single-class firms.

A theoretical model introduced by Chemmanur and Jiao (2012) suggests that dual-class firms will unify their stocks when firm performance post IPO is poor, industry

maturity is reached, and changes in management occur. The model also implies that unification has a positive effect on operating performance. In addition, Dittmann and Ulbricht (2008) find a positive and significant increase in firm value after the unification of German dual-class stocks. Among other empirical works on dual-class unification, is a study by Maury and Pajuste (2011). They examine dual-class unifications in seven European countries and focus on identification of determinants and consequences of unification. Particularly, they document that private control benefits are negatively related to the decision to unify dual-class stocks. The implication is that dual-class firms which offer the smallest private benefits to the holders of voting rights are most likely to return to a “one share-one vote” structure. In addition, high growth opportunities and a severe need for external capital increase the likelihood of unification. Maury and Pajuste also investigate the effects of unification on firm value and find that firm value increases as a result of unification. The impact of unification on liquidity and cost of capital is investigated by Ehrhardt, Kuklinski, and Nowak (2005). They employ a sample of German dual-class firms that abolish dual-class structure during the 1997 to 2003 time period. They document improved liquidity or lower bid-ask spreads, a decreased cost of capital, and an increased firm value as a result of unification.

However, literature on the unification of U.S. dual-class stocks is scarce. Smart, Thirumalai, and Zutter (2008) identify 37 U.S. firms that abolish dual-class structure and perform an event study of the effects of unification on cumulative abnormal returns. They show a positive and significant market reaction to the announcement of dual-class unification. Also, Howell (2009) investigates a sample of 61 unified U.S. stocks and do

not find a significant change in firm value as result of unification. He documents a positive impact of unification on the stocks' liquidity.

Based on prior studies, I state the following research hypotheses:

Hypothesis 1: The level of abnormal discretionary accruals is lower in dual-class stocks than in single-class stocks.

Hypothesis 2: There is no difference in the level of abnormal discretionary accruals between unified stocks and single-class stocks.

1.3. Data and Sample Selection

I examine four different samples of dual-class firms. The “original sample” consists of 385 firms (1,754 firm-years) with two classes of stock.¹ The sample period runs from 1994 to 2002. In order to be included in the sample, a firm must exhibit dual-class share structure for at least two years during the time period from 1994 to 2002. This list of dual-class firms includes U.S. listed companies and excludes utilities (two digit SIC code from 40 to 49) and financial companies (two digit SIC code between 60 and 69).

The “extended sample” builds upon the “original sample”. I manually examine each dual-class firm's 10-K annual report for years 2003 to 2009. I identify 132 dual-class stocks (1,446 firm-years) from the original sample that maintain dual-class share structure beyond 2002. To be included in the sample, a firm must exhibit dual-class share structure for at least two years during the time period from 1994 to 2002 and at least one year from 2003 to 2009.

¹ I thank Dr. Andrew Metrick for providing me with this data

The “restricted sample” consists of 87 dual-class firms (1,035 firm-years) that maintain dual-class share structure for the entire period from 1995 to 2009. To be included in the sample, a firm must exhibit dual-class share structure for each and every year from 1995 to 2009.

The “unification sample” consists of firms that unified their shares. I initially identify 65 firms that unify their shares by examining dual-class firms’ proxy statements from 1994 to 2009. After deleting firms with missing data, the unification sample includes 44 firms (251 firm-years). The sample is partitioned into a pre-unification period and post-unification period. The year of unification is deleted. Furthermore, I collect all accounting variables to measure discretionary accruals from the COMPUSTAT database. I winsorize all continuous variables at the 1% and 99% level.

1.4. Methodology

1.4.1. Measures of Discretionary Accruals: Cross-Sectional Modified Jones Models

There are several accrual-based models that serve to detect earnings management. One of the earliest models is developed by Healy (1985). The purpose of this model is to compare the mean of total accruals (scaled by lagged total assets) across different periods in which earnings are predicted to be managed upwards (the estimation period) or downwards. The mean of total accruals from the estimation period is assumed to be the measure of nondiscretionary accruals. DeAngelo (1986) develops a model in which a first difference in total accruals is computed. This difference is assumed to have an expected value of zero under the null hypothesis of no earnings management. Both, the Healy and DeAngelo models assume that total accruals serve as a proxy for nondiscretionary accruals and that the nondiscretionary accruals are constant over time. DeAngelo’s model

suggests that any changes in total accruals reflect changes in discretionary accruals. Jones (1991) proposes an extended version of DeAngelo's model, removing the assumption of constant nondiscretionary accruals. Therefore, the adjusted model assumes that changes in nondiscretionary accruals occur because of changes in economic conditions. Jones decomposes total accruals into two components: discretionary and nondiscretionary. The nondiscretionary component is a normal component while the discretionary component reflects earnings management. Jones original model assumes that the relation between nondiscretionary accruals and the explanatory variables is stationary. Dechow, Sloan, and Sweeney (1995) propose a modified version of Jones model where they include the change in accounts receivable. This model differs from Jones original model because it assumes that all changes in credit sales in the event period (a period in which earnings management is hypothesized) result from the managers' manipulations of earnings. Larcker and Richardson (2004) propose a modification to measure discretionary accruals. They include cash flows from operations in order to control for a firm's performance and book-to-market ratios to control for expected growth in operations.

These models of discretionary accruals are heavily tested. For instance, DeFond and Jiambalvo (1994) examine the abnormal accruals in firms that report debt covenant violations in annual reports using time-series and cross-sectional versions of Jones model. Both models perform well detecting manipulations.

I construct four measures of discretionary accruals using Modified Jones (MJones) Models. Following Teoh, Welch, and Wong (1998), Kothari, Leone, and Wasley (2005), and Barua et al. (2010), I estimate the first model defined as:

Model 1:

$$\frac{TCA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{\Delta REV_{it} - \Delta AR_{it}}{Assets_{it-1}} + \varepsilon_{it}$$

(1)

where:

$TCA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta StDebt_{it} + \Delta TP_{it} - DepM_{it}$ total current accruals

in year t

ΔCA_{it} = change in current assets for firm i between year $t-1$ and year t

ΔCL_{it} = change in current liabilities for firm i between year $t-1$ and year t

$\Delta Cash_{it}$ = change in cash/cash equivalents for firm i between year $t-1$ and year t

$\Delta StDebt_{it}$ = change in debt included in current liabilities for firm i between year $t-1$ and year t

ΔTP_{it} = change in income taxes payable for firm i between year $t-1$ and year t

$DepM_{it}$ = depreciation and amortization expense for firm i in year t

$Assets_{it-1}$ = total assets for firm i in year $t-1$

ΔREV_{it} = change in sales revenues for firm i between year $t-1$ and year t

ΔAR_{it} = change in accounts receivable

The prediction errors represent the level of discretionary current accruals. They are computed using the coefficients estimated by running an ordinary least squares regression specified in equation (1) and are defined as:

$$ACCRUAL_{it} = \frac{TCA_{it}}{Assets_{it-1}} - \widehat{\beta}_0 - \widehat{\beta}_1 \frac{1}{Assets_{it-1}} - \widehat{\beta}_2 \frac{\Delta REV_{it} - \Delta AR_{it}}{Assets_{it-1}}$$

(2)

Prior literature suggests (e.g., Teoh, Welch, and Wong (1998); Bradshaw, Richardson, and Sloan (2001)) that managers have greater flexibility and control over current accruals compared to long-term accruals. Therefore, Model 1 employs the measure of total current accruals to estimate discretionary current accruals

However, in order to maintain comparability with other literature on discretionary accruals, I also employ three Modified Jones models of discretionary long-term accruals in which I use total accruals defined as:

$$TA_{it} = NI_{it} - OCF_{it}$$

(3)

where:

NI_{it} = net income for firm i in year t

OCF_{it} = operating cash flows for firm i in year t

Following Defond and Jiambalvo (1994), and Nguyen and Xu (2010), I estimate the following equation:

Model 2:

$$\frac{TA_{it}}{Assets_{it-1}} = \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{\Delta REV_{it}}{Assets_{it-1}} + \beta_3 \frac{PPE_{it}}{Assets_{it-1}} + \varepsilon_{it}$$

(4)

where

PPE_{it} = firm i 's year t gross property, plant and equipments

Other variables definitions are identical to those previously described above. Discretionary accruals are computed using estimated coefficients from equation (4) as follows:

$$ACCRUAL_{it} = \frac{TA_{it}}{Assets_{it-1}} - \hat{\beta}_1 \frac{1}{Assets_{it-1}} - \hat{\beta}_2 \frac{\Delta REV_{it}}{Assets_{it-1}} - \hat{\beta}_3 \frac{PPE_{it}}{Assets_{it-1}}$$

(5)

Following Dechow, Sloan, and Sweeney (1995), Teoh, Welch, and Wong (1998), and Barua et al. (2010), I also estimate model three as:

Model 3:

$$\frac{TA_{it}}{Assets_{it-1}} = \alpha_0 + \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{\Delta REV_{it} - \Delta AR_{it}}{Assets_{it-1}} + \beta_3 \frac{PPE_{it}}{Assets_{it-1}} + \varepsilon_{it}$$

(6)

All variables are the same as defined above. Many prior studies estimate model three without an intercept but Kothari, Leone, and Wasley (2005) argue that the inclusion of the intercept serves as an additional control for heteroscedasticity and that the residuals are more symmetric. The residuals from equation (6) are calculated as:

$$ACCRUAL_{it} = \frac{TA_{it}}{Assets_{it-1}} - \hat{\alpha}_0 - \hat{\beta}_1 \frac{1}{Assets_{it-1}} - \hat{\beta}_2 \frac{\Delta REV_{it} - \Delta AR_{it}}{Assets_{it-1}} - \hat{\beta}_3 \frac{PPE_{it}}{Assets_{it-1}}$$

(7)

Larcker and Richardson (2004) add the book-to-market ratio (*BM*) and operation cash flow (*CFO*) to model 3. This updated model controls for expected growth in

operations as well as extreme levels of firm performance. They show that this updated model has better performance detecting earnings management. Thus, following Larcker and Richardson (2004), I also estimate the following model as:

Model 4:

$$\begin{aligned} \frac{TA_{it}}{Assets_{it-1}} = & \beta_0 + \beta_1 \frac{1}{Assets_{it-1}} + \beta_2 \frac{\Delta REV_{it} - \Delta AR_{it}}{Assets_{it-1}} + \beta_3 \frac{PPE_{it}}{Assets_{it-1}} + \\ & + \beta_4 \frac{CFO_{it}}{Assets_{it-1}} + \beta_5 \frac{BM_{it}}{Assets_{it-1}} + \varepsilon_{it} \end{aligned} \quad (8)$$

where:

CFO_{it} = firm i 's year t operating cash flows

BM_{it} = firm i 's year t book value of common equity over the market value of equity

Other variables are the same as defined above.

The residuals from the model represent discretionary accruals and are calculated as:

$$\begin{aligned} ACCRUAL_{it} = & \frac{TA_{it}}{Assets_{it-1}} - \hat{\beta}_0 - \hat{\beta}_1 \frac{1}{Assets_{it-1}} - \hat{\beta}_2 \frac{\Delta Sales_{it} - \Delta AR_{it}}{Assets_{it-1}} - \\ & - \hat{\beta}_3 \frac{PPE_{it}}{Assets_{it-1}} - \hat{\beta}_4 \frac{CFO_{it}}{Assets_{it-1}} - \hat{\beta}_5 \frac{BM_{it}}{Assets_{it-1}} \end{aligned} \quad (9)$$

In all four models, I take the absolute value of discretionary accruals because I am only interested in the magnitude of accruals manipulation. A higher measure of the absolute value of the variable $ACCRUAL$ reflects more earnings management for that firm.

1.4.2. Measures of Discretionary Accruals: Cross-Sectional DD and McDD Models

Dechow and Dichev (DD) (2002) propose a novel approach to measure the quality of accruals. Jones et al. (2008) show that the DD model performs well. Following the Dechow and Dichev (2002) methodology, I estimate the following regression:

Model 5:

$$\frac{\Delta WC_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \frac{CFO_{it-1}}{Assets_{it-1}} + \beta_2 \frac{CFO_{it}}{Assets_{it-1}} + \beta_3 \frac{CFO_{it+1}}{Assets_{it-1}} + \varepsilon_{it}$$

(10)

where:

ΔWC_{it} = change in working capital from year $t-1$ to year t =

($\Delta AR + \Delta Inv + \Delta AP + \Delta IT + \Delta OA$)

AR = accounts receivable

Inv = inventory

AP = accounts payable

IT = income taxes

OA = other assets and liabilities (net change)

CFO = cash flow from operations

The residuals from equation (10) represent the measure of discretionary accruals and are computed as follows:

$$ACCRUAL_{it} = \frac{\Delta WC_{it}}{Assets_{it-1}} - \hat{\beta}_0 - \hat{\beta}_1 \frac{CFO_{it-1}}{Assets_{it-1}} - \hat{\beta}_2 \frac{CFO_{it}}{Assets_{it-1}} - \hat{\beta}_3 \frac{CFO_{it+1}}{Assets_{it-1}}$$

(11)

In addition, following Barua et al. (2010), I also estimate the following regression based on the DD model:

Model 6:

$$\frac{TCA_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \frac{CFO_{it-1}}{Assets_{it-1}} + \beta_2 \frac{CFO_{it}}{Assets_{it-1}} + \beta_3 \frac{CFO_{it+1}}{Assets_{it-1}} + \varepsilon_{it}$$

(12)

where TCA (Total Current Accruals) scaled by lagged total assets is used as the dependent variable.

Discretionary accruals are calculated using estimated coefficients from equation (12):

$$ACCRUAL_{it} = \frac{\Delta TCA_{it}}{Assets_{it-1}} - \hat{\beta}_0 - \hat{\beta}_1 \frac{CFO_{it-1}}{Assets_{it-1}} - \hat{\beta}_2 \frac{CFO_{it}}{Assets_{it-1}} - \hat{\beta}_3 \frac{CFO_{it+1}}{Assets_{it-1}}$$

(13)

The residuals from equation (13) represent the level of discretionary accruals.

McNichols (2002) improves the DD model by adding ΔREV and PPE variables and shows that this model is better at measuring discretionary accruals than the original DD model.

Therefore, I also estimate the following model:

Model 7:

$$\begin{aligned} \frac{\Delta WC_{it}}{Assets_{it-1}} = & \beta_0 + \beta_1 \frac{CFO_{it-1}}{Assets_{it-1}} + \beta_2 \frac{CFO_{it}}{Assets_{it-1}} + \beta_3 \frac{CFO_{it+1}}{Assets_{it-1}} + \\ & + \beta_4 \frac{\Delta REV_{it}}{Assets_{it-1}} + \beta_5 \frac{PPE_{it}}{Assets_{it-1}} + \varepsilon_{it} \end{aligned} \quad ($$

14)

I also use TCA as the dependent variable in model 8 following Barua et al.

(2010):

Model 8:

$$\begin{aligned} \frac{\Delta TCA_{it}}{Assets_{it-1}} = & \beta_0 + \beta_1 \frac{CFO_{it-1}}{Assets_{it-1}} + \beta_2 \frac{CFO_{it}}{Assets_{it-1}} + \beta_3 \frac{CFO_{it+1}}{Assets_{it-1}} + \\ & + \beta_4 \frac{\Delta REV_{it}}{Assets_{it-1}} + \beta_5 \frac{PPE_{it}}{Assets_{it-1}} + \varepsilon_{it} \end{aligned}$$

(15)

The residuals from both models serve as measures of discretionary accruals. In all four models, I take the absolute value of the variable *ACCRUAL* as I am only interested in the magnitude of the discretionary accruals and not in the direction of earnings management.

All eight models of discretionary accruals are estimated cross-sectionally by two-digit SIC industry and year. I require at least six firms in the same two-digit SIC industry to run ordinary least squares regression.

1.4.3. Matching Procedure

I follow two matching procedures between dual-class and single-class firms. The first matching procedure, named “main control”, is performed by matching each dual-

class firm company to a portfolio of single-class companies in the same industry (based on a two digit SIC code) and in the same fiscal year. The second matching procedure is termed “narrow control” and is based on a one-to-one match principal. Each dual-class firm is matched to one single-class firm based on industry (measured by a two digit SIC code), fiscal year, and size (measured by taking natural logarithm of price multiplied by shares outstanding).

1.4.4. Tests of Significance: Univariate Analysis

In order to test for the difference between levels of discretionary accruals of dual-class companies and matching single-class companies, I perform t-test for the difference in means and non-parametric Wilcoxon sum rank test for the difference in medians.

The t-test is performed to test the following null hypothesis:

$$H_0: \mu_{\text{dual}} = \mu_{\text{single}}$$

The alternative directional hypothesis states that dual-class stocks’ discretionary accruals (in absolute terms) are lower than single-class stocks’ discretionary accruals:

$$H_1: \mu_{\text{dual}} < \mu_{\text{single}}$$

In order to test this hypothesis, the t-value is calculated as follows:

$$t = \frac{\bar{X}_{\text{dual}} - \bar{X}_{\text{single}}}{\sqrt{s_{\bar{X}_{\text{dual}}}^2 + s_{\bar{X}_{\text{single}}}^2}}$$

(16)

Where \bar{X}_{dual} is the average of discretionary accruals of dual-class stocks, and \bar{X}_{single} is the average of discretionary accruals of matching single-class stocks. While $s_{\bar{X}_{\text{dual}}}^2, s_{\bar{X}_{\text{single}}}^2$ represent the squares of the standard error of the averages.

If the null hypothesis is true, then the t-statistic follows a Student's t-distribution with (n_1+n_2-2) degrees of freedom, where n_1 is the sample size of dual-class firms and n_2 is the sample size of single-class firms, respectively. I then compare an obtained t-value with a tabled one-tail critical value. If the absolute value of an obtained t-value is greater than the critical value, I conclude that the average of discretionary accruals in dual-class stocks is significantly lower than the average of discretionary accruals in single-class stocks. This would imply a better quality of accruals for firms with two classes of shares.

I also perform a non-parametric Wilcoxon sum rank test to test if the median of the differences in discretionary accruals between dual-class firms and single-class firms is greater than zero. The null hypothesis is the following:

$$H_0: \theta_{\text{dual-single}}^{\text{Diff}} = 0$$

Where $\theta_{\text{dual-single}}^{\text{Diff}}$ represents the median of the differences between dual-class firms' discretionary accruals and single-class firms' discretionary accruals.

The alternative directional hypothesis is as follows:

$$H_1: \theta_{\text{dual-single}}^{\text{Diff}} < 0$$

If the obtained Z-statistic is equal to or less than the tabled one-tailed critical value, then I can conclude that the median of the differences between dual-class and single-class discretionary accruals is less than zero. This suggests that dual-class firms have a higher quality of accruals.

In addition, I apply the difference-in-difference approach to examine the change in differences between unified firms and single-class firms in the pre-unification period and the post-unification period. First, I calculate the difference in discretionary accruals between dual-class firms and single-class firms in the pre-unification period. Second, I calculate the difference in discretionary accruals between unified firms and single-class firms in the post-unification period. Then, I test whether the difference in the pre-unification is statistically significant different from the difference in the post-unification period.

1.4.5. Regression Models

Based on Jiraporn (2005), I construct the first regression model to test the hypothesis that dual-class firms have a higher quality of accruals compared to single-class firms. I employ eight different measures of discretionary accruals based on the Modified Jones models (MJones), Dechow and Dichev (DD) model, and McNichols (McDD) model described above. The following regression is estimated using panel data:

Regression #1:

$$ACCRUAL_{it} = \alpha_0 + \alpha_1 \ln(TotalAssets)_{it} + \alpha_2 DebtRatio_{it} + \alpha_3 BM_{it} + \alpha_4 EBIT_{it} / Assets_{it-1} + \alpha_5 Salesgrowth_{it} + \alpha_6 DUAL + \alpha_7 Loss_{it} + \epsilon_{it}$$

(17)

I use several firm-specific control variables such as size (log of Total Assets), profitability (EBIT ratio), financial distress (Debt ratio), and LOSS (a dummy variable that takes a value of 1 if earnings are negative and zero otherwise). I also use Salesgrowth and BM (book-to-market ratio), in order to control for growth. I employ a dual-class

dummy variable, *DUAL*, which is equal to 1 if a firm is a dual-class, and is equal to 0 otherwise.

I am interested in the coefficient on the dummy variable *DUAL*. A negative and statistically significant coefficient implies that the absolute value of discretionary accruals in dual-class firms is smaller than in single-class firms. This means that the quality of accruals is better in firms with two classes of shares compared to single-class companies.

As a robustness check, I also estimate the following regression which includes capital expenditures ($CAPX_{it}/Assets_{it-1}$) as a control variable:

Regression #2:

$$ACCRUAL_{it} = \alpha_0 + \alpha_1 Ln(TotalAssets)_{it} + \alpha_2 DebtRatio_{it} + \alpha_3 BM_{it} + \alpha_4 EBIT_{it} / Assets_{it-1} + \alpha_5 CAPX_{it} / Assets_{it-1} + \alpha_6 Salesgrowth_{it} + \alpha_7 DUAL + \alpha_8 Loss_{it} + \varepsilon_{it} \quad (18)$$

I predict a negative sign on $Ln(Total Assets)$ based on Dechow and Dichev (2002), who find that smaller firms have lower quality of accruals. I also expect to find a positive coefficient on *Debt Ratio* as prior literature suggests that firms with higher debt constraints tend to manage earnings in order to meet debt covenants. Menon and Williams (2004) document a negative relationship between book-to-market ratio and discretionary accruals, and a positive relationship between sales growth and discretionary accruals. Thus, I expect to find a negative coefficient on *BM* and a positive coefficient on *Salesgrowth* and a positive coefficient on $CAPX/Assets$. Dechow and Dichev (2002) show that firms with poor performance exhibit lower quality of accruals. Hence, I expect to

document a negative coefficient on *EBIT ratio* and a negative coefficient on *Loss* dummy variable.

1.5. Results

1.5.1. Descriptive Statistics

Tables 1.1 through 1.4 present summary statistics for the four samples used in the analysis of discretionary accruals. Table 1.1 shows results for the original sample of dual-class firms with the two single-class control groups: main control (Panel A), and one-to-one control (Panel B). The p-values for the tests of difference in means and medians are displayed in the last two columns of each panel. Dual-class firms in the original sample have less shares outstanding (43.28), smaller sales (1,281.60), and a smaller market capitalization (1,922.83) compared to single-class firms on average. In addition, dual-class firms on average have higher leverage, higher past growth, higher debt ratio, and higher book-to-market ratio than single-class firms.

Table 1.2 reports summary statistics for the extended sample. The means and medians of most variables are similar to those values from the original sample of dual-class firms. Panel B shows the results for a one-to-one control between dual-class firms and single-class firms. Dual-class firms have similar size, EBIT ratio, return on assets (ROA), earnings, and cash flow from operations (CFO) compared to single-class firms.

Table 1.3 presents summary statistics for the restricted sample. The restricted sample is represented by dual-class firms that are larger in size, have larger market capitalization, total assets, earnings, and operating cash flows than dual-class firms in the original sample. These firms maintain dual-class share structure for the entire 1995 to

2009 period and it is logical that these dual-class firms are larger and more financially sound than firms in the original sample.

Summary statistics for the unification sample is given in Table 1.4. Panel A and Panel B present the results for the pre-unification sample while Panel C and Panel D provide the summary statistics for the post-unification sample. The pre-unification sample of dual-class firms has similar characteristics to the original sample of dual-class firms. After unification, dual-class firms have more shares outstanding (an increase from 43.14 to 126.33), have larger sales (an increase from 1,646.47 to 2,920.89), higher total assets (an increase from 1,376.01 to 3,039.42), more leverage (an increase from 0.18 to 0.23), higher earnings (an increase from 35.67 to 89.77), and larger cash flows from operations (CFO) (an increase from 74.81 to 268.75) compared to pre-unification.

1.5.2. Discretionary Accruals

Table 1.5 through Table 1.8 present results for the univariate analysis of discretionary accruals computed in eight different ways. The results of the t-test for the difference between means (dual minus single) and the results of Wilcoxon sum rank test for the difference between medians are given in the last two columns of each table.

The analysis of discretionary accruals for the original sample is reported in Table 1.5. Panels A and C present the discretionary accruals based on MJones models. Using all four models and the two matching procedures, I confirm that the mean and median differences between dual-class firms and single-class firms are negative and statistically significant at the 1% level. Panel B and D show the results of discretionary accruals estimated from the DD and McDD models. I find more evidence supporting my

hypothesis that discretionary accruals in dual-class firms are lower than in single-class firms.

Table 1.6 presents univariate analysis of accruals for the extended sample while Table 1.7 shows the results for the restricted sample of dual-class firms. Both tables document lower discretionary accruals for dual-class firms implying better quality of accruals in firms with two classes of shares.

The analysis of discretionary accruals for the unification sample is given in Table 1.8. The differences in mean and median between dual-class firms and single-class firms are negative and statistically significant in the pre-unification and post-unification periods when the main control is used as the matching procedure. However, when dual-class firms are matched to single-class firms based on a one-to-one matching principal, the differences in means and medians between discretionary accruals of dual-class firms and single-class firms in the post-unification period are not statistically significant. This implies that the quality of accruals in dual-class firms after unification is the same as in single-class firms. In addition, Table 1.8 shows that discretionary accruals of dual-class companies, on average, increase after unification. For instance, Panel A, Model 1, documents a mean of 0.0457 for discretionary accruals of dual-class firms pre-unification while Panel B, Model 1, shows a mean of 0.0688 for discretionary accruals of dual-class firms post-unification.

The results of the difference-in-differences approach are presented in Table 1.8, Panel E. For instance, the average discretionary accruals for dual-class firms in the pre-unification period are 0.0457, while the post-unification period shows discretionary accruals of unified firms at 0.0688. That is a positive increase of 0.0232 from the pre-

unification to the post-unification period which is statistically significant at 1% level. Model 2 through Model 4 suggests the same increase in the level of discretionary accruals for firms that unified their shares. In addition, Model 2 suggests that the difference of the differences between dual-class firms and single-class firms in the pre-unification period and the post-unification period is negative and statistically significant which implies that the difference between the level of discretionary accruals of unified firms and single-class firms in the post-unification period is smaller than the difference between the level of discretionary accruals of dual-class firms and single-class firms in the pre-unification period.

1.5.3. Regression Analysis

Results of the regression analysis using the original sample are given in Table 1.9. My main interest lies in the coefficient on *DUAL*, which is equal to one if a firm is a dual-class firm and is equal to zero for a single-class firm. I document statistically significant negative coefficients on *DUAL* in all regressions with the MJones models. The coefficients on the other variables all have the same signs as predicted. Regressions for the DD and McDD models display less conclusive results since the dummy coefficient for some models is not statistically significant.

Table 1.10 documents regression results for the extended sample and Table 1.11 for the restricted sample. In most cases, the coefficient on *DUAL* is negative and statistically significant. This result suggests that dual-class firms exhibit a higher quality of accruals.

Results for the unification sample are given in Table 1.12. The signs on the coefficients of the control variables are as predicted. The coefficient on $\ln(\text{Total Assets})$ is

negative which implies that smaller firms are associated with higher discretionary accruals (lower quality). The coefficient on *Debt ratio* is positive implying that firms with higher debt engage in more earnings manipulation. The coefficient on *BM* is negative while the coefficients on sales growth (*Salesgrowth*) and capital expenditures ($CAPX/Assets_{it-1}$) are positive and consistent with prior literature. In addition, the coefficients on *EBIT ratio* and *Loss* are negative implying firms with poor performance are associated with higher levels of discretionary accruals (lower level of accruals quality). The coefficient on *DUAL* is negative and statistically significant in the pre-unification period. In the post-unification period, the coefficient on *DUAL* becomes positive but not statistically significant. The implication of these results is that the difference in discretionary accruals between newly single (ex dual) class firms and matching single-class firms disappears after unification.

1.6. Conclusions

In order to raise capital to finance company growth yet keep concentrated control, some firms separate cash flow rights and voting rights by issuing stocks with two classes: superior class (with voting rights) and inferior class (with no or little voting rights). This divergence of voting rights and cash flow rights creates suitable testing grounds for many compelling financial theories. For instance, prior studies document that this separation has a direct effect on the credibility of accounting information (Francis, Schipper, and Vincent, 2005). In this study, I investigate the quality of accruals in dual-class firms and the changes in the level of discretionary accruals after dual-class firms exit this structure by unifying shares. I employ eight models of discretionary accruals to measure earnings management in dual-class firms. I investigate four different samples of dual-class firms

and use two matching procedures to match dual-class to single-class firms for a comparative analysis. I document a lower level of discretionary accruals in dual-class firms compared to single-class firms. In addition, I find the quality of accruals deteriorates in the post-unification period. My results imply that controlling managers of dual-class firms engage in less earnings management. One explanation for such results is that the holders of voting rights in dual-class companies have fewer incentives to manipulate accruals since voting rights provide them with protection and independence from other shareholders and the market. Possibly, managers with voting rights are less concerned about stock price and short-term performance benchmarks and concentrate more on long-term goals and lasting company success.

Table 1.1 Summary Statistics

The table presents summary statistics for the original sample of dual-class firms and matching single-class firms. Panel A shows the results for the original sample based on year and industry matching procedure (Main Control). Panel B presents the results for the original sample based on year, industry, and size matching procedure (One-to-One Control). SHARES is the number of shares outstanding at the end of fiscal year t . SALES is total sales from COMPUSTAT at the end of fiscal year t . MCAP is the number of shares outstanding multiplied by fiscal year-end price plus the difference between total assets and total common equity at the end of fiscal year t . ASSETS is a firm's total assets from COMPUSTAT at the end of fiscal year t . SIZE is number of shares outstanding multiplied by price at the end of year t . LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year $t-1$. PASTGROWTH is book-to-market ratio in prior year $t-1$. SALESGROWTH is total sales for fiscal year t scaled by total sales in fiscal year $t-1$. NOA is net operating asset scaled by sales for fiscal year $t-1$. DEBT RATIO is the ratio of total liabilities to total assets. EBIT/ASSETS is earnings before interest and taxes for fiscal year t scaled by total assets at the end of fiscal year $t-1$. BM is the ratio of book value of equity to market value. ROE is return on equity measured as income before extraordinary items in year t scaled by total stockholder's equity in year t . ROA is return on assets measured as earnings before extraordinary items in year t scaled by total assets. EARNINGS is net income at the fiscal year-end. CFO is cash flow from operations at fiscal year-end. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. MM stands for millions. MM\$ stands for millions of dollars.

Panel A: Original Sample: Main Control

Variable	DUAL				SINGLE				Test of Diff between Mean (p-values)	Test of Diff between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	t-test	Wilcoxon sum rank test
SHARES (MM)	43.28	9.48	20.20	43.10	64.06	6.97	15.71	44.20	<.0001	<.0001
SALES (MM\$)	1,281.60	183.62	509.00	1,247.45	1,732.67	50.84	209.34	906.23	0.0001	<.0001
MCAP (MM\$)	1,922.83	196.43	685.47	1,704.53	3,247.07	73.59	290.08	1,396.97	<.0001	<.0001
ASSETS (MM\$)	1,186.34	159.23	474.89	1,207.66	1,718.73	49.88	191.90	849.44	<.0001	<.0001
SIZE	5.67	4.41	5.76	6.86	5.27	3.64	5.05	6.71	<.0001	<.0001
LEVERAGE	0.24	0.07	0.22	0.36	0.21	0.05	0.17	0.31	<.0001	<.0001
PASTGROWTH	0.76	0.53	0.75	0.97	0.68	0.45	0.67	0.89	<.0001	<.0001
SALESGROWTH	1.13	0.99	1.07	1.18	1.20	0.98	1.10	1.27	<.0001	<.0001
NOA	1.01	0.59	0.80	1.13	1.03	0.55	0.77	1.12	0.2614	0.0470
DEBT RATIO	0.55	0.40	0.54	0.67	0.53	0.37	0.53	0.67	0.0243	0.0034
EBIT/ASSETS	0.08	0.04	0.09	0.14	0.05	0.01	0.08	0.15	<.0001	<.0001
BM	0.79	0.55	0.78	1.01	0.71	0.48	0.70	0.92	<.0001	<.0001
ROE	0.03	0.01	0.09	0.15	-0.06	-0.05	0.08	0.15	<.0001	<.0001
ROA	0.11	0.08	0.12	0.17	0.09	0.06	0.12	0.17	<.0001	0.0003
EARNINGS (MM\$)	34.11	0.10	11.70	47.21	68.26	-2.42	3.61	30.81	<.0001	<.0001
CFO (MM\$)	87.12	4.62	29.55	98.11	159.00	0.21	10.00	71.25	<.0001	<.0001
# OF OBS	1,754				24,070					

Panel B: Original Sample: One-to-One Control										
Variable	DUAL				SINGLE				Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	t-test	Wilcoxon sum rank test
SHARES (MM)	43.28	9.48	20.20	43.10	51.89	9.00	22.18	45.82	0.0026	0.0638
SALES (MM\$)	1,281.60	183.62	509.00	1,247.45	1,406.64	146.91	500.08	1,235.83	0.1870	0.3517
MCAP (MM\$)	1,922.83	196.43	685.47	1,704.53	1,883.47	179.85	646.47	1,667.39	0.7689	0.3104
ASSETS (MM\$)	1,186.34	159.23	474.89	1,207.66	1,197.19	130.27	399.67	1,038.74	0.8995	0.0096
SIZE	5.67	4.41	5.76	6.86	5.67	4.44	5.79	6.86	0.9885	0.9600
LEVERAGE	0.24	0.07	0.22	0.36	0.24	0.09	0.22	0.35	0.6042	0.4401
PASTGROWTH	0.76	0.53	0.75	0.97	0.70	0.50	0.70	0.91	<.0001	<.0001
SALESGROWTH	1.13	0.99	1.07	1.18	1.18	0.99	1.08	1.24	<.0001	0.0096
NOA	1.01	0.59	0.80	1.13	0.93	0.52	0.74	1.04	0.0020	<.0001
DEBT RATIO	0.55	0.40	0.54	0.67	0.56	0.42	0.56	0.69	0.0309	0.0213
EBIT/ASSETS	0.08	0.04	0.09	0.14	0.08	0.04	0.10	0.15	0.7387	0.2159
BM	0.79	0.55	0.78	1.01	0.73	0.52	0.72	0.93	<.0001	<.0001
ROE	0.03	0.01	0.09	0.15	0.00	-0.01	0.09	0.15	0.0622	0.8217
ROA	0.11	0.08	0.12	0.17	0.12	0.08	0.13	0.18	0.4819	0.0188
EARNINGS (MM\$)	34.11	0.10	11.70	47.21	33.03	-1.68	9.01	41.90	0.8172	0.0146
CFO (MM\$)	87.12	4.62	29.55	98.11	101.01	3.61	25.89	102.29	0.0493	0.8230
# OF OBS	1,754				1,754					

Table 1.2 Summary Statistics: Extended Sample

The table presents summary statistics for the extended sample of dual-class firms and matching single-class firms. Panel A shows the results based on year and industry matching procedure (Main Control). Panel B presents the results based on year, industry, and size matching procedure (One-to-One Control). SHARES is the number of shares outstanding at the end of fiscal year t. SALES is total sales from COMPUSTAT at the end of fiscal year t. MCAP is the number of shares outstanding multiplied by fiscal year-end price plus the difference between total assets and total common equity at the end of fiscal year t. ASSETS is a firm's total assets from COMPUSTAT at the end of fiscal year t. SIZE is number of shares outstanding multiplied by price at the end of year t. LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year t-1. PASTGROWTH is book-to-market ratio in prior year t-1. SALESGROWTH is total sales for fiscal year t scaled by total sales in fiscal year t-1. NOA is net operating asset scaled by sales for fiscal year t-1. DEBT RATIO is the ratio of total liabilities to total assets. EBIT/ASSETS is earnings before interest and taxes for fiscal year t scaled by total assets at the end of fiscal year t-1. BM is the ratio of book value of equity to market value. ROE is return on equity measured as income before extraordinary items in year t scaled by total stockholder's equity in year t. ROA is return on assets measured as earnings before extraordinary items in year t scaled by total assets. EARNINGS is net income at the fiscal year-end. CFO is cash flow from operations at fiscal year-end. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. MM stands for millions. MM\$ stands for millions of dollars.

Panel A: Extended Sample: Main Control

Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean t-test	Test of Difference between Median (p-values) Wilcoxon sum rank test	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3				
SHARES (MM)	44.18	10.35	22.07	50.41	92.85	8.73	22.50	62.51	-48.68	-7.55	<.0001	
SALES (MMS)	1,435.53	252.53	707.50	1,595.13	2,351.08	66.69	296.64	1,297.99	-915.50	-5.22	<.0001	
MCAP (MMS)	2,189.24	248.17	940.37	2,374.54	4,398.78	103.12	463.13	2,194.96	-2,209.50	-6.35	<.0001	
ASSETS (MMS)	1,331.03	213.29	658.93	1,646.82	2,395.21	67.89	291.68	1,323.83	-1,064.20	-6.03	<.0001	
SIZE	5.99	4.72	6.18	7.25	5.66	3.99	5.55	7.17	0.33	5.65	<.0001	
LEVERAGE	0.21	0.08	0.20	0.32	0.21	0.05	0.17	0.31	0.01	1.58	0.1145	
PASTGROWTH	0.79	0.56	0.77	0.99	0.67	0.45	0.66	0.88	0.11	13.91	<.0001	
SALESGROWTH	1.07	0.99	1.06	1.14	1.18	0.99	1.09	1.25	-0.11	-9.73	<.0001	
NOA	0.97	0.61	0.81	1.13	1.06	0.57	0.80	1.16	-0.09	-3.74	0.0002	
DEBT RATIO	0.52	0.39	0.52	0.64	0.53	0.37	0.52	0.67	-0.01	-2.09	0.0363	
EBIT/ASSETS	0.09	0.05	0.09	0.13	0.05	0.01	0.08	0.14	0.04	8.04	<.0001	
BM	0.80	0.56	0.79	1.01	0.70	0.47	0.68	0.90	0.10	12.29	<.0001	
ROE	0.07	0.04	0.09	0.14	-0.04	-0.05	0.08	0.16	0.10	6.11	<.0001	
ROA	0.12	0.09	0.12	0.17	0.09	0.06	0.12	0.17	0.04	8.47	<.0001	
EARNINGS (MMS)	56.37	2.40	20.75	69.19	113.29	-2.82	5.34	49.56	-56.91	-4.57	<.0001	
CFO (MMS)	119.73	10.54	51.55	140.36	236.10	0.78	16.88	116.10	-116.40	-5.9	<.0001	
# OF OBS		1,446				36,411						

Panel B: Extended Sample: One-to-One Control

Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean t-test	Test of Difference between Median (p-values) Wilcoxon sum rank test	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3				
SHARES (MM)	44.18	10.35	22.07	50.41	63.49	11.49	29.24	60.69	-19.31	-5.16	<.0001	
SALES (MM\$)	1,435.53	252.53	707.50	1,595.13	1,687.63	209.83	657.89	1,756.53	-252.10	-2.42	0.0156	
MCAP (MMS)	2,189.24	248.17	940.37	2,374.54	2,397.33	255.82	910.94	2,432.17	-208.10	-1.39	0.1650	
ASSETS (MM\$)	1,331.03	213.29	658.93	1,646.82	1,627.57	171.48	575.48	1,488.03	-296.50	-2.95	0.0032	
SIZE	5.99	4.72	6.18	7.25	5.97	4.77	6.15	7.22	0.02	0.27	0.7907	
LEVERAGE	0.21	0.08	0.20	0.32	0.24	0.09	0.22	0.34	-0.02	-3.40	0.0007	
PASTGROWTH	0.79	0.56	0.77	0.99	0.71	0.51	0.69	0.90	0.08	6.99	<.0001	
SALESGROWTH	1.07	0.99	1.06	1.14	1.13	0.98	1.07	1.20	-0.06	-6.30	<.0001	
NOA	0.97	0.61	0.81	1.13	0.92	0.55	0.76	1.03	0.05	2.13	0.0332	
DEBT RATIO	0.52	0.39	0.52	0.64	0.57	0.42	0.56	0.68	-0.05	-6.11	<.0001	
EBIT/ASSETS	0.09	0.05	0.09	0.13	0.09	0.04	0.09	0.15	0.00	0.89	0.3719	
BM	0.80	0.56	0.79	1.01	0.72	0.53	0.71	0.91	0.07	6.47	<.0001	
ROE	0.07	0.04	0.09	0.14	0.00	-0.01	0.09	0.15	0.06	3.96	<.0001	
ROA	0.12	0.09	0.12	0.17	0.12	0.08	0.13	0.18	0.00	0.76	0.4480	
EARNINGS (MMS)	56.37	2.40	20.75	69.19	48.71	-0.80	14.65	57.22	7.66	1.20	0.2312	
CFO (MM\$)	119.73	10.54	51.55	140.36	131.34	5.70	40.48	133.97	-11.61	-1.31	0.1889	
# OF OBS		1,446					1,446					

Table 1.3 Summary Statistics: Restricted Sample

The table presents summary statistics for the restricted sample of dual-class firms and matching single-class firms. Panel A shows the results based on year and industry matching procedure (Main Control). Panel B presents the results based on year, industry, and size matching procedure (One-to-One Control). SHARES is the number of shares outstanding at the end of fiscal year t. SALES is total sales from COMPUSTAT at the end of fiscal year t. MCAP is the number of shares outstanding multiplied by fiscal year-end price plus the difference between total assets and total common equity at the end of fiscal year t. TOTAL ASSETS is a firm's total assets from COMPUSTAT at the end of fiscal year t. SIZE is number of shares outstanding multiplied by price at the end of year t. LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year t-1. PASTGROWTH is book-to-market ratio in prior year t-1. SALESGROWTH is total sales for fiscal year t scaled by total sales in fiscal year t-1. NOA is net operating asset scaled by sales for fiscal year t-1. DEBT RATIO is the ratio of total liabilities to total assets. EBIT/ASSETS is earnings before interest and taxes for fiscal year t scaled by total assets at the end of fiscal year t-1. BM is the ratio of book value of equity to market value. ROE is return on equity measured as income before extraordinary items in year t scaled by total stockholder's equity in year t. ROA is return on assets measured as earnings before extraordinary items in year t scaled by total assets. EARNINGS is net income at the fiscal year-end. CFO is cash flow from operations at fiscal year-end. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. MM stands for millions. MM\$ stands for millions of dollars.

Panel A: Restricted Sample: Main Control

Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean t-test	Test of Difference between Median (p-values) Wilcoxon sum rank test	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3				
SHARES (MM)	49.42	12.69	26.88	56.72	97.22	8.97	23.46	65.28	-47.79	-5.98	<.0001	
SALES (MMS)	1,616.47	353.09	853.97	1,769.10	2,398.74	65.90	295.89	1,306.79	-782.30	-3.70	0.0002	
MCAP (MMS)	2,506.90	349.01	1,198.25	2,799.86	4,607.77	105.04	484.48	2,294.29	-2,100.90	-4.90	<.0001	
ASSETS (MMS)	1,543.38	284.23	813.70	1,883.90	2,488.75	69.00	301.51	1,376.81	-945.40	-4.37	<.0001	
SIZE	6.31	5.15	6.46	7.49	5.71	4.02	5.61	7.22	0.60	8.80	<.0001	
LEVERAGE	0.21	0.09	0.20	0.31	0.21	0.05	0.17	0.31	0.01	0.92	0.3600	
PASTGROWTH	0.77	0.54	0.76	0.96	0.67	0.44	0.66	0.88	0.10	9.87	<.0001	
SALESGROWTH	1.07	0.99	1.06	1.13	1.17	0.98	1.09	1.24	-0.10	-7.68	<.0001	
NOA	1.00	0.62	0.83	1.17	1.09	0.58	0.82	1.19	-0.09	-2.84	0.0045	
DEBT RATIO	0.51	0.39	0.51	0.63	0.53	0.37	0.52	0.67	-0.02	-3.23	0.0013	
EBIT/ASSETS	0.09	0.06	0.09	0.14	0.05	0.01	0.08	0.14	0.04	7.69	<.0001	
BM	0.77	0.55	0.76	0.97	0.69	0.47	0.68	0.89	0.08	8.32	<.0001	
ROE	0.08	0.04	0.09	0.14	-0.04	-0.05	0.08	0.16	0.11	5.64	<.0001	
ROA	0.13	0.09	0.13	0.16	0.09	0.06	0.12	0.17	0.04	7.82	<.0001	
EARNINGS (MMS)	66.31	5.04	29.48	84.38	118.88	-3.13	5.26	50.65	-52.56	-3.36	0.0008	
CFO (MMS)	138.98	18.32	72.52	180.92	246.54	0.82	17.37	121.30	-107.60	-4.42	<.0001	
# OF OBS		1,035				33,098						

Panel B: Restricted Sample: One-to-One Control

Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean t-test	Test of Difference between Median (p-values) Wilcoxon sum rank test	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3				
SHARES (MM)	49.42	12.69	26.88	56.72	73.91	16.92	33.42	74.39	-24.48	-4.96	<.0001	
SALES (MM\$)	1,616.47	353.09	853.97	1,769.10	1,994.61	294.09	836.14	2,063.00	-378.10	-2.83	0.0047	
MCAP (MM\$)	2,506.90	349.01	1,198.25	2,799.86	2,828.39	391.64	1,121.24	3,139.88	-321.50	-1.71	0.0880	
ASSETS (MM\$)	1,543.38	284.23	813.70	1,883.90	1,912.70	274.27	711.17	1,912.89	-369.30	-2.84	0.0046	
SIZE	6.31	5.15	6.46	7.49	6.29	5.13	6.40	7.48	0.02	0.27	0.7852	
LEVERAGE	0.21	0.09	0.20	0.31	0.24	0.10	0.23	0.34	-0.03	-3.77	0.0002	
PASTGROWTH	0.77	0.54	0.76	0.96	0.70	0.51	0.69	0.88	0.07	5.29	<.0001	
SALESGROWTH	1.07	0.99	1.06	1.13	1.13	0.98	1.07	1.20	-0.06	-4.89	<.0001	
NOA	1.00	0.62	0.83	1.17	0.94	0.55	0.77	1.05	0.07	2.27	0.0231	
DEBT RATIO	0.51	0.39	0.51	0.63	0.57	0.43	0.57	0.69	-0.07	-7.39	<.0001	
EBIT/ASSETS	0.09	0.06	0.09	0.14	0.09	0.04	0.10	0.15	0.00	0.89	0.3746	
BM	0.77	0.55	0.76	0.97	0.71	0.52	0.70	0.89	0.06	4.80	<.0001	
ROE	0.08	0.04	0.09	0.14	0.01	0.00	0.10	0.16	0.07	3.75	0.0002	
ROA	0.13	0.09	0.13	0.16	0.12	0.09	0.13	0.17	0.00	0.67	0.5052	
EARNINGS (MM\$)	66.31	5.04	29.48	84.38	58.09	-0.48	20.43	73.07	8.22	1.00	0.3179	
CFO (MM\$)	138.98	18.32	72.52	180.92	154.42	9.87	53.28	154.86	-15.45	-1.38	0.1670	
# OF OBS	1,035				1,035							

Table 1.4 Summary Statistics: Unification Sample

The table presents summary statistics for the unification sample of dual-class firms and matching single-class firms. Panel A shows the results based on year and industry matching procedure (Main Control) for the pre-unification period. Panel B presents the results based on year, industry, and size matching procedure (One-to-One Control) for the pre-unification period. Panel C shows the results based on year and industry matching procedure (Main Control) and for the post-unification period. Panel D presents the results based on year, industry, and size matching procedure (One-to-One Control) for the post-unification period. SHARES is the number of shares outstanding at the end of fiscal year t . SALES is total sales from COMPUSTAT at the end of fiscal year t . MCAP is the number of shares outstanding multiplied by fiscal year-end price plus the difference between ASSETS and total common equity at the end of fiscal year t . ASSETS is a firm's total assets from COMPUSTAT at the end of fiscal year t . SIZE is number of shares outstanding multiplied by price at the end of year t . LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year $t-1$. PASTGROWTH is book-to-market ratio in prior year $t-1$. SALESGROWTH is total sales for fiscal year t scaled by total sales in fiscal year $t-1$. NOA is net operating asset scaled by sales for fiscal year $t-1$. DEBT RATIO is the ratio of total liabilities to total assets. EBIT/ASSETS is earnings before interest and taxes for fiscal year t scaled by total assets at the end of fiscal year $t-1$. BM is the ratio of book value of equity to market value. ROE is return on equity measured as income before extraordinary items in year t scaled by total stockholder's equity in year t . ROA is return on assets measured as earnings before extraordinary items in year t scaled by total assets. EARNINGS is net income at the fiscal year-end. CFO is cash flow from operations at fiscal year-end. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. MM stands for millions. MM\$ stands for millions of dollars.

Panel A: Pre-Unification: Main Control											
Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean	Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test
SHARES (MM)	43.14	15.12	23.66	39.21	67.16	7.48	16.86	45.62	-24.02	-1.70	0.0886
SALES (MMS)	1,646.47	167.94	493.22	988.83	1,523.62	43.86	183.75	821.98	122.80	0.35	0.7272
MCAP (MMS)	2,144.94	279.04	873.98	1,514.59	3,171.78	73.06	287.15	1,356.34	-1,026.80	-1.26	0.2093
ASSETS (MMS)	1,376.01	149.05	537.57	1,058.74	1,532.28	45.11	171.34	779.28	-156.30	-0.44	0.6600
SIZE	6.19	5.29	6.29	6.97	5.32	3.72	5.13	6.72	0.87	5.04	<.0001
LEVERAGE	0.18	0.06	0.16	0.30	0.19	0.03	0.14	0.28	0.00	-0.10	0.9212
PASTGROWTH	0.60	0.41	0.61	0.83	0.64	0.40	0.62	0.86	-0.04	-1.58	0.1134
SALESGROWTH	1.22	1.03	1.12	1.28	1.20	0.98	1.10	1.28	0.02	0.55	0.5843
NOA	1.06	0.52	0.76	1.11	0.96	0.55	0.77	1.08	0.09	1.51	0.1317
DEBT RATIO	0.49	0.38	0.50	0.61	0.52	0.34	0.51	0.66	-0.03	-1.27	0.2054
EBIT/ASSETS	0.09	0.04	0.11	0.18	0.03	-0.01	0.07	0.14	0.06	3.41	0.0007
BM	0.62	0.40	0.60	0.86	0.67	0.43	0.66	0.89	-0.06	-2.10	0.0354
ROE	0.00	0.03	0.11	0.16	-0.11	-0.10	0.07	0.15	0.11	1.62	0.1052
ROA	0.12	0.08	0.14	0.21	0.07	0.03	0.11	0.17	0.05	3.26	0.0011
EARNINGS (MMS)	35.67	3.91	18.85	51.89	52.34	-4.25	2.53	27.53	-16.67	-0.83	0.4062
CFO (MMS)	74.81	1.81	26.51	101.32	134.35	-0.63	7.34	59.62	-59.54	-1.72	0.0853
# OF OBS	251				15,132						

Panel B:Pre-Unification: One-to-One Control

Variable	DUAL				SINGLE				Mean Diff	Test of Diff between Mean t-test	Test of Diff between Median (p-values) Wilcoxon sum rank test	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3				
SHARES (MM)	43.14	15.12	23.66	39.21	53.61	14.39	27.25	60.10	-10.47	-1.42	0.1569	
SALES (MMS)	1,646.47	167.94	493.22	988.83	1,316.70	244.84	675.11	1,277.55	329.80	0.82	0.4150	
MCAP (MMS)	2,144.94	279.04	873.98	1,514.59	2,241.52	343.39	969.49	1,861.31	-96.58	-0.20	0.8408	
ASSETS (MMS)	1,376.01	149.05	537.57	1,058.74	1,278.36	188.33	562.37	1,401.35	97.64	0.27	0.7892	
SIZE	6.19	5.29	6.29	6.97	6.18	5.17	6.24	6.95	0.01	0.06	0.9488	
LEVERAGE	0.18	0.06	0.16	0.30	0.22	0.11	0.21	0.34	-0.04	-2.21	0.0277	
PASTGROWTH	0.60	0.41	0.61	0.83	0.64	0.43	0.61	0.86	-0.04	-1.15	0.2494	
SALESGROWTH	1.22	1.03	1.12	1.28	1.23	1.02	1.10	1.28	0.00	-0.04	0.9710	
NOA	1.06	0.52	0.76	1.11	1.09	0.51	0.75	1.16	-0.03	-0.25	0.8001	
DEBT RATIO	0.49	0.38	0.50	0.61	0.55	0.42	0.55	0.70	-0.06	-2.57	0.0106	
EBIT/ASSETS	0.09	0.04	0.11	0.18	0.08	0.05	0.10	0.17	0.01	0.40	0.6889	
BM	0.62	0.40	0.60	0.86	0.66	0.45	0.65	0.88	-0.04	-1.34	0.1797	
ROE	0.00	0.03	0.11	0.16	0.00	0.03	0.10	0.17	0.01	0.09	0.9281	
ROA	0.12	0.08	0.14	0.21	0.11	0.09	0.12	0.19	0.00	0.29	0.7750	
EARNINGS (MMS)	35.67	3.91	18.85	51.89	29.10	1.28	16.50	49.74	6.58	0.48	0.6291	
CFO (MMS)	74.81	1.81	26.51	101.32	92.29	9.58	46.12	110.15	-17.47	-0.95	0.3414	
# OF OBS		251				251						

Panel C: Post -Unification: Main Control

Variable	UNIFIED				SINGLE				Mean Diff	Test of Diff between Mean	Test of Diff between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test
SHARES (MM)	126.33	25.97	42.52	120.53	129.92	12.08	30.63	82.96	-3.60	-0.17	0.8649
SALES (MMS)	2,920.89	433.88	935.97	2,148.02	2,765.41	68.79	326.33	1,548.15	155.50	0.33	0.7429
MCAP (MMS)	5,705.91	894.12	1,756.99	4,834.22	5,582.02	126.52	586.38	2,918.75	123.90	0.12	0.9012
ASSETS (MMS)	3,039.42	499.68	1,101.01	2,770.90	3,071.57	78.84	356.70	1,712.41	-32.14	-0.06	0.9510
SIZE	7.00	6.18	7.10	7.96	5.97	4.31	5.90	7.48	1.03	7.47	<.0001
LEVERAGE	0.23	0.07	0.16	0.32	0.19	0.03	0.14	0.28	0.04	3.46	0.0005
PASTGROWTH	0.64	0.45	0.64	0.84	0.65	0.42	0.63	0.86	-0.02	-0.77	0.4442
SALESGROWTH	1.08	0.98	1.08	1.17	1.15	0.97	1.08	1.22	-0.07	-2.89	0.0039
NOA	1.24	0.65	0.90	1.22	1.07	0.61	0.85	1.20	0.18	3.24	0.0012
DEBT RATIO	0.54	0.38	0.52	0.63	0.51	0.34	0.50	0.65	0.03	1.88	0.0600
EBIT/ASSETS	0.10	0.05	0.09	0.15	0.03	-0.01	0.07	0.13	0.07	5.48	<.0001
BM	0.66	0.46	0.65	0.84	0.68	0.45	0.66	0.88	-0.02	-1.09	0.2763
ROE	0.02	0.01	0.09	0.14	-0.05	-0.08	0.07	0.15	0.08	1.81	0.0702
ROA	0.13	0.08	0.12	0.18	0.07	0.04	0.11	0.16	0.06	5.40	<.0001
EARNINGS (MMS)	89.77	3.85	32.65	103.87	142.17	-6.19	5.07	61.41	-52.41	-1.38	0.1687
CFO (MMS)	268.75	28.80	103.06	244.70	296.77	0.75	20.69	148.53	-28.02	-0.50	0.6203
# OF OBS	152				13,502						

Panel D: Post-Unification: One-to-One Control

Variable	UNIFIED				SINGLE				Mean Diff	Test of Diff between Mean	Test of Diff between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test
SHARES (MM)	126.33	25.97	42.52	120.53	170.26	26.81	50.73	125.23	-43.93	-1.65	0.1001
SALES (MMS)	2,920.89	433.88	935.97	2,148.02	3,011.02	404.82	1,097.09	2,680.30	-90.13	-0.16	0.8692
MCAP (MMS)	5,705.91	894.12	1,756.99	4,834.22	6,031.78	787.39	1,829.58	4,746.93	-325.90	-0.26	0.7947
ASSETS (MMS)	3,039.42	499.68	1,101.01	2,770.90	3,400.93	468.49	1,099.69	2,744.20	-361.50	-0.66	0.5104
SIZE	7.00	6.18	7.10	7.96	7.00	6.14	7.10	7.88	0.00	0.01	0.9957
LEVERAGE	0.23	0.07	0.16	0.32	0.20	0.05	0.18	0.29	0.03	1.75	0.0809
PASTGROWTH	0.64	0.45	0.64	0.84	0.63	0.41	0.63	0.82	0.01	0.32	0.7490
SALESGROWTH	1.08	0.98	1.08	1.17	1.14	1.00	1.09	1.21	-0.06	-2.60	0.0096
NOA	1.24	0.65	0.90	1.22	1.07	0.58	0.83	1.31	0.18	1.88	0.0612
DEBT RATIO	0.54	0.38	0.52	0.63	0.52	0.38	0.50	0.64	0.02	1.07	0.2843
EBIT/ASSETS	0.10	0.05	0.09	0.15	0.09	0.04	0.09	0.15	0.01	0.99	0.3225
BM	0.66	0.46	0.65	0.84	0.65	0.46	0.63	0.84	0.00	0.16	0.8735
ROE	0.02	0.01	0.09	0.14	-0.02	0.01	0.09	0.16	0.04	0.92	0.3586
ROA	0.13	0.08	0.12	0.18	0.12	0.08	0.12	0.18	0.01	0.68	0.4967
EARNINGS (MMS)	89.77	3.85	32.65	103.87	128.29	1.14	38.80	123.55	-38.52	-0.89	0.3750
CFO (MMS)	268.75	28.80	103.06	244.70	335.21	26.77	88.56	261.20	-66.46	-1.08	0.2788
# OF OBS			152				152				

Table 1.5 Univariate Analysis of Accruals: Original Sample

This table provides the results of univariate analysis of absolute discretionary accruals (ACCRUAL) calculated using four different MJones Models, two different DD models, and two McDD models. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. The symbols *, **, and *** stand for statistical significance based on two-sided tests at the 1%, 5%, and 10% level, respectively.

Panel A: Original Sample: Main Control: MJones Models										
ACCRUAL	Dual=1,754			Single=24,070			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0620	0.0646	0.0425	0.0801	0.0908	0.0504	-0.0181	-8.20*	<.0001	<.0001
Model 2	0.0624	0.0691	0.0396	0.0820	0.0958	0.0508	-0.0196	-8.42*	<.0001	<.0001
Model 3	0.0628	0.0656	0.0431	0.0809	0.0917	0.0506	-0.0182	-8.15*	<.0001	<.0001
Model 4	0.0574	0.0618	0.0385	0.0769	0.0843	0.0495	-0.0195	-9.50*	<.0001	<.0001

Panel B: Original Sample: Main Control: DD and McDD Models										
ACCRUAL	Dual=639			Single=7,963			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 5	0.0342	0.0360	0.0236	0.0477	0.0504	0.0316	-0.0135	-6.64*	<.0001	<.0001
Model 6	0.0301	0.0326	0.0199	0.0407	0.0436	0.0269	-0.0107	-6.05*	<.0001	<.0001
Model 7	0.0505	0.0526	0.0340	0.0655	0.0690	0.0432	-0.0150	-5.36*	<.0001	<.0001
Model 8	0.0425	0.0461	0.0289	0.0534	0.0562	0.0353	-0.0109	-4.78*	<.0001	<.0001

Panel C: Original Sample: One-to-One Control: MJones Models										
ACCRUAL	Dual			Single			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0620	0.0646	0.0425	0.0693	0.0808	0.0439	-0.0073	-3.13*	0.0018	0.0329
Model 2	0.0624	0.0691	0.0396	0.0716	0.0861	0.0446	-0.0091	-3.58*	0.0004	0.0023
Model 3	0.0628	0.0656	0.0431	0.0700	0.0814	0.0446	-0.0072	-3.07*	0.0022	0.0508
Model 4	0.0574	0.0618	0.0385	0.0663	0.0728	0.0433	-0.0090	-4.13*	0.0000	0.0000

Panel D: Original Sample: One-to-One Control: DD and McDD mdoels										
ACCRUAL	Dual=639			Single=639			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 5	0.0342	0.0360	0.0236	0.0375	0.0394	0.0250	-0.0033	-1.78***	0.0759	0.1497
Model 6	0.0301	0.0326	0.0199	0.0324	0.0360	0.0220	-0.0023	-1.39	0.1644	0.4716
Model 7	0.0505	0.0526	0.0340	0.0579	0.0651	0.0349	-0.0074	-2.49**	0.0131	0.0092
Model 8	0.0425	0.0461	0.0289	0.0469	0.0558	0.0280	-0.0044	-1.71***	0.0885	0.1579

Table 1.6 Univariate Analysis of Accruals: Extended Sample

Panel A: Extended Sample: Main Control: MJones Models										
ACCRUAL	Dual=1,446			Single=36,411			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0512	0.0537	0.0357	0.0743	0.0836	0.0470	-0.0231	-10.42*	<.0001	<.0001
Model 2	0.0519	0.0557	0.0343	0.0765	0.0882	0.0472	-0.0246	-10.52*	<.0001	<.0001
Model 3	0.0515	0.0542	0.0358	0.0749	0.0843	0.0473	-0.0234	-10.49*	<.0001	<.0001
Model 4	0.0487	0.0505	0.0334	0.0715	0.0776	0.0464	-0.0228	-11.09*	<.0001	<.0001

Panel B: Extended Sample: Main Control: DD and McDD Models										
ACCRUAL	Dual=456			Single=9,106			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 5	0.0296	0.0312	0.0204	0.0461	0.0488	0.0303	-0.0166	-7.19*	<.0001	<.0001
Model 6	0.0265	0.0299	0.0175	0.0400	0.0422	0.0263	-0.0134	-6.72*	<.0001	<.0001
Model 7	0.0447	0.0453	0.0310	0.0626	0.0659	0.0412	-0.0179	-5.72*	<.0001	<.0001
Model 8	0.0379	0.0411	0.0250	0.0517	0.0543	0.0346	-0.0138	-5.35*	<.0001	<.0001

Panel C: Extended Sample: One-to-One Control: MJones Models										
ACCRUAL	Dual=1,446			Single=1,446			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0512	0.0537	0.0357	0.0606	0.0653	0.0408	-0.0094	-4.33*	0.0000	0.0001
Model 2	0.0519	0.0557	0.0343	0.0635	0.0708	0.0414	-0.0116	-5.02*	0.0000	0.0000
Model 3	0.0515	0.0542	0.0358	0.0609	0.0658	0.0408	-0.0094	-4.29*	0.0000	0.0002
Model 4	0.0487	0.0505	0.0334	0.0580	0.0593	0.0401	-0.0094	-4.73*	0.0000	0.0000

Panel D: Extended Sample: One-to-One Control: DD and McDD Models										
ACCRUAL	Dual=456			Single=456			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 5	0.0296	0.0312	0.0204	0.0344	0.0383	0.0234	-0.0049	-2.25**	0.0247	0.0854
Model 6	0.0265	0.0299	0.0175	0.0280	0.0321	0.0188	-0.0014	-0.78	0.4364	0.9150
Model 7	0.0447	0.0453	0.0310	0.0533	0.0591	0.0349	-0.0085	-2.75*	0.0061	0.0152
Model 8	0.0379	0.0411	0.0250	0.0404	0.0455	0.0252	-0.0025	-1.02	0.3099	0.3636

Table 1.7 Univariate Analysis of Accruals: Restricted Sample

Panel A: Restricted Sample: Main Control: MJones Models										
ACCRUAL	Dual=1,035			Single=33,098			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0457	0.0474	0.0315	0.0745	0.0841	0.0470	-0.0289	-11.00*	<.0001	<.0001
Model 2	0.0466	0.0491	0.0324	0.0769	0.0889	0.0473	-0.0303	-10.91*	<.0001	<.0001
Model 3	0.0459	0.0480	0.0312	0.0751	0.0847	0.0473	-0.0292	-11.04*	<.0001	<.0001
Model 4	0.0428	0.0439	0.0282	0.0716	0.0777	0.0464	-0.0288	-11.88*	<.0001	<.0001

Panel B: Restricted Sample: Main Control: DD and McDD Models										
ACCRUAL	Dual=305			Single=7,345			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 5	0.0253	0.0277	0.0170	0.0449	0.0475	0.0298	-0.0196	-7.16*	<.0001	<.0001
Model 6	0.0214	0.0246	0.0147	0.0390	0.0417	0.0255	-0.0176	-7.32*	<.0001	<.0001
Model 7	0.0395	0.0455	0.0261	0.0610	0.0641	0.0402	-0.0215	-5.79*	<.0001	<.0001
Model 8	0.0322	0.0407	0.0198	0.0508	0.0535	0.0339	-0.0186	-5.98*	<.0001	<.0001

Panel C: Restricted Sample: One-to-One Control: MJones Models										
ACCRUAL	Dual=1,035			Single=1,035			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0457	0.0474	0.0315	0.0578	0.0631	0.0377	-0.0121	-5.03*	0.0000	0.0000
Model 2	0.0466	0.0491	0.0324	0.0606	0.0674	0.0396	-0.0140	-5.47*	0.0000	0.0000
Model 3	0.0459	0.0480	0.0312	0.0583	0.0639	0.0385	-0.0124	-5.08*	0.0000	0.0000
Model 4	0.0428	0.0439	0.0282	0.0557	0.0579	0.0392	-0.0129	-5.83*	0.0000	0.0000

Panel D: Restricted Sample: One-to-One Control: DD and McDD Models										
ACCRUAL	Dual=305			Single=305			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 5	0.0253	0.0277	0.0170	0.0308	0.0319	0.0224	-0.0055	-2.58**	0.0104	0.0151
Model 6	0.0214	0.0246	0.0147	0.0251	0.0294	0.0168	-0.0037	-1.87***	0.0626	0.2172
Model 7	0.0395	0.0455	0.0261	0.0474	0.0533	0.0330	-0.0078	-2.21**	0.0279	0.0120
Model 8	0.0322	0.0407	0.0198	0.0372	0.0448	0.0233	-0.0050	-1.74***	0.0829	0.0956

Table 1.8 Univariate Analysis of Accruals: Unification Sample

Panel A: Pre-Unification: Main Control: MJones Models										
ACCRUAL	Dual=251			Single=15,132			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0457	0.0441	0.0324	0.0753	0.0881	0.0471	-0.0297	-5.32*	<.0001	<.0001
Model 2	0.0478	0.0440	0.0336	0.0786	0.0954	0.0475	-0.0308	-5.11*	<.0001	<.0001
Model 3	0.0456	0.0445	0.0318	0.0758	0.0884	0.0475	-0.0302	-5.40*	<.0001	<.0001
Model 4	0.0444	0.0455	0.0308	0.0718	0.0778	0.0472	-0.0273	-5.55*	<.0001	<.0001

Panel B: Post-Unification: Main Control: MJones Models										
ACCRUAL	Dual=152			Single=13,502			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0688	0.0778	0.0451	0.0777	0.0648	0.0563	-0.0088	-1.67***	0.0956	0.0080
Model 2	0.0696	0.0790	0.0439	0.0785	0.0671	0.0559	-0.0089	-1.63	0.1042	0.0121
Model 3	0.0689	0.0786	0.0443	0.0785	0.0658	0.0568	-0.0096	-1.78***	0.0755	0.0041
Model 4	0.0635	0.0715	0.0425	0.0768	0.0636	0.0558	-0.0133	-2.56**	0.0104	0.0012

Panel C: Pre-Unification: One-to-One Control: MJones Models										
ACCRUAL	Dual=251			Single=251			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0457	0.0441	0.0324	0.0593	0.0734	0.0337	-0.0137	-2.70*	0.0074	0.1344
Model 2	0.0478	0.0440	0.0336	0.0680	0.0879	0.0370	-0.0202	-3.56*	0.0004	0.0180
Model 3	0.0456	0.0445	0.0318	0.0597	0.0749	0.0335	-0.0141	-2.73*	0.0068	0.1202
Model 4	0.0444	0.0455	0.0308	0.0535	0.0637	0.0335	-0.0091	-1.97**	0.0499	0.3019

Panel D: Post-Unification: One-to-One Control: MJones Models										
ACCRUAL	Dual=152			Single=152			Test of Difference between Mean (Dual-Single)			Test of Difference between Median
	Mean	Std	Median	Mean	Std	Median	Mean Diff	t-statistics	p-value (t-test)	Wilcoxon sum rank test (p-value)
Model 1	0.0688	0.0778	0.0451	0.0692	0.0618	0.0467	-0.0004	-0.05	0.9584	0.4559
Model 2	0.0696	0.0790	0.0439	0.0690	0.0651	0.0418	0.0006	0.07	0.9432	0.6327
Model 3	0.0689	0.0786	0.0443	0.0699	0.0619	0.0485	-0.0009	-0.12	0.9009	0.3405
Model 4	0.0635	0.0715	0.0425	0.0679	0.0590	0.0465	-0.0044	-0.64	0.5202	0.1628

Panel E: Difference-in-Differences Approach: Unification Sample: One-to-One Control: MJones Models				
		Dual (Unified)	Single	Diff (Single-Dual)
Model 1	Pre-Unification	0.0457	0.0593	0.0137* (0.0074)
	Post-Unification	0.0688	0.0692	0.0004 (0.9584)
	Diff (Post-Pre)	0.0232* (0.0002)	0.0099 (0.1655)	-0.0133 (0.1287)
Model 2	Pre-Unification	0.0478	0.0680	0.0202* (0.0004)
	Post-Unification	0.0696	0.0690	-0.0006 (0.9432)
	Diff (Post-Pre)	0.0218* (0.0004)	0.00104 (0.8999)	-0.0207** (0.0318)
Model 3	Pre-Unification	0.0456	0.0597	0.0141* (0.0068)
	Post-Unification	0.0689	0.0699	0.0009 (0.9009)
	Diff (Post-Pre)	0.0233* (0.0002)	0.0102 (0.1592)	-0.0131 (0.1397)
Model 4	Pre-Unification	0.0444	0.0535	0.0091** (0.0499)
	Post-Unification	0.0635	0.0679	0.0044 (0.5202)
	Diff (Post-Pre)	0.0191* (0.0011)	0.0144** (0.0244)	-0.0047 (0.5552)

Table 1.9 Regression Analysis: Original Sample

This table presents the results of the following two models:

$$ACCRUAL_{it} = \alpha_0 + \alpha_1 \ln(TotalAssets)_{it} + \alpha_2 DebtRatio_{it} + \alpha_3 BM_{it} + \alpha_4 EBIT_{it} / Assets_{it-1} + \alpha_5 Salesgrowth_{it} + \alpha_6 DUAL + \alpha_7 Loss_{it} + \varepsilon_{it} \quad (1)$$

$$ACCRUAL_{it} = \alpha_0 + \alpha_1 \ln(TotalAssets)_{it} + \alpha_2 DebtRatio_{it} + \alpha_3 BM_{it} + \alpha_4 EBIT_{it} / Assets_{it-1} + \alpha_5 CAPX_{it} / Assets_{it-1} + \alpha_6 DUAL + \alpha_7 Loss_{it} + \varepsilon_{it} \quad (2)$$

Where dependent variables are the measures of discretionary accruals using MJones models, DD models, and McDD models. The control variables are $\ln(\text{Total Assets})$, Debt Ratio, BM, EBIT/Assets, Salesgrowth, Loss and a dummy variable, DUAL. $\ln(\text{Total Assets})$ is a natural log of firm's total assets from COMPUSTAT at the end of fiscal year t. Debt Ratio is the ratio of total liabilities to total assets. BM is the ratio of book value of equity to market value. EBIT/ASSETS is earnings before interest and taxes for fiscal year t scaled by total assets at the end of fiscal year t-1. SALESGROWTH is total sales for fiscal year t scaled by total sales in fiscal year t-1. Loss is a dummy variable that takes a value of 1 if earnings are negative and zero otherwise. DUAL is equal to 1 for a dual-class firm, and is equal to 0, otherwise. The symbols *, **, and *** stand for statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A: Original Sample: Main Control: MJones Models :Regression #1

Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1146*	39.66	<.0001	0.1214*	39.95	<.0001	0.1185*	40.62	<.0001	0.1237*	45.70	<.0001
Ln(Total Assets)	-0.0078*	-28.13	<.0001	-0.0077*	-26.61	<.0001	-0.0082*	-29.30	<.0001	-0.0081*	-31.24	<.0001
Debt Ratio	0.0268*	11.75	<.0001	0.0285*	11.91	<.0001	0.0271*	11.79	<.0001	0.0200*	9.36	<.0001
BM	-0.0363*	-22.41	<.0001	-0.0347*	-20.38	<.0001	-0.0372*	-22.76	<.0001	-0.0376*	-24.79	<.0001
EBIT/Assets	-0.0992*	-27.11	<.0001	-0.0981*	-25.51	<.0001	-0.0965*	-26.15	<.0001	-0.0596*	-17.39	<.0001
Salesgrowth	0.0290*	24.86	<.0001	0.0289*	23.61	<.0001	0.0288*	24.47	<.0001	0.0250*	22.94	<.0001
DUAL	-0.0045**	-2.23	0.0256	-0.0054**	-2.55	0.0107	-0.0043**	-2.11	0.0348	-0.0067*	-3.52	0.0004
Loss	-0.0151*	-10.49	<.0001	-0.0255*	-16.80	<.0001	-0.0156*	-10.73	<.0001	-0.0200*	-14.80	<.0001
Adj R-Sq	0.1713			0.1778			0.1712			0.1586		
# Obs	25,824											

Panel B: Original Sample: One-to-One Control: MJones Models :Regression #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1098*	13.93	<.0001	0.1148*	13.86	<.0001	0.1148*	14.38	<.0001	0.1184*	16.17	<.0001
Ln(Total Assets)	-0.0074*	-9.01	<.0001	-0.0072*	-8.40	<.0001	-0.0077*	-9.34	<.0001	-0.0079*	-10.46	<.0001
Debt Ratio	0.0152*	2.71	0.0068	0.0219*	3.71	0.0002	0.0149*	2.61	0.0090	0.0132**	2.54	0.0112
BM	-0.0394*	-10.34	<.0001	-0.0406*	-10.14	<.0001	-0.0404*	-10.48	<.0001	-0.0385*	-10.91	<.0001
EBIT/Assets	-0.0877*	-8.09	<.0001	-0.0971*	-8.53	<.0001	-0.0819*	-7.46	<.0001	-0.0533*	-5.30	<.0001
Salesgrowth	0.0371*	11.68	<.0001	0.0378*	11.31	<.0001	0.0363*	11.29	<.0001	0.0288*	9.76	<.0001
DUAL	-0.0017	-0.72	0.4707	-0.0024	-0.95	0.3428	-0.0016	-0.67	0.5051	-0.0038***	-1.70	0.0892
Loss	-0.0178*	-5.17	<.0001	-0.0276*	-7.62	<.0001	-0.0187*	-5.36	<.0001	-0.0186*	-5.83	<.0001
Adj R-Sq	0.1548			0.1720			0.1518			0.1425		
# Obs							3,321					

Panel C: Original Sample: Main Control: DD and McDD Models: Regression #1												
Regression 1	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0873*	31.16	<.0001	0.0719*	29.41	<.0001	0.0836*	21.40	<.0001	0.0663*	20.62	<.0001
Ln(Total Assets)	-0.0065*	-23.57	<.0001	-0.0050*	-21.07	<.0001	-0.0069*	-17.99	<.0001	-0.0050*	-15.87	<.0001
Debt Ratio	0.0088*	3.85	0.0001	0.0084*	4.19	<.0001	0.0214*	6.68	<.0001	0.0176*	6.71	<.0001
BM	-0.0260*	-16.31	<.0001	-0.0222*	-15.98	<.0001	-0.0216*	-9.71	<.0001	-0.0154*	-8.45	<.0001
EBIT/Assets	-0.0048	-1.38	0.1684	-0.0189*	-6.25	<.0001	0.0093***	1.92	0.0550	-0.0243*	-6.12	<.0001
Salesgrowth	0.0126*	10.78	<.0001	0.0092*	9.01	<.0001	0.0287*	17.57	<.0001	0.0181*	13.47	<.0001
DUAL	-0.0048**	-2.53	0.0115	-0.0035**	-2.10	0.0356	-0.0049***	-1.83	0.0667	-0.0032	-1.47	0.1424
Loss	-0.0105*	-7.33	<.0001	-0.0055*	-4.44	<.0001	-0.0189*	-9.45	<.0001	-0.0083*	-5.06	<.0001
Adj R-Sq	0.1435			0.1326			0.1167			0.1017		
# Obs							8,602					

Panel D: Original Sample: Main Control: DD and McDD Models: Regression #2												
Regression 2	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0889*	31.28	<.0001	0.0734*	29.58	<.0001	0.0846*	21.37	<.0001	0.0671*	20.58	<.0001
Ln(Total Assets)	-0.0066*	-23.73	<.0001	-0.0051*	-21.17	<.0001	-0.0070*	-18.23	<.0001	-0.0051*	-16.08	<.0001
Debt Ratio	0.0088*	3.81	0.0001	0.0083*	4.10	<.0001	0.0214*	6.67	<.0001	0.0176*	6.65	<.0001
BM	-0.0266*	-16.49	<.0001	-0.0228*	-16.22	<.0001	-0.0218*	-9.67	<.0001	-0.0157*	-8.46	<.0001
EBIT/Assets	-0.0043	-1.23	0.2202	-0.0189*	-6.24	<.0001	0.0109**	2.25	0.0246	-0.0236*	-5.90	<.0001
CAPX/Assets	-0.0157**	-2.57	0.0101	-0.0177*	-3.31	0.0009	-0.0042	-0.49	0.6252	-0.0036	-0.52	0.6064
Salesgrowth	0.0130*	10.92	<.0001	0.0097*	9.33	<.0001	0.0288*	17.30	<.0001	0.0183*	13.32	<.0001
DUAL	-0.0046**	-2.41	0.0160	-0.0035**	-2.09	0.0364	-0.0051***	-1.89	0.0582	-0.0034	-1.52	0.1275
Loss	-0.0104*	-7.19	<.0001	-0.0053*	-4.23	<.0001	-0.0190*	-9.45	<.0001	-0.0083*	-5.02	<.0001
Adj R-Sq	0.1448			0.1343			0.1178			0.1027		
# Obs	8,507											

Panel E: Original Sample: One-to-One Control: DD and McDD Models: Regression #1

Regression 1	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0711*	10.34	<.0001	0.0560*	8.88	<.0001	0.0541*	5.04	<.0001	0.0329*	3.53	0.0004
Ln(Total Assets)	-0.0056*	-7.62	<.0001	-0.0045*	-6.68	<.0001	-0.0063*	-5.50	<.0001	-0.0046*	-4.60	<.0001
Debt Ratio	-0.0072	-1.41	0.1581	-0.0007	-0.14	0.8855	0.0189**	2.38	0.0174	0.0252*	3.67	0.0003
BM	-0.0156*	-4.69	<.0001	-0.0166*	-5.44	<.0001	-0.0160*	-3.07	0.0022	-0.0135*	-3.00	0.0028
EBIT/Assets	0.0003	0.03	0.9749	-0.0218**	-2.47	0.0138	-0.0115	-0.76	0.4464	-0.0567*	-4.34	<.0001
Salesgrowth	0.0177*	5.88	<.0001	0.0158*	5.72	<.0001	0.0457*	9.70	<.0001	0.0361*	8.83	<.0001
DUAL	0.0002	0.08	0.9348	0.0010	0.53	0.5929	-0.0017	-0.52	0.6016	0.0003	0.11	0.9091
Loss	-0.0103*	-3.33	0.0009	-0.0038	-1.35	0.1777	-0.0157*	-3.25	0.0012	-0.0024	-0.56	0.5750
Adj R-Sq	0.1289			0.1137			0.1316			0.1184		
# Obs							1,218					

Panel F: Original Sample: One-to-One Control: DD and McDD Models: Regression #2												
Regression 2	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0786*	7.76	<.0001	0.0665*	7.12	<.0001	0.0714*	4.71	<.0001	0.0460*	3.70	0.0002
Ln(Total Assets)	-0.0049*	-4.12	<.0001	-0.0041*	-3.74	0.0002	-0.0061*	-3.44	0.0006	-0.0050*	-3.41	0.0007
Debt Ratio	-0.0122	-1.61	0.1076	-0.0081	-1.16	0.2448	0.0293*	2.59	0.0097	0.0291*	3.13	0.0018
BM	-0.0231*	-4.86	<.0001	-0.0221*	-5.04	<.0001	-0.0294*	-4.13	<.0001	-0.0240*	-4.11	<.0001
EBIT/Assets	0.0061	0.44	0.6577	-0.0181	-1.43	0.1526	-0.0059	-0.29	0.7734	-0.0419**	-2.49	0.0131
CAPX/Assets	-0.0511**	-2.24	0.0257	-0.0619*	-2.94	0.0035	-0.0659**	-1.93	0.0544	-0.0905*	-3.22	0.0013
Salesgrowth	0.0204*	4.25	<.0001	0.0170*	3.86	0.0001	0.0440*	6.14	<.0001	0.0414*	7.03	<.0001
DUAL	0.0007	0.22	0.8295	0.0010	0.34	0.7335	-0.0066	-1.33	0.1825	-0.0042	-1.05	0.2958
Loss	-0.0102**	-2.19	0.0291	-0.0031	-0.71	0.4803	-0.0180**	-2.56	0.0106	-0.0070	-1.22	0.2237
Adj R-Sq	0.1307			0.1246			0.1408			0.1748		
# Obs	627											

Table 1.10 Regression Analysis: Extended Sample

Panel A: Extended Sample: Main Control: MJones Models: Regression #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1055*	45.90	<.0001	0.1151*	47.75	<.0001	0.1088*	46.95	<.0001	0.1122*	52.30	<.0001
Ln(Total Assets)	-0.0076*	-36.58	<.0001	-0.0076*	-35.15	<.0001	-0.0079*	-37.83	<.0001	-0.0078*	-40.14	<.0001
Debt Ratio	0.0273*	15.85	<.0001	0.0283*	15.62	<.0001	0.0274*	15.77	<.0001	0.0202*	12.55	<.0001
BM	-0.0275*	-21.20	<.0001	-0.0272*	-19.99	<.0001	-0.0282*	-21.52	<.0001	-0.0297*	-24.49	<.0001
EBIT/Assets	-0.0767*	-26.17	<.0001	-0.0725*	-23.59	<.0001	-0.0746*	-25.25	<.0001	-0.0459*	-16.80	<.0001
Salesgrowth	0.0289*	29.50	<.0001	0.0286*	27.84	<.0001	0.0287*	29.09	<.0001	0.0260*	28.43	<.0001
DUAL	-0.0070*	-3.43	0.0006	-0.0071*	-3.33	0.0009	-0.0071*	-3.47	0.0005	-0.0077*	-4.03	<.0001
Loss	-0.0187*	-16.77	<.0001	-0.0297*	-25.41	<.0001	-0.0192*	-17.04	<.0001	-0.0207*	-19.88	<.0001
R-Square	0.1633			0.1736			0.1638			0.1541		
# Obs							37,857					

Panel B: Extended Sample: Main Control: MJones Models: Regression #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1023*	35.32	<.0001	0.1119*	36.79	<.0001	0.1061*	36.40	<.0001	0.1118*	41.50	<.0001
Ln(Total Assets)	-0.0077*	-29.27	<.0001	-0.0075*	-27.38	<.0001	-0.0080*	-30.37	<.0001	-0.0080*	-32.76	<.0001
Debt Ratio	0.0305*	14.01	<.0001	0.0319*	14.00	<.0001	0.0308*	14.07	<.0001	0.0232*	11.45	<.0001
BM	-0.0265*	-15.72	<.0001	-0.0265*	-14.96	<.0001	-0.0273*	-16.07	<.0001	-0.0293*	-18.69	<.0001
EBIT/Assets	-0.0711*	-19.92	<.0001	-0.0661*	-17.64	<.0001	-0.0690*	-19.20	<.0001	-0.0432*	-13.01	<.0001
CAPX/Assets	0.0442*	5.69	<.0001	0.0330*	4.05	<.0001	0.0407*	5.20	<.0001	0.0340*	4.70	<.0001
Salesgrowth	0.0277*	21.21	<.0001	0.0276*	20.18	<.0001	0.0272*	20.75	<.0001	0.0246*	20.24	<.0001
DUAL	-0.0084*	-2.85	0.0044	-0.0081*	-2.61	0.0089	-0.0084*	-2.83	0.0046	-0.0094*	-3.43	0.0006
Loss	-0.0190*	-13.19	<.0001	-0.0311*	-20.61	<.0001	-0.0194*	-13.36	<.0001	-0.0207*	-15.43	<.0001
Adj R-Sq	0.1674			0.1767			0.1678			0.1605		
# Obs	24,530											

Panel C: Extended Sample: One-to-One Control: MJones Models: Regression #1

Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1132*	13.46	<.0001	0.1259*	14.30	<.0001	0.1170*	13.81	<.0001	0.1138*	14.76	<.0001
Ln(Total Assets)	-0.0071*	-9.27	<.0001	-0.0073*	-9.17	<.0001	-0.0073*	-9.47	<.0001	-0.0070*	-10.03	<.0001
Debt Ratio	0.0062	1.12	0.2639	0.0130**	2.24	0.0253	0.0053	0.94	0.3448	0.0013	0.25	0.8059
BM	-0.0231*	-6.05	<.0001	-0.0275*	-6.87	<.0001	-0.0237*	-6.17	<.0001	-0.0246*	-7.03	<.0001
EBIT/Assets	0.0085	0.67	0.5035	0.0007	0.06	0.9560	0.0125	0.97	0.3298	-0.0046	-0.40	0.6914
Salesgrowth	0.0210*	5.02	<.0001	0.0202*	4.61	<.0001	0.0200*	4.76	<.0001	0.0204*	5.32	<.0001
DUAL	-0.0022	-0.99	0.3207	-0.0026	-1.12	0.2618	-0.0023	-1.00	0.3170	-0.0029	-1.41	0.1597
Loss	-0.0278*	-8.35	<.0001	-0.0379*	-10.87	<.0001	-0.0284*	-8.45	<.0001	-0.0244*	-7.98	<.0001
Adj R-Sq	0.0927			0.1179			0.0935			0.1061		
# Obs	2,766											

Panel D: Extended Sample: One-to-One Control: MJones Models: Regression #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1305*	10.89	<.0001	0.1369*	10.81	<.0001	0.1330*	10.99	<.0001	0.1218*	10.86	<.0001
Ln(Total Assets)	-0.0074*	-6.35	<.0001	-0.0074*	-6.03	<.0001	-0.0078*	-6.67	<.0001	-0.0074*	-6.81	<.0001
Debt Ratio	0.0011	0.13	0.8965	0.0146	1.63	0.1025	0.0021	0.25	0.8047	0.0001	0.01	0.9915
BM	-0.0296*	-5.63	<.0001	-0.0347*	-6.23	<.0001	-0.0306*	-5.76	<.0001	-0.0303*	-6.16	<.0001
EBIT/Assets	0.0469*	2.82	0.0049	0.0305***	1.73	0.0831	0.0475*	2.83	0.0048	0.0269***	1.73	0.0839
CAPX/Assets	-0.1052*	-3.43	0.0006	-0.0826**	-2.55	0.0108	-0.1099*	-3.55	0.0004	-0.0864*	-3.02	0.0026
Salesgrowth	0.0233*	3.97	<.0001	0.0237*	3.82	0.0001	0.0243*	4.09	<.0001	0.0286*	5.20	<.0001
DUAL	-0.0064***	-1.94	0.0529	-0.0050	-1.43	0.1527	-0.0064***	-1.91	0.0561	-0.0072**	-2.33	0.0201
Loss	-0.0336*	-6.96	<.0001	-0.0450*	-8.80	<.0001	-0.0334*	-6.85	<.0001	-0.0294*	-6.50	<.0001
Adj R-Sq	0.1141			0.1365			0.1176			0.1332		
# Obs							1,443					

Panel E: Extended Sample: Main Control: DD and McDD Models: Regression #1												
Regression 1	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0825*	31.71	<.0001	0.0685*	30.18	<.0001	0.0834*	23.24	<.0001	0.0656*	21.96	<.0001
Ln(Total Assets)	-0.0066*	-26.57	<.0001	-0.0052*	-24.04	<.0001	-0.0073*	-21.49	<.0001	-0.0053*	-18.77	<.0001
Debt Ratio	0.0109*	5.30	<.0001	0.0107*	5.95	<.0001	0.0194*	6.84	<.0001	0.0166*	7.01	<.0001
BM	-0.0239*	-16.20	<.0001	-0.0202*	-15.69	<.0001	-0.0181*	-8.92	<.0001	-0.0125*	-7.37	<.0001
EBIT/Assets	-0.0074**	-2.33	0.0199	-0.0173*	-6.21	<.0001	0.0101**	2.29	0.0223	-0.0182*	-4.97	<.0001
Salesgrowth	0.0138*	12.17	<.0001	0.0102*	10.31	<.0001	0.0274*	17.56	<.0001	0.0182*	14.00	<.0001
DUAL	-0.0063*	-2.96	0.0031	-0.0049*	-2.64	0.0083	-0.0057***	-1.93	0.0532	-0.0043***	-1.76	0.0778
Loss	-0.0096*	-7.25	<.0001	-0.0056*	-4.89	<.0001	-0.0179*	-9.79	<.0001	-0.0090*	-5.93	<.0001
Adj R-Sq	0.1541			0.1417			0.1200			0.1049		
# Obs	9,562											

Panel F: Extended Sample: Main Control: DD and McDD Models: Regression #2												
Regression 2	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0849*	26.42	<.0001	0.0730*	26.02	<.0001	0.0914*	21.15	<.0001	0.0724*	20.05	<.0001
Ln(Total Assets)	-0.0070*	-22.64	<.0001	-0.0058*	-21.32	<.0001	-0.0076*	-18.28	<.0001	-0.0059*	-17.03	<.0001
Debt Ratio	0.0143*	5.56	<.0001	0.0138*	6.11	<.0001	0.0242*	6.97	<.0001	0.0208*	7.18	<.0001
BM	-0.0255*	-13.09	<.0001	-0.0218*	-12.83	<.0001	-0.0205*	-7.83	<.0001	-0.0156*	-7.14	<.0001
EBIT/Assets	-0.0108*	-2.82	0.0049	-0.0178*	-5.32	<.0001	0.0090***	1.75	0.0802	-0.0144*	-3.35	0.0008
CAPX/Assets	0.0249*	2.90	0.0038	0.0153**	2.04	0.0417	0.0377*	3.25	0.0012	0.0228**	2.35	0.0187
Salesgrowth	0.0113*	8.10	<.0001	0.0080*	6.56	<.0001	0.0192*	10.24	<.0001	0.0146*	9.32	<.0001
DUAL	-0.0028	-0.87	0.3830	-0.0025	-0.89	0.3713	-0.0047	-1.08	0.2788	-0.0068***	-1.88	0.0603
Loss	-0.0066*	-3.96	<.0001	-0.0034**	-2.33	0.0196	-0.0164*	-7.34	<.0001	-0.0085*	-4.55	<.0001
Adj R-Sq	0.1593			0.1504			0.1156			0.1143		
# Obs							6,519					

Panel G: Extended Sample: One-to-One Control: DD and McDD Models: Reg #1												
Regression 1	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0617*	7.11	<.0001	0.0605*	7.66	<.0001	0.0530*	4.00	<.0001	0.0476*	4.25	<.0001
Ln(Total Assets)	-0.0058*	-6.83	<.0001	-0.0051*	-6.60	<.0001	-0.0076*	-5.86	<.0001	-0.0059*	-5.38	<.0001
Debt Ratio	-0.0060	-1.02	0.3088	0.0022	0.40	0.6859	0.0171***	1.91	0.0571	0.0213*	2.80	0.0052
BM	-0.0081**	-2.12	0.0346	-0.0113*	-3.24	0.0013	-0.0056	-0.96	0.3374	-0.0048	-0.98	0.3288
EBIT/Assets	0.0502*	3.97	<.0001	0.0284**	2.47	0.0136	0.0630*	3.27	0.0011	0.0221	1.36	0.1753
Salesgrowth	0.0216*	5.18	<.0001	0.0093**	2.45	0.0146	0.0444*	6.98	<.0001	0.0240*	4.46	<.0001
DUAL	-0.0021	-0.95	0.3446	0.0013	0.61	0.5411	-0.0039	-1.14	0.2541	0.0011	0.36	0.7162
Loss	-0.0167*	-4.51	<.0001	-0.0113*	-3.36	0.0008	-0.0203*	-3.59	0.0003	-0.0121**	-2.52	0.0118
Adj R-Sq	0.1401			0.0871			0.1254			0.0690		
# Obs							880					

Panel H: Extended Sample: One-to-One Control: DD and McDD Models: Reg #2												
Regression 2	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0677*	5.05	<.0001	0.0877*	7.25	<.0001	0.0852*	4.28	<.0001	0.0817*	5.10	<.0001
Ln(Total Assets)	-0.0051*	-3.66	0.0003	-0.0049*	-3.88	0.0001	-0.0096*	-4.65	<.0001	-0.0068*	-4.09	<.0001
Debt Ratio	-0.0162	-1.61	0.1072	-0.0128	-1.42	0.1572	0.0276***	1.85	0.0648	0.0122	1.01	0.3111
BM	-0.0130**	-2.31	0.0212	-0.0191*	-3.79	0.0002	-0.0189**	-2.28	0.0232	-0.0152**	-2.27	0.0234
EBIT/Assets	0.0727*	3.96	<.0001	0.0418**	2.53	0.0117	0.0814*	2.99	0.0029	0.0461**	2.10	0.0362
CAPX/Assets	-0.0700**	-2.19	0.0290	-0.0839*	-2.91	0.0038	-0.0457	-0.96	0.3352	-0.0935**	-2.45	0.0147
Salesgrowth	0.0273*	3.99	<.0001	0.0017	0.27	0.7855	0.0356*	3.52	0.0005	0.0183**	2.23	0.0260
DUAL	-0.0044	-1.16	0.2465	0.0013	0.37	0.7121	-0.0096***	-1.72	0.0870	-0.0046	-1.02	0.3097
Loss	-0.0183*	-3.27	0.0011	-0.0125**	-2.48	0.0136	-0.0171**	-2.06	0.0399	-0.0163**	-2.45	0.0148
Adj R-Sq	0.1486			0.1037			0.1151			0.0839		
# Obs					446							

Table 1.11 Regression Analysis: Restricted Sample

Panel A: Restricted Sample: Main Control: MJones Models: Regression #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1037*	42.86	<.0001	0.1137*	44.72	<.0001	0.1069*	43.86	<.0001	0.1114*	49.51	<.0001
Ln(Total Assets)	-0.0074*	-33.77	<.0001	-0.0075*	-32.38	<.0001	-0.0077*	-34.96	<.0001	-0.0076*	-37.47	<.0001
Debt Ratio	0.0272*	14.99	<.0001	0.0281*	14.75	<.0001	0.0272*	14.90	<.0001	0.0198*	11.72	<.0001
BM	-0.0258*	-18.84	<.0001	-0.0255*	-17.71	<.0001	-0.0264*	-19.14	<.0001	-0.0285*	-22.37	<.0001
EBIT/Assets	-0.0780*	-25.51	<.0001	-0.0734*	-22.85	<.0001	-0.0758*	-24.62	<.0001	-0.0452*	-15.89	<.0001
Salesgrowth	0.0288*	28.14	<.0001	0.0285*	26.46	<.0001	0.0287*	27.80	<.0001	0.0257*	26.97	<.0001
DUAL	-0.0109*	-4.51	<.0001	-0.0105*	-4.14	<.0001	-0.0110*	-4.50	<.0001	-0.0120*	-5.33	<.0001
Loss	-0.0186*	-15.77	<.0001	-0.0300*	-24.28	<.0001	-0.0191*	-16.05	<.0001	-0.0207*	-18.89	<.0001
Adj R-Sq	0.1626			0.1729			0.1631			0.1521		
# Obs	34,133											

Panel B: Restricted Sample: Main Control: MJones Models: Regression #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1001*	33.04	<.0001	0.1098*	34.45	<.0001	0.1038*	34.03	<.0001	0.1105*	39.35	<.0001
Ln(Total Assets)	-0.0074*	-26.86	<.0001	-0.0073*	-24.96	<.0001	-0.0078*	-27.92	<.0001	-0.0078*	-30.46	<.0001
Debt Ratio	0.0295*	12.99	<.0001	0.0309*	12.92	<.0001	0.0298*	13.05	<.0001	0.0220*	10.46	<.0001
BM	-0.0246*	-13.86	<.0001	-0.0244*	-13.11	<.0001	-0.0253*	-14.18	<.0001	-0.0279*	-17.00	<.0001
EBIT/Assets	-0.0739*	-19.95	<.0001	-0.0688*	-17.68	<.0001	-0.0718*	-19.26	<.0001	-0.0443*	-12.92	<.0001
CAPX/Assets	0.0505*	6.15	<.0001	0.0386*	4.47	<.0001	0.0478*	5.78	<.0001	0.0399*	5.24	<.0001
Salesgrowth	0.02718*	20.01	<.0001	0.0270*	19.00	<.0001	0.0267*	19.61	<.0001	0.0238*	19.00	<.0001
DUAL	-0.0139*	-3.98	<.0001	-0.0135*	-3.68	0.0002	-0.0139*	-3.94	<.0001	-0.0150*	-4.63	<.0001
Loss	-0.0184*	-12.17	<.0001	-0.0310*	-19.49	<.0001	-0.0188*	-12.35	<.0001	-0.0201*	-14.38	<.0001
Adj R-Sq	0.1665			0.1758			0.1669			0.1583		
# Obs							22,289					

Panel C: Restricted Sample: One-to-One Control: MJones Models: Regression #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1133	11.97	<.0001	0.1219	12.38	<.0001	0.1170	12.21	<.0001	0.1149	13.15	<.0001
Ln(Total Assets)	-0.0063	-7.20	<.0001	-0.0067	-7.36	<.0001	-0.0066	-7.55	<.0001	-0.0065	-8.08	<.0001
Debt Ratio	0.0038	0.59	0.5521	0.0115	1.74	0.0812	0.0032	0.50	0.6191	0.0016	0.27	0.7864
BM	-0.0219	-5.07	<.0001	-0.0219	-4.87	<.0001	-0.0219	-5.00	<.0001	-0.0273	-6.84	<.0001
EBIT/Assets	0.0127	0.88	0.3816	0.0089	0.59	0.5525	0.0194	1.32	0.1855	-0.0179	-1.34	0.1790
Salesgrowth	0.0164	3.48	0.0005	0.0165	3.36	0.0008	0.0161	3.36	0.0008	0.0163	3.74	0.0002
DUAL	-0.0054	-2.21	0.0274	-0.0055	-2.16	0.0307	-0.0058	-2.32	0.0202	-0.0073	-3.21	0.0014
Loss	-0.0290	-7.78	<.0001	-0.0391	-10.08	<.0001	-0.0297	-7.86	<.0001	-0.0207	-6.00	<.0001
Adj R-Sq	0.0937			0.1208			0.0954			0.1098		
# Obs							1,999					

Panel D: Restricted Sample: One-to-One Control: MJones Models: Regression #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1224	9.23	<.0001	0.12667	9.16	<.0001	0.1241	9.24	<.0001	0.1171	9.27	<.0001
Ln(Total Assets)	-0.0063	-4.98	<.0001	-0.00645	-4.86	<.0001	-0.0069	-5.34	<.0001	-0.0061	-5.06	<.0001
Debt Ratio	0.0005	0.05	0.9617	0.0096	0.97	0.3319	0.0022	0.23	0.8201	-0.0023	-0.25	0.7990
BM	-0.0282	-4.76	<.0001	-0.02751	-4.44	<.0001	-0.0288	-4.78	<.0001	-0.0316	-5.60	<.0001
EBIT/Assets	0.0421	2.22	0.0265	0.0329	1.66	0.0964	0.0446	2.32	0.0205	-0.0022	-0.12	0.9015
CAPX/Assets	-0.0722	-2.19	0.029	-0.04883	-1.42	0.1564	-0.0756	-2.26	0.0240	-0.0618	-1.97	0.0495
Salesgrowth	0.0200	3.15	0.0017	0.01952	2.94	0.0033	0.0218	3.39	0.0007	0.0233	3.86	0.0001
DUAL	-0.0094	-2.62	0.0089	-0.00857	-2.30	0.0215	-0.0095	-2.63	0.0086	-0.0116	-3.43	0.0006
Loss	-0.0326	-6.16	<.0001	-0.0426	-7.71	<.0001	-0.0327	-6.09	<.0001	-0.0235	-4.66	<.0001
Adj R-Sq	0.1099			0.1290			0.1142			0.1279		
# Obs							1,057					

Panel E: Restricted Sample: One-to-One Control: DD and McDD Models: Reg#1												
Regression 1	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0570*	6.16	<.0001	0.0400*	4.79	<.0001	0.0496*	3.22	0.0014	0.0364*	2.74	0.0063
Ln(Total Assets)	-0.0040*	-4.10	<.0001	-0.0029*	-3.24	0.0012	-0.0067*	-4.09	<.0001	-0.0060*	-4.28	<.0001
Debt Ratio	-0.0126***	-1.93	0.0535	-0.0041	-0.70	0.4870	0.0166	1.53	0.1270	0.0214**	2.28	0.0231
BM	-0.0075***	-1.77	0.0770	-0.0101*	-2.63	0.0089	-0.0149**	-2.11	0.0349	-0.0091	-1.48	0.1385
EBIT/Assets	0.0212	1.44	0.1513	0.0132	0.99	0.3236	0.0228	0.93	0.3540	0.0077	0.36	0.7161
Salesgrowth	0.0150*	3.44	0.0006	0.0141*	3.58	0.0004	0.0385*	5.30	<.0001	0.0303*	4.83	<.0001
DUAL	-0.0037	-1.53	0.1254	-0.0014	-0.62	0.5379	-0.0037	-0.92	0.3585	-0.0005	-0.15	0.8783
Loss	-0.0108**	-2.55	0.0111	-0.0074***	-1.92	0.0555	-0.0060	-0.85	0.3947	-0.0032	-0.53	0.5981
Adj R-Sq	0.0958			0.0695			0.0909			0.0752		
# Obs							595					

Panel F: Restricted Sample: One-to-One Control: DD and McDD Models: Reg #2												
Regression 2	Model 5			Model 6			Model 7			Model 8		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0506*	3.58	0.0004	0.0695*	5.58	<.0001	0.0663*	2.88	0.0043	0.0652*	3.32	0.0010
Ln(Total Assets)	-0.0025***	-1.69	0.0919	-0.0029**	-2.26	0.0243	-0.0065*	-2.71	0.0072	-0.0069*	-3.37	0.0008
Debt Ratio	-0.0232**	-2.10	0.0368	-0.0185***	-1.90	0.0588	0.0221	1.22	0.2218	0.0152	0.99	0.3226
BM	-0.0141**	-2.22	0.0270	-0.0192*	-3.41	0.0007	-0.0266**	-2.57	0.0107	-0.0172***	-1.94	0.0533
EBIT/Assets	0.0351***	1.71	0.0886	0.0198	1.09	0.2745	0.0237	0.71	0.4802	0.0222	0.77	0.4395
CAPX/Assets	-0.0481	-1.42	0.1580	-0.0651**	-2.17	0.0308	-0.0670	-1.21	0.2280	-0.1204*	-2.54	0.0115
Salesgrowth	0.0254*	3.45	0.0006	0.0028	0.44	0.6634	0.0307**	2.56	0.0109	0.0240**	2.34	0.0200
DUAL	-0.0032	-0.80	0.4215	-0.0007	-0.20	0.8441	-0.0072	-1.10	0.2702	-0.0045	-0.81	0.4167
Loss	-0.0105***	-1.72	0.0858	-0.0060	-1.12	0.2639	0.0023	0.23	0.8180	-0.0019	-0.23	0.8198
Adj R-Sq	0.1132			0.0912			0.0678			0.0728		
# Obs	314											

Table 1.12 Regression Analysis: Unification Sample

Panel A: Pre-Unification: Main Control: MJones Models: Regression #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0943*	25.42	<.0001	0.1067*	26.71	<.0001	0.0971*	26.07	<.0001	0.1027*	31.06	<.0001
Ln(Total Assets)	-0.0069*	-20.25	<.0001	-0.0068*	-18.75	<.0001	-0.0071*	-20.90	<.0001	-0.0070*	-23.24	<.0001
Debt Ratio	0.0254*	9.39	<.0001	0.0259*	8.92	<.0001	0.0256*	9.45	<.0001	0.0190*	7.89	<.0001
BM	-0.0148*	-6.92	<.0001	-0.0147*	-6.35	<.0001	-0.0155*	-7.20	<.0001	-0.0196*	-10.27	<.0001
EBIT/Assets	-0.0982*	-22.06	<.0001	-0.0921*	-19.22	<.0001	-0.0949*	-21.25	<.0001	-0.0572*	-14.42	<.0001
Salesgrowth	0.0271*	16.44	<.0001	0.0270*	15.17	<.0001	0.0269*	16.23	<.0001	0.0239*	16.21	<.0001
DUAL	-0.0127**	-2.49	0.0128	-0.0124**	-2.25	0.0245	-0.0132**	-2.57	0.0103	-0.0127*	-2.79	0.0053
Loss	-0.0138*	-7.73	<.0001	-0.0286*	-14.87	<.0001	-0.0144*	-8.03	<.0001	-0.0171*	-10.70	<.0001
Adj R-Sq	0.1629			0.1713			0.1618			0.1484		
# Obs	15,383											

Panel B: Pre-Unification: Main Control: MJones Models: Regression #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.0884*	20.47	<.0001	0.1001*	21.62	<.0001	0.0915*	21.11	<.0001	0.0988*	25.76	<.0001
Ln(Total Assets)	-0.0067*	-16.59	<.0001	-0.0064*	-14.97	<.0001	-0.0069*	-17.22	<.0001	-0.0071*	-20.05	<.0001
Debt Ratio	0.0286*	8.86	<.0001	0.0303*	8.78	<.0001	0.0290*	8.97	<.0001	0.0216*	7.53	<.0001
BM	-0.0121*	-4.59	<.0001	-0.0118*	-4.16	<.0001	-0.0128*	-4.85	<.0001	-0.0171*	-7.32	<.0001
EBIT/Assets	-0.0971*	-18.89	<.0001	-0.0921*	-16.70	<.0001	-0.0943*	-18.27	<.0001	-0.0555*	-12.14	<.0001
CAPX/Assets	0.0713*	4.92	<.0001	0.0582*	3.74	0.0002	0.0688*	4.73	<.0001	0.0594*	4.61	<.0001
Salesgrowth	0.0248*	12.51	<.0001	0.0242*	11.39	<.0001	0.0244*	12.29	<.0001	0.02288*	12.96	<.0001
DUAL	-0.0151**	-2.41	0.0161	-0.0129***	-1.91	0.0557	-0.0154**	-2.44	0.0149	-0.0139**	-2.48	0.0130
Loss	-0.0135*	-6.28	<.0001	-0.0285*	-12.34	<.0001	-0.0139*	-6.45	<.0001	-0.0164*	-8.58	<.0001
Adj R-Sq	0.1657			0.1729			0.1646			0.1528		
# Obs	11,422											

Panel C: Post-Unification: Main Control: MJones Models: Regression #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1094*	40.02	<.0001	0.1121*	40.02	<.0001	0.1113*	40.17	<.0001	0.1135*	42.51	<.0001
Ln(Total Assets)	-0.0073*	-26.27	<.0001	-0.0074*	-26.02	<.0001	-0.0075*	-26.68	<.0001	-0.0071*	-26.23	<.0001
Debt Ratio	0.0166*	7.65	<.0001	0.0184*	8.28	<.0001	0.0163*	7.41	<.0001	0.0114*	5.38	<.0001
BM	-0.0213*	-13.22	<.0001	-0.0191*	-11.60	<.0001	-0.0218*	-13.35	<.0001	-0.0239*	-15.21	<.0001
EBIT/Assets	-0.0280*	-9.05	<.0001	-0.0252*	-7.95	<.0001	-0.0270*	-8.61	<.0001	-0.0195*	-6.46	<.0001
Salesgrowth	0.0192*	17.46	<.0001	0.0206*	18.25	<.0001	0.0199*	17.85	<.0001	0.0196*	18.17	<.0001
DUAL	-0.0009	-0.19	0.8487	0.0002	0.04	0.9649	-0.0015	-0.31	0.7560	-0.0059	-1.22	0.2209
Loss	-0.0147*	-10.47	<.0001	-0.0230*	-15.99	<.0001	-0.0152*	-10.69	<.0001	-0.0180*	-13.11	<.0001
Adj R-Sq	0.1480			0.1656			0.1498			0.1532		
# Obs	13,654											

Panel D: Post-Unification: Main Control: MJones Models: Regression #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1075*	33.84	<.0001	0.1096*	33.58	<.0001	0.1097*	34.02	<.0001	0.1140*	36.71	<.0001
Ln(Total Assets)	-0.0072*	-22.24	<.0001	-0.0071*	-21.58	<.0001	-0.0074*	-22.54	<.0001	-0.0072*	-22.92	<.0001
Debt Ratio	0.0173*	6.76	<.0001	0.0195*	7.43	<.0001	0.0172*	6.62	<.0001	0.0115*	4.59	<.0001
BM	-0.0201*	-10.32	<.0001	-0.0177*	-8.84	<.0001	-0.0207*	-10.43	<.0001	-0.0228*	-11.93	<.0001
EBIT/Assets	-0.0271*	-7.69	<.0001	-0.0251*	-6.96	<.0001	-0.0262*	-7.34	<.0001	-0.0174*	-5.05	<.0001
CAPX/Assets	0.0438*	4.24	<.0001	0.0513*	4.85	<.0001	0.0428*	4.08	<.0001	0.0493*	4.88	<.0001
Salesgrowth	0.0167*	12.51	<.0001	0.0171*	12.53	<.0001	0.0171*	12.66	<.0001	0.0165*	12.68	<.0001
DUAL	0.0093	1.40	0.1607	0.0084	1.23	0.2186	0.0085	1.26	0.2087	0.0049	0.76	0.4496
Loss	-0.0144*	-8.60	<.0001	-0.0225*	-13.08	<.0001	-0.0150*	-8.82	<.0001	-0.0178*	-10.85	<.0001
Adj R-Sq	0.1502			0.1647			0.1513			0.1554		
# Obs	9,840											

Panel E: Pre-Unification: One-to-One Control: MJones Models: Reg #1												
Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1018*	5.55	<.0001	0.1215*	5.84	<.0001	0.1072*	5.75	<.0001	0.1173*	6.79	<.0001
Ln(Total Assets)	-0.0060*	-3.49	0.0005	-0.0065*	-3.34	0.0009	-0.0062*	-3.56	0.0004	-0.0046*	-2.86	0.0045
Debt Ratio	-0.0131	-1.20	0.2307	-0.0119	-0.95	0.3406	-0.0140	-1.26	0.2099	0.0001	0.01	0.9940
BM	-0.0053	-0.51	0.6137	-0.0054	-0.45	0.6534	-0.0075	-0.71	0.4808	-0.0154	-1.56	0.1186
EBIT/Assets	-0.0553**	-2.33	0.0201	-0.0353	-1.31	0.1902	-0.0585**	-2.43	0.0155	-0.0344	-1.54	0.1243
Salesgrowth	0.0315*	3.21	0.0014	0.0359*	3.23	0.0013	0.0310*	3.12	0.0019	-0.0018	-0.20	0.8453
DUAL	-0.0098***	-1.91	0.0567	-0.0161*	-2.75	0.0062	-0.0102***	-1.95	0.0515	-0.0081***	-1.66	0.0975
Loss	-0.0275*	-3.74	0.0002	-0.0469*	-5.63	<.0001	-0.0286	-3.83	0.0001	-0.0211*	-3.05	0.0024
Adj R-Sq	0.1166			0.1446			0.1214			0.0601		
# Obs	502											

Panel F: Pre-Unification: One-to-One Control: MJones Models: Reg #2												
Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1046*	4.65	<.0001	0.1268*	4.92	<.0001	0.1107*	4.85	<.0001	0.1252*	6.00	<.0001
Ln(Total Assets)	-0.0062*	-2.90	0.0040	-0.0071*	-2.92	0.0038	-0.0065*	-3.02	0.0027	-0.0054*	-2.72	0.0070
Debt Ratio	-0.0128	-0.90	0.3698	-0.0146	-0.89	0.3749	-0.0143	-0.98	0.3254	0.0009	0.07	0.9481
BM	-0.0102	-0.75	0.4561	-0.0077	-0.49	0.6249	-0.0122	-0.87	0.3830	-0.0193	-1.51	0.1311
EBIT/Assets	-0.0628**	-2.16	0.0312	-0.0382	-1.15	0.2523	-0.0698**	-2.37	0.0183	-0.0345	-1.28	0.2010
CAPX/Assets	0.0846	1.39	0.1659	0.0249	0.36	0.7223	0.0857	1.39	0.1667	0.1260**	2.23	0.0266
Salesgrowth	0.0331*	2.66	0.0081	0.0414*	2.91	0.0039	0.0322**	2.56	0.0110	-0.0067	-0.58	0.5602
DUAL	-0.0152**	-2.25	0.0251	-0.0194**	-2.51	0.0127	-0.0154**	-2.25	0.0250	-0.0094	-1.51	0.1328
Loss	-0.0300*	-3.07	0.0023	-0.0508*	-4.54	<.0001	-0.0297*	-2.99	0.0030	-0.0231**	-2.54	0.0114
Adj R-Sq	0.1532			0.1660			0.1592			0.0882		
# Obs							341					

Panel G: Post-Unification: One-to-One Control: MJones Models: Reg #1

Regression 1	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1291*	5.38	<.0001	0.1236*	5.06	<.0001	0.1311*	5.42	<.0001	0.1211*	5.42	<.0001
Ln(Total Assets)	-0.0078*	-2.74	0.0066	-0.0079*	-2.74	0.0065	-0.0083*	-2.91	0.0039	-0.0068**	-2.57	0.0107
Debt Ratio	-0.0044	-0.21	0.8349	0.0144	0.68	0.4983	-0.0016	-0.07	0.9410	-0.0054	-0.28	0.7803
BM	-0.0354**	-2.52	0.0121	-0.0364**	-2.55	0.0113	-0.0346**	-2.45	0.0150	-0.0426*	-3.26	0.0012
EBIT/Assets	-0.0213	-0.87	0.3830	-0.0108	-0.44	0.6633	-0.0185	-0.75	0.4532	-0.0058	-0.25	0.8000
Salesgrowth	0.0376*	4.18	<.0001	0.0407*	4.43	<.0001	0.0376*	4.14	<.0001	0.0382*	4.56	<.0001
DUAL	-0.0030	-0.41	0.6787	-0.0010	-0.13	0.8938	-0.0035	-0.48	0.6326	-0.0074	-1.09	0.2759
Loss	-0.0385*	-3.38	0.0008	-0.0488*	-4.20	<.0001	-0.0387*	-3.37	0.0009	-0.0336*	-3.16	0.0017
Adj R-Sq	0.1999			0.2179			0.1974			0.2051		
# Obs	304											

Panel H: Post-Unification: One-to-One Control: MJones Models: Reg #2

Regression 2	Model 1			Model 2			Model 3			Model 4		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1394*	3.66	0.0003	0.1430*	3.73	0.0003	0.1459*	3.82	0.0002	0.1411*	3.98	0.0001
Ln(Total Assets)	-0.0074***	-1.81	0.0717	-0.0085**	-2.08	0.0395	-0.0081**	-1.98	0.0495	-0.0071***	-1.86	0.0649
Debt Ratio	-0.0005	-0.02	0.9862	0.0161	0.51	0.6117	0.0022	0.07	0.9436	-0.0168	-0.58	0.5648
BM	-0.0486**	-2.25	0.0259	-0.0527**	-2.42	0.0166	-0.0483**	-2.22	0.0274	-0.0438**	-2.18	0.0310
EBIT/Assets	0.0075	0.22	0.8271	0.0211	0.62	0.5389	0.0130	0.38	0.7037	0.0191	0.60	0.5471
CAPX/Assets	-0.1042	-1.23	0.2212	-0.0572	-0.67	0.5037	-0.1228	-1.44	0.1512	-0.1165	-1.48	0.1420
Salesgrowth	0.0455*	3.20	0.0016	0.0456*	3.19	0.0017	0.0453*	3.18	0.0017	0.0479*	3.63	0.0004
DUAL	0.0030	0.26	0.7937	0.0021	0.18	0.8573	0.0017	0.15	0.8833	-0.0038	-0.35	0.7278
Loss	-0.0496*	-2.71	0.0075	-0.0588*	-3.19	0.0017	-0.0514*	-2.80	0.0058	-0.0491*	-2.88	0.0045
Adj R-Sq	0.1918			0.2133			0.1933			0.2099		
# Obs	176											

CHAPTER 2: EARNINGS INFORMATIVENESS IN DUAL-CLASS FIRMS

2.1. Introduction

Dual-class stock structure is characterized by the segregation of voting rights and cash flow rights. This deviation from a “one share-one vote” principal leads to conflicts of interest between controlling insiders (the holders of voting rights) and remaining shareholders (Villalonga and Amit, 2009). Dual-class share structure creates an ideal setting for the owners of voting rights to extract private benefits and act in their own interest, at the expense of cash flow rights holders. As a result, dual-class firms are often perceived to have low transparency and high information asymmetry. Thus, the amount and quality of accounting information released to the public by firms with two classes of stocks is questioned by academicians. For instance, Tinaikar (2006) suggest that dual-class firms voluntarily release less information compared to single-class firms. Francis, Schipper, and Vincent (2005) document that dual-class firms’ earnings are less informative compared to single-class firms. Jiraporn (2005) finds that dual-class firms engage in earnings management. However, research also suggested that insiders with voting rights have incentives to disclose large amounts of high quality information to attract investors and reduce the perception of low credibility (Warfield et al., 1995). As further corroboration, Nguyen and Xu (2010) document that dual-class firms have lower discretionary accruals than single-class firms. The main implication is that dual-class firms are less likely to engage in earnings management activities. In the first chapter of this dissertation, I found evidence in support of this line of thinking. But one very important question remains unanswered: how do market participants perceive dual-class firms? In this chapter, I investigate earnings informativeness for dual-class firms by

examining the explanatory power of earnings for returns. Particularly, I examine the earnings informativeness of three different samples of dual-class firms that extend to 2009. In addition, I expand upon Francis, Schipper, and Vincent (2005) by analyzing changes in earnings informativeness after elimination of dual-class share structure. In particular, I investigate possible improvement in earnings informativeness for dual-class firms after unification. To the best of my knowledge, this is the first study to consider earnings informativeness for a sample of unified firms.

I find that earnings informativeness is lower for dual-class firms compared to single-class firms. Moreover, firms that abolish their dual-class share structure have the same earnings informativeness as single-class firms. This suggests that investors' perception of earnings credibility in dual-class firms is low and that this perception improves once dual-class firms unify their shares. These results contribute to the ongoing debate about the benefits and disadvantages of dual-class share structure.

2.2. Literature Review and Development of Hypotheses

Prior dual-class firm research investigates whether dual-class structure actually harms or benefits shareholders. It is suggested that the separation of voting right and cash flow rights creates incentives to extract private benefits (Shleifer and Vishny, 1997). Nenova (2003) finds a premium for voting shares which implies the existence of private benefits of control. A study by Masulis, Wang, and Xie (2009) documents the channels through which the holders of voting rights can extract private benefits and divert company resources. As a result, dual-class share structure is often perceived as an inferior form of ownership. Jarell and Poulsen (1988) document a negative market reaction (significant negative abnormal returns) to the announcement of dual-class share structure

formation. Gompers, Ishii, and Metrick (2010) explore the effect of dual-class share structure on firm value and find that the deviation from a “one share-one vote” principal decreases value. Additional research provides evidence that reinforces the negative relation between firm value and dual-class share structure (Claessens et al. (2002) and Lins (2003)). Smart, Thirumalai, and Zutter (2008) document positive and significant abnormal returns after the announcement of unification. Therefore, dual-class firms are commonly associated with conflicts of interest, lower firm value, asymmetric information, and extraction of private benefits. Li, Ortiz-Molina, and Zhao (2009) document a lower level of institutional ownership in dual-class firms compared to single-class firms, implying that institutional investors avoid dual-class firms.

Market participants often lack trust in dual-class share structure and academicians question the quality of accounting information in dual-class firms. For instance, Fan and Wong (2002) examine a sample of East Asian firms and show that concentrated ownership is associated with lower earnings informativeness. Francis, Schipper, and Vincent (2005) study the earnings informativeness of dual-class firms in the U.S. and document that earnings are less informative in dual-class firms compared to single-class firms. Prior studies suggest that dual-class firms are often associated with low quality accounting information. Thus, based in previous findings, I state the following hypotheses:

Hypothesis 1: Earnings informativeness is worse for dual-class stocks than for single-class stocks.

Hypothesis 2: There is no difference in earnings informativeness between unified firms and single-class firms.

2.3. Data and Sample Selection

In this study, I analyze U.S. listed dual-class firms. Utility (two digit SIC code from 40 to 49) and financial companies (two digit SIC code between 60 and 69) are excluded from my sample. Four different samples of dual-class firms are investigated in this study.

The first sample (original sample) includes 246 dual-class firms (1,011 firm-years) that exhibit dual-class share structure for at least two years during the time period from 1994 to 2002. The second sample investigated is the extended sample. I manually examine each dual-class firm's 10-K annual report filing at the Securities and Exchange Commission (SEC) beginning in 2003 and ending in 2009. I identify 105 dual-class stocks (613 firm-years) that maintain dual-class share structure beyond 2002. To be included in the sample, a firm must exhibit dual-class share structure for at least two years during the time period from 1994 to 2002 and at least one year from 2003 to 2009.

The third sample is called the restricted sample and features 71 dual-class firms (414 firm-years) that stay dual for the entire period from 1995 to 2009. The fourth sample consists of dual-class firms that "unify" their shares, i.e., they abolish their dual-class share structure and become single-class companies. I examine dual-class firms' proxy statements from 1994 to 2009 and identify 65 firms that unified their shares during the period. I delete firms with missing data required data for my analysis. The final unification sample consists of 30 firms and is partitioned into a pre-unification and post-unification period. Furthermore, I exclude the year of unification from the analysis.

I collect all accounting variables from COMPUSTAT. Returns are calculated using the CRSP database. Institutional ownership data is obtained from the Thompson Reuters database. All continuous variables used in my analysis are winsorized at the 1% and 99% level.

2.3.1. Matching Procedure

I follow two matching procedures for dual-class and single-class firms. The first matching procedure, named “main control”, involves matching each dual-class company to a portfolio of single-class companies in the same industry (based on a two digit SIC code) and in the same fiscal year. The second matching procedure is termed the “one-to-one control” and is based on a one-to-one matching principle. Each dual-class firm is only matched to one single-class firm based on the same industry (measured by a two digit SIC code), fiscal year, and size (measured as natural logarithm of price multiplied by shares outstanding).

2.4. Methodology

Based on prior literature, I construct and test the following null hypothesis:

H₀: Earnings are equally informative for dual-class shares and single-class shares.

In order to test the hypothesis, I follow Francis, Schipper, and Vincent (2005) and estimate the following two regressions:

$$\begin{aligned}
 RET_{it} = & \beta_0 + \beta_1 EARN_{it} + \beta_2 EARN_{it} * IC_{it} + \beta_3 EARN_{it} * LOSS_{it} + \beta_4 EARN_{it} * SIZE_{it} + \\
 & + \beta_5 EARN_{it} * MB_{it} + \beta_6 EARN_{it} * LEVG_{it} + \beta_7 EARN_{it} * INSTIT_{it} + \\
 & + \beta_8 EARN_{it} * DIV_{it} + \varepsilon_{it}
 \end{aligned}$$

(1)

$$\begin{aligned}
RET_{it} = & \beta_0 + \beta_1 EARN_{it} + \beta_2 EARN_{it} * IC_{it} + \beta_3 EARN_{it} * LOSS_{it} + \beta_4 EARN_{it} * SIZE_{it} + \\
& + \beta_5 EARN_{it} * MB_{it} + \beta_6 EARN_{it} * LEVG_{it} + \beta_7 EARN_{it} * INSTIT_{it} + \beta_8 EARN_{it} * DIV_{it} + \\
& + \beta_9 \Delta EARN_{it} + \beta_{10} \Delta EARN_{it} * IC_{it} + \beta_{11} \Delta EARN_{it} * LOSS_{it} + \beta_{12} \Delta EARN_{it} * SIZE_{it} + \\
& + \beta_{13} \Delta EARN_{it} * MB_{it} + \beta_{14} \Delta EARN_{it} * LEVG_{it} + \beta_{15} \Delta EARN_{it} * INSTIT_{it} + \\
& + \beta_{16} \Delta EARN_{it} * DIV_{it} + \varepsilon_{it}
\end{aligned}$$

(2)

where

RET_{it} = the 12-month cumulative raw return for firm i in fiscal year t (the 12-month period starts from three months before the end of fiscal year $t-1$ and ends three months after the end of fiscal year t)

$EARN_{it}$ = earnings before extraordinary items for firm i in fiscal year t , scaled by market value of equity at the end of fiscal year $t-1$

IC_{it} = a dummy variable equal to 1 if stock i is a dual-class stock and equal to 0 otherwise

$LOSS_{it}$ = a dummy variable equal to 1 if $EARN_{it}$ is less than zero and is equal to 0 otherwise

$SIZE_{it}$ = natural logarithm of sales for firm i in 1 year $t-1$

MB_{it} = market-to-book ratio for firm i in year t

$LEVG_{it}$ = the ratio of long-term debt to total assets for firm i in year $t-1$

$INSTIT_{it}$ = percent of firm's i shares held by institutions in year $t-1$

DIV_{it} = total common stock dividends for firm i in year t divided by market value of equity at the end of year $t-1$

$\Delta EARN_{it}$ = change in $EARN_{it}$ from year $t-1$ to year t scaled by market value of equity at the end of year $t-1$

Equations (1) and (2) are estimated using panel data. I am interested in the sign of the coefficient of β_2 . A positive coefficient would imply greater earnings informativeness for dual-class stocks while a negative coefficient would imply less earnings informativeness for dual-class stocks. I am also interested in the sum of the coefficients: $\beta_2 + \beta_{10}$. If the sum of the coefficients is positive, then earnings are more informative for dual-class stocks. If the sum of the coefficients is negative, then earnings are less informative for dual-class stocks. Using the F-test, I test the following null hypothesis: $H_0: \beta_2 + \beta_{10} = 0$.

I expect to document a positive sign on $EARN_{it}$ and $\Delta EARN_{it}$ implying a positive relation between earnings (or change in earnings) and returns. Based on the results of prior studies, (for example, Freeman (1987), Imhoff and Lobo (1992), and Francis, Schipper, and Vincent (2005)), I also expect to document a negative relation between size and informativeness, a negative relation between market-to-book ratio and informativeness, a negative relation between leverage and informativeness, and a positive relation between institutional ownership and informativeness.

2.5. Empirical Results

2.5.1. Descriptive Statistics

Table 2.1, Panels A through D, provide summary statistics for the control variables used in regressions (1) and (2) for the four different data samples. The p-values for the t-test and Wilcoxon sum rank test are provided in the last two columns of each panel. Panel A contains results for the original sample of dual-class firms and matching

single-class firms based on industry and fiscal year (main control). I find that average returns are statistically significant and higher in single-class firms (0.08) than in dual-class firms (0.05). Earnings scaled by lagged market value (EARN) are higher in dual-class firms (0.04) compared to single-class firms (0.02). I also find that dual-class firms have larger size (6.23), smaller market-to-book ratio (2.32), and smaller dividends (11.82) compared to single-class firms. In addition, I document that dual-class firms have higher leverage (0.23) compared to single-class firms (0.21) which is consistent with Gompers, Ishii, and Metrick (2010). Panel A also shows that the percent of institutional ownership in firms with two classes of shares is smaller (0.40) than firms with a single-class of shares (0.44). This result is consistent with Li, Ortiz-Molina, and Zhao (2009) where they document that institutional investors “shy away” from firms with dual-class share structure.

Panel B documents results for the original sample of dual-class firms matched one-to-one to single firms. The matched samples have very similar characteristics. There is no statistically significant difference in means between dual-class firms and single-class firms for the following variables: RETURN, Δ EARN, SIZE, ASSETS, SALES, and MB. However, earnings (EARN) are larger in dual-class firms (0.04) compared to single-class firms (0.02). The percent of institutional ownership (0.40) and dividends (11.82) are smaller in dual-class firms than in single-class firms (0.50 and 18.65, respectively).

Panel C and Panel D show summary statistics for the extended sample with the main and one-to-one control. Panels E and F show the results for the restricted sample. The results are similar to the original sample results. When the main control is used as a matching technique, dual-class firms, on average, have larger earnings, larger size, larger

leverage, smaller sales, smaller market-to-book ratios, and smaller dividends compared to single-class firms. In the one-to-one control case, the sample of dual-class firms (both extended sample and restricted sample) and the sample of single-class firms have similar characteristics. However, the percent of institutional ownership is significant and statistically smaller in dual-class firms than in single-class firms (the average difference is -0.09 in the extended sample, and -0.06 in the restricted sample).

Panel E presents summary statistics for the unification sample in the pre-unification and post-unification periods. In the pre-unification sample, dual-class firms have higher earnings, larger size, and smaller dividends compared to single-class firms. In the post-unification period, the sample of newly unified firms has similar characteristics to the sample of single-class firms that never instituted a dual-class share structure.

2.5.2. Regression Analysis

The results of regressions (1) and (2) are provided in Table 2.2. Panel A shows the results for the original sample (main control and one-to-one control). For model 1, I document a positive and statistically significant coefficient on EARN (3.3408 for the main control, and 5.2339 for the one-to-one control) and a negative and statistically significant coefficient on EARN*LOSS (-3.3274 for the main control, and -3.6134 for the one-to-one control). Both of these findings are consistent with prior research. I find mixed results for EARN*SIZE and EARN*INSTIT. The coefficients on EARN*MB and EARN*LEVG are negative. However, the coefficient for EARN*IC is my main concern. I document a negative and statistically significant coefficient for EARN*IC for both the main control (-0.2551 with a p-value =0.0735) and the one-to-one control (-0.466 with a

p-value =0.0757). This implies that dual-class firms have lower earnings informativeness compared to single-class firms. For model 2, I am interested in the sum of coefficients for EARN*IC and Δ EARN*IC. I find a negative and statistically significant coefficient for EARN*IC+ Δ EARN*IC (-0.3317 with a p-value =0.0376) for the main control group. This also implies less earnings informativeness for dual-class firms.

Panel B presents results for the extended sample and Panel C for the restricted sample, respectively. I document negative coefficients for EARN*IC for both samples. For the extended sample, the coefficient on EARN*IC is -0.4136 with a p-value of 0.0329 for the main control, and the coefficient is -0.6824 with a p-value of 0.0017 for the one-to-one control group. For the restricted sample, the coefficient is -0.6824 with a p-value of 0.0101 for the main control, and the coefficient is -0.6816 with a p-value of 0.0120 for the one-to-one control. The results also show a negative value for the sum of coefficients for EARN*IC and Δ EARN*IC. For the extended sample, the value of $\beta_2 + \beta_{10}$ is -0.4347 with a p-value of 0.0414 for the main control group, and the value is -0.6694 with a p-value of 0.0060 for the one-to-one control group. I also document a negative value of $\beta_2 + \beta_{10}$ for the restricted sample but the coefficient is not statistically significant. Overall, these results imply lower earnings informativeness for dual-class stocks than for single-class stocks.

The regression results for the unification sample are given in Panel D. In the pre-unification period (Panel 1D), dual-class firms are matched to single-class firms. The coefficient for EARN*IC for the main control group in pre-unification is -1.3136 with a p-value of 0.0022. In the post-unification period, unified firms are matched to single-class firms that never had a dual-class share structure. For the main control group, the

coefficient for EARN*IC is positive but not statistically significant (0.2308 and a p-value =0.6371), while the coefficient for EARN*IC + Δ EARN*IC is also positive and not statistically significant (0.407 and a p-value=0.9365). The result for the one-to-one match group is similar. My findings suggest there is no difference in earnings informativeness between unified firms and single-class firms.

2.6. Conclusions

Firms with dual-class share structure are heavily scrutinized and debated in finance literature. Does dual-class share structure benefit or harm shareholders? Does dual-class share structure improve or destroy firm value? Prior studies point out that holders of voting rights have incentives to engage in inefficient behavior and can potentially avoid negative consequences due to the separation of cash flow rights and voting rights. Alternatively, it is suggested that dual-class share structure creates a proper alignment of interest between controlling insiders and other shareholders because controlling insiders have an opportunity to concentrate on long-term firm goals without worrying about daily share price fluctuations. As a result of these opposite forces influencing the behavior of owners of voting rights, dual-class firms are associated with information asymmetry and low transparency. In this study I examine market participants' perception of the quality of earnings in dual-class firms by studying the earnings response coefficient. I find that the perception of low credibility of earnings in dual-class firms is common among market participants. I also document lower earnings informativeness for dual-class firms compared to single-class firms. In the sample of firms that eliminate dual-class share structure, I find no difference in earnings

informativeness compared to single-class firms. This implies that abolishing dual-class share structure leads to an improvement in the quality of earnings

Table 2.1 Summary Statistics

The table presents summary statistics for the sample of dual-class firms and matching single-class firms based on industry and fiscal year (main control) and based on size, industry and year (one-to-one control). RETURN is calculated as a 12-month cumulative raw return. EARN is firm's earnings before extraordinary items scaled by lagged value of market value of equity. ΔEARN is the change in earnings from year t-1 to year t scaled by lagged market value of equity. SIZE is number of shares outstanding multiplied by price at the end of year t. ASSETS is a firm's total assets from COMPUSTAT at the end of fiscal year t. SALES is a firm's net sales from COMPUSTAT at the end of fiscal year t. MB is a firm's market-to-book ratio at the end of fiscal year t. LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year t-1. %INSTIT is the percent of institutional ownership measured by percent of firm's shares held by institutions in year t-1. DIV is total common dividends paid in year t. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. Panels A, B shows summary statistics of original sample. Panels C, D provide summary statistics for extended sample. Panel E, F illustrate summary statistics for restricted sample. The results of the unification sample in pre-unification and post-unification periods are given in Panels G through J.

Panel A: Original Sample: Main Control							
Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean	Test of Difference between Median
	Mean	Median	Mean	Median		(p-values)	(p-values)
						t-test	Wilcoxon sum rank test
RETURN	0.05	0.00	0.08	-0.02	-0.04	0.0437	0.5818
EARN	0.04	0.06	0.02	0.05	0.01	0.0068	<.0001
ΔEARN	0.00	0.00	0.01	0.01	0.00	0.4111	0.2907
SIZE	6.23	6.31	5.84	5.75	0.39	<.0001	<.0001
ASSETS (MM\$)	1,058.94	535.54	2,325.81	308.05	-1,266.90	<.0001	<.0001
SALES (MM\$)	1,192.18	617.32	2,434.06	347.27	-1,241.90	<.0001	<.0001
MB	2.32	1.63	2.80	1.98	-0.48	<.0001	<.0001
LEVERAGE	0.23	0.22	0.21	0.18	0.02	0.0002	<.0001
%INSTIT	0.40	0.39	0.44	0.44	-0.04	<.0001	0.0004
DIV (MM\$)	11.82	0.90	38.71	0.00	-26.90	<.0001	<.0001
# OBS		1,011		12,020			

Panel B: Original Sample: One-to-One Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.05	0.00	0.04	-0.03	0.01	0.6684	0.1510
EARN	0.04	0.06	0.02	0.05	0.02	0.0093	0.0067
ΔEARN	0.00	0.00	0.00	0.01	0.00	0.4541	0.9957
SIZE	6.23	6.31	6.24	6.32	-0.01	0.8655	0.9148
ASSETS(MM\$)	1,058.94	535.54	1,049.70	458.01	9.25	0.8929	0.0389
SALES(MM\$)	1,192.18	617.32	1,206.48	573.99	-14.30	0.8607	0.9273
MB	2.32	1.63	2.54	1.68	-0.22	0.1023	0.0960
LEVERAGE	0.23	0.22	0.24	0.23	-0.01	0.2748	0.3444
%INSTIT	0.40	0.39	0.50	0.53	-0.10	<.0001	<.0001
DIV(MM\$)	11.82	0.90	18.65	0.00	-6.83	0.0006	0.0001
# OBS		1,011		1,011			

Panel C: Extended Sample: Main Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.05	0.00	0.07	-0.03	-0.03	0.2231	0.0911
EARN	0.05	0.06	0.02	0.05	0.02	<.0001	<.0001
ΔEARN	0.00	0.00	0.01	0.01	0.00	0.5053	0.5293
SIZE	6.26	6.44	5.79	5.68	0.47	<.0001	<.0001
ASSETS(MM\$)	1,025.39	532.02	2,218.30	291.23	-1,192.90	<.0001	<.0001
SALES(MM\$)	1,123.03	644.01	2,263.58	322.98	-1,140.60	<.0001	<.0001
MB	2.24	1.64	2.83	1.99	-0.59	<.0001	<.0001
LEVERAGE	0.23	0.23	0.21	0.18	0.02	0.0012	<.0001
%INSTIT	0.43	0.44	0.45	0.44	-0.02	0.2140	0.4570
DIV(MM\$)	13.51	2.37	35.26	0.00	-21.75	<.0001	<.0001
# OBS	613		10,458				

Panel D: Extended Sample: One-to-One Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean	Test of Difference between Median
	Mean	Median	Mean	Median		(p-values) t-test	(p-values) Wilcoxon sum rank test
RETURN	0.05	0.00	0.04	-0.04	0.00	0.8671	0.0232
EARN	0.05	0.06	0.02	0.05	0.03	0.0003	0.0009
ΔEARN	0.00	0.00	0.00	0.01	0.00	0.5634	0.9641
SIZE	6.26	6.44	6.21	6.33	0.05	0.5230	0.4285
ASSETS(MM\$)	1,025.39	532.02	1,032.78	474.93	-7.39	0.9333	0.0343
SALES(MM\$)	1,123.03	644.01	1,091.43	604.71	31.60	0.7296	0.4438
MB	2.24	1.64	3.03	1.73	-0.80	0.0077	0.0675
LEVERAGE	0.23	0.23	0.24	0.21	-0.01	0.3747	0.9830
%INSTIT	0.43	0.44	0.52	0.55	-0.09	<.0001	<.0001
DIV(MM\$)	13.51	2.37	16.67	0.00	-3.15	0.1860	<.0001
# OBS		613		613			

Panel E: Restricted Sample: Main Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.04	0.00	0.06	-0.04	-0.02	0.4613	0.0658
EARN	0.05	0.06	0.02	0.05	0.03	<.0001	<.0001
ΔEARN	0.00	0.00	0.01	0.01	0.00	0.7037	0.8437
SIZE	6.42	6.52	5.78	5.68	0.64	<.0001	<.0001
ASSETS(MM\$)	1,203.41	646.65	2,335.99	298.36	-1,132.60	0.0003	<.0001
SALES(MM\$)	1,286.83	721.50	2,347.06	318.87	-1,060.20	0.0007	<.0001
MB	2.30	1.71	2.91	2.02	-0.60	0.0006	<.0001
LEVERAGE	0.23	0.23	0.21	0.18	0.02	0.0039	0.0003
%INSTIT	0.48	0.49	0.45	0.44	0.03	0.0370	0.0125
DIV(MM\$)	16.33	5.17	38.50	0.00	-22.17	0.0009	<.0001
# OBS	414		8,985				

Panel F: Restricted Sample: One-to-One Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.04	0.00	0.02	-0.06	0.02	0.5824	0.0257
EARN	0.05	0.06	0.02	0.05	0.03	<.0001	0.0003
ΔEARN	0.00	0.00	0.00	0.00	0.01	0.4979	0.7077
SIZE	6.42	6.52	6.39	6.46	0.04	0.6729	0.5901
ASSETS(MM\$)	1,203.41	646.65	1,183.91	535.81	19.50	0.8744	0.0218
SALES(MM\$)	1,286.83	721.50	1,280.75	698.54	6.08	0.9638	0.5026
MB	2.30	1.71	2.83	1.65	-0.53	0.0621	0.9007
LEVERAGE	0.23	0.23	0.25	0.23	-0.02	0.2051	0.4875
%INSTIT	0.48	0.49	0.54	0.56	-0.06	0.0005	0.0004
DIV(MM\$)	16.33	5.17	19.64	0.00	-3.31	0.3127	<.0001
# OBS		414		414			

Panel G: Unification Sample: Pre-Unification: Main Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.15	0.14	0.12	-0.01	0.04	0.6519	0.1491
EARN	0.03	0.06	0.01	0.04	0.02	0.2577	0.0472
ΔEARN	0.00	0.01	0.01	0.01	-0.01	0.6367	0.4247
SIZE	5.95	5.97	5.76	5.66	0.18	0.4234	0.2231
ASSETS(MM\$)	784.17	528.31	2,137.42	272.57	-1,353.30	0.0661	0.1363
SALES(MM\$)	1,660.48	403.22	2,266.88	312.90	-606.40	0.4287	0.2047
MB	2.95	2.06	2.74	1.96	0.21	0.5921	0.1096
LEVERAGE	0.16	0.10	0.19	0.16	-0.02	0.2243	0.2050
%INSTIT	0.42	0.35	0.46	0.46	-0.04	0.2315	0.3361
DIV(MM\$)	2.94	0.00	20.26	0.00	-17.31	0.0464	0.0644
# OBS		176		6,097			

Panel H: Unification Sample: Pre-Unification: One-to-One Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean	Test of Difference between Median
	Mean	Median	Mean	Median		(p-values) t-test	(p-values) Wilcoxon sum rank test
RETURN	0.15	0.14	0.11	0.05	0.05	0.6606	0.4468
EARN	0.03	0.06	0.03	0.05	0.00	0.9653	0.5962
ΔEARN	0.00	0.01	0.01	0.00	-0.01	0.7471	0.3398
SIZE	5.95	5.97	5.97	6.01	-0.02	0.9293	0.7871
ASSETS(MM\$)	784.17	528.31	628.94	235.24	155.20	0.4541	0.1543
SALES(MM\$)	1,660.48	403.22	1,153.98	394.35	506.50	0.5016	0.8999
MB	2.95	2.06	1.74	1.38	1.20	0.0283	0.0002
LEVERAGE	0.16	0.10	0.23	0.20	-0.07	0.0163	0.0090
%INSTIT	0.42	0.35	0.47	0.44	-0.05	0.2682	0.4370
DIV(MM\$)	2.94	0.00	2.67	0.00	0.27	0.7829	0.0685
# OBS	176				176		

Panel I: Unification Sample: Post-Unification: Main Control

Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.08	0.03	0.12	0.03	-0.03	0.4655	0.7658
EARN	0.04	0.05	0.02	0.05	0.02	0.0440	0.0762
ΔEARN	0.01	0.01	0.02	0.01	-0.01	0.4783	0.4626
SIZE	7.05	6.84	6.40	6.41	0.65	<.0001	<.0001
ASSETS(MM\$)	3,830.13	1,315.80	5,084.02	670.24	-1,253.90	0.2135	<.0001
SALES(MM\$)	3,686.32	1,001.82	4,602.18	645.43	-915.90	0.2991	<.0001
MB	3.44	1.93	2.79	2.07	0.65	0.0325	0.6948
LEVERAGE	0.24	0.17	0.20	0.17	0.05	0.0003	0.1541
%INSTIT	0.79	0.81	0.59	0.65	0.20	<.0001	<.0001
DIV(MM\$)	28.84	0.00	97.47	0.00	-68.63	0.0069	0.9265
# OBS		71		4,213			

Panel J: Unification Sample: Post-Unification: One-to-One Control							
Variable	DUAL		SINGLE		Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Median	Mean	Median		t-test	Wilcoxon sum rank test
RETURN	0.08	0.03	0.09	0.01	0.00	0.9660	0.4904
EARN	0.04	0.05	0.03	0.05	0.01	0.1802	0.1831
ΔEARN	0.01	0.01	0.00	0.01	0.00	0.7251	0.1452
SIZE	7.05	6.84	7.11	6.92	-0.06	0.6685	0.5956
ASSETS(MM\$)	3,830.13	1,315.80	4,679.11	910.04	-849.00	0.4012	0.0801
SALES(MM\$)	3,686.32	1,001.82	3,796.91	1,050.25	-110.60	0.8880	0.7304
MB	3.44	1.93	3.00	2.19	0.44	0.6086	0.5351
LEVERAGE	0.24	0.17	0.23	0.22	0.01	0.6934	0.1858
%INSTIT	0.79	0.81	0.73	0.81	0.05	0.1431	0.3749
DIV(MM\$)	28.84	0.00	34.38	0.00	-5.54	0.5727	0.8501
# OBS		71				71	

Table 2.2 Regressions

This table presents the results of the following two regressions:

Model 1:

$$RET_{it} = \beta_0 + \beta_1 EARN_{it} + \beta_2 EARN_{it} * IC_{it} + \beta_3 EARN_{it} * LOSS_{it} + \beta_4 EARN_{it} * SIZE_{it} + \beta_5 EARN_{it} * MB_{it} \\ + \beta_6 EARN_{it} * LEVG_{it} + \beta_7 EARN_{it} * INSTIT_{it} + \beta_8 EARN_{it} * DIV_{it} + \varepsilon_{it}$$

Model 2:

$$RET_{it} = \beta_0 + \beta_1 EARN_{it} + \beta_2 EARN_{it} * IC_{it} + \beta_3 EARN_{it} * LOSS_{it} + \beta_4 EARN_{it} * SIZE_{it} + \beta_5 EARN_{it} * MB_{it} \\ + \beta_6 EARN_{it} * LEVG_{it} + \beta_7 EARN_{it} * INSTIT_{it} + \beta_8 EARN_{it} * DIV_{it} + \beta_9 \Delta EARN_{it} \\ + \beta_{10} \Delta EARN_{it} * IC_{it} + \beta_{11} \Delta EARN_{it} * LOSS_{it} + \beta_{12} \Delta EARN_{it} * SIZE_{it} + \beta_{13} \Delta EARN_{it} * MB_{it} \\ + \beta_{14} \Delta EARN_{it} * LEVG_{it} + \beta_{15} \Delta EARN_{it} * INSTIT_{it} + \beta_{16} \Delta EARN_{it} * DIV_{it} + \varepsilon_{it}$$

Variable definitions: RET_{it} = the 12-month cumulative raw return for firm i in fiscal year t (the 12-month period starts from three months before the end of fiscal year $t-1$ and ends three months after the end of fiscal year t). $EARN_{it}$ = earnings before extraordinary items for firm i in fiscal year t , scaled by market value of equity at the end of fiscal year $t-1$. IC_{it} = a dummy variable is equal to 1 if stock i is a dual-class stock and is equal to 0 otherwise. $LOSS_{it}$ = a dummy variable is equal to 1 if $EARN_{it}$ is less than zero and is equal to 0 otherwise. $SIZE_{it}$ = natural logarithm of sales for firm i in 1 year $t-1$. MB_{it} = market-to-book ratio for firm i in year t . $LEVG_{it}$ = the ratio of long-term debt to total assets for firm i in year $t-1$. $INSTIT_{it}$ = percent of firm's i shares held by institutions in year $t-1$. DIV_{it} = total common stock dividends for firm i in year t divided by market value of equity at the end of year $t-1$. $\Delta EARN_{it}$ = change in $EARN_{it}$ from year $t-1$ to year t scaled by market value of equity at the end of year $t-1$. The sum of the coefficients $EARN * IC + \Delta EARN * IC$ and the results of F-test to test whether the sum is different from zero are also given in the table. Panel A shows the results for original sample of dual-class firms. Panels B provides results for extended sample. Panel C illustrates the results for restricted sample. The results of the unification sample in pre-unification and post-unification periods are given in Panels D and E.

Panel A: Original Sample												
	Model 1						Model 2					
	Main Control			One-to-One Control			Main Control			One-to-One Control		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	-0.0650	-8.22	<.0001	-0.1421	-6.93	<.0001	-0.0524	-6.49	<.0001	-0.1236	-5.77	<.0001
EARN	3.3408	23.29	<.0001	5.2339	8.10	<.0001	2.2607	13.57	<.0001	3.8382	4.84	<.0001
EARN*IC	-0.2551	-1.79	0.0735	-0.4667	-1.78	0.0757	-0.0428	-0.26	0.7986	-0.6610	-2.16	0.0308
EARN*LOSS	-3.3274	-29.05	<.0001	-3.6143	-8.25	<.0001	-2.9540	-22.63	<.0001	-3.1083	-6.14	<.0001
EARN*SIZE	0.0485	1.92	0.0554	-0.2476	-2.39	0.0169	0.1475	4.96	<.0001	-0.0361	-0.28	0.7775
EARN*MB	-0.0143	-1.13	0.2586	-0.0233	-0.73	0.4630	-0.0016	-0.12	0.9019	-0.0051	-0.15	0.8777
EARN*LEVG	-0.3675	-1.92	0.0547	-0.5775	-0.80	0.4233	-0.3140	-1.41	0.1586	-0.4613	-0.53	0.5941
EARN*INSTIT	-0.2660	-1.73	0.0839	0.6401	1.24	0.2158	-0.5665	-3.10	0.0020	-0.3240	-0.53	0.5935
EARN*DIV	-3.5821	-0.91	0.3604	30.7195	2.75	0.0060	1.0114	0.21	0.8301	36.3297	2.95	0.0033
Δ EARN							1.5225	10.70	<.0001	2.3542	2.79	0.0053
Δ EARN*IC							-0.2889	-1.75	0.0796	0.8249	2.18	0.0296
Δ EARN*LOSS							-0.2174	-2.62	0.0088	-0.3353	-0.91	0.3641
Δ EARN*SIZE							-0.1851	-6.36	<.0001	-0.4298	-2.89	0.0039
Δ EARN*MB							-0.0068	-0.61	0.5390	0.0031	0.09	0.9264
Δ EARN*LEVG							-0.1707	-0.86	0.3907	-0.6781	-0.74	0.4587
Δ EARN*INSTIT							0.7327	4.17	<.0001	2.1943	3.18	0.0015
Δ EARN*DIV							-2.0455	-0.47	0.6409	-11.0924	-0.66	0.5064
EARN*IC+ Δ EARN*IC							-0.3317	4.33	0.0376	0.1639	0.22	0.6374
Adj R-Sq		0.1197			0.1544			0.1393			0.1705	
# Obs		12,870			1,917			12,870			1,917	

Panel B: Extended Sample												
	Model 1						Model 2					
	Main Control			One-to-One Control			Main Control			One-to-One Control		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	-0.1665	-21.48	<.0001	-0.1811	-8.33	<.0001	-0.1512	-19.10	<.0001	-0.1685	-7.38	<.0001
EARN	4.0643	29.75	<.0001	5.2339	9.14	<.0001	3.2557	20.84	<.0001	4.9379	6.68	<.0001
EARN*IC	-0.4136	-2.13	0.0329	-0.6824	-3.14	0.0017	-0.3160	-1.37	0.1708	-0.6763	-2.51	0.0122
EARN*LOSS	-4.2287	-37.39	<.0001	-3.9484	-11.62	<.0001	-3.8456	-29.86	<.0001	-3.4867	-8.70	<.0001
EARN*SIZE	0.0338	1.37	0.1712	-0.0505	-0.53	0.5990	0.0844	2.97	0.0030	-0.0496	-0.41	0.6798
EARN*MB	-0.0329	-2.80	0.0051	-0.0194	-0.69	0.4909	-0.0232	-1.93	0.0538	-0.0172	-0.49	0.6215
EARN*LEVG	-0.2772	-1.51	0.1323	-0.9589	-1.70	0.0891	-0.2803	-1.34	0.1803	-1.4757	-2.18	0.0294
EARN*INSTIT	-0.0136	-0.09	0.9284	-1.3700	-3.06	0.0022	-0.2552	-1.47	0.1409	-1.6938	-3.14	0.0017
EARN*DIV	-14.9977	-3.85	0.0001	6.0648	0.58	0.5597	-9.9321	-2.11	0.0347	19.7396	1.64	0.1018
ΔEARN							1.0198	7.80	<.0001	0.2598	0.38	0.7017
ΔEARN*IC							-0.1187	-0.54	0.5921	0.0069	0.03	0.9795
ΔEARN*LOSS							-0.1749	-2.22	0.0262	-0.4529	-1.67	0.0949
ΔEARN*SIZE							-0.1030	-3.79	0.0002	-0.0187	-0.16	0.8762
ΔEARN*MB							0.0012	0.12	0.9078	-0.0078	-0.24	0.8093
ΔEARN*LEVG							-0.0085	-0.05	0.9625	0.7261	1.14	0.2528
ΔEARN*INSTIT							0.5968	3.70	0.0002	0.9656	1.69	0.0915
ΔEARN*DIV							-2.6892	-0.63	0.5290	-19.5939	-1.72	0.0851
EARN*IC+ΔEARN*IC							-0.4347	4.16	0.0414	-0.6694	7.58	0.006
Adj R-Sq	0.1890			0.1810			0.1998			0.1974		
# Obs	11,071			1,168			11,071			1,168		

Panel C: Restricted Sample												
	Model 1						Model 2					
	Main Control			One-to-One Control			Main Control			One-to-One Control		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	-0.1749	-20.93	<.0001	-0.1986	-7.77	<.0001	-0.1634	-19.12	<.0001	-0.1662	-6.11	<.0001
EARN	4.0022	27.04	<.0001	4.6000	6.34	<.0001	3.2050	18.97	<.0001	4.6342	5.02	<.0001
EARN*IC	-0.6824	-2.57	0.0101	-0.6816	-2.52	0.0120	-0.6569	-2.18	0.0295	-0.7458	-2.30	0.0215
EARN*LOSS	-4.2772	-34.97	<.0001	-3.9486	-10.24	<.0001	-3.9571	-28.40	<.0001	-3.4925	-7.38	<.0001
EARN*SIZE	0.0411	1.54	0.1233	0.0044	0.04	0.9695	0.1026	3.33	0.0009	-0.0430	-0.30	0.7656
EARN*MB	-0.0377	-3.12	0.0018	0.0036	0.07	0.9440	-0.0260	-2.11	0.0352	-0.0903	-1.53	0.1268
EARN*LEVG	-0.2224	-1.13	0.2582	-0.9340	-1.47	0.1410	-0.3168	-1.42	0.1561	-1.5547	-2.09	0.0369
EARN*INSTIT	0.1067	0.66	0.5066	-1.2326	-2.41	0.0160	-0.1055	-0.58	0.5651	-1.5749	-2.64	0.0084
EARN*DIV	-12.7763	-2.87	0.0041	31.4063	2.24	0.0254	-6.4640	-1.23	0.2198	43.4255	2.71	0.0069
ΔEARN							1.0168	7.27	<.0001	-0.7879	-0.80	0.4226
ΔEARN*IC							0.1815	0.51	0.6131	0.2848	0.78	0.4350
ΔEARN*LOSS							-0.0952	-1.13	0.2596	-0.2361	-0.67	0.5022
ΔEARN*SIZE							-0.1169	-3.88	0.0001	0.1068	0.66	0.5102
ΔEARN*MB							-0.0047	-0.45	0.6502	0.2350	2.88	0.0041
ΔEARN*LEVG							0.1777	0.91	0.3605	0.8908	1.16	0.2450
ΔEARN*INSTIT							0.4980	2.90	0.0037	0.7960	1.23	0.2197
ΔEARN*DIV							-5.5931	-1.13	0.2582	-14.8439	-0.94	0.3495
EARN*IC+ΔEARN*IC							-0.4754	2.00	0.157	-0.4610	1.95	0.1629
Adj R-Sq	0.1799			0.1821			0.1982			0.2005		
# Obs	9,399			800			9,399			800		

Panel D: Unification Sample: Pre-Unification												
	Model 1						Model 2					
	Main Control			One-to-One Control			Main Control			One-to-One Control		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	-0.1314	-12.90	<.0001	-0.1398	-3.21	0.0014	-0.1140	-11.21	<.0001	-0.0995	-2.16	0.0311
EARN	4.4958	24.01	<.0001	6.2791	3.64	0.0003	3.8857	18.98	<.0001	3.6320	1.68	0.0937
EARN*IC	-1.3136	-3.06	0.0022	-0.8452	-1.52	0.1299	-1.1473	-2.36	0.0185	-0.0630	-0.10	0.9222
EARN*LOSS	-4.8210	-30.75	<.0001	-4.7408	-5.21	<.0001	-4.3542	-25.21	<.0001	-3.8854	-3.72	0.0002
EARN*SIZE	0.0468	1.65	0.0993	-0.1832	-0.80	0.4260	0.0393	1.32	0.1881	-0.0102	-0.04	0.9715
EARN*MB	-0.0567	-3.39	0.0007	-0.0324	-0.84	0.4027	-0.0493	-2.84	0.0045	-0.0752	-1.02	0.3070
EARN*LEVG	-1.2901	-5.00	<.0001	-2.7450	-2.50	0.0127	-0.8825	-3.26	0.0011	-3.8221	-2.78	0.0058
EARN*INSTIT	0.0716	0.49	0.6261	-0.4120	-0.52	0.6028	-0.2584	-1.63	0.1025	-0.2375	-0.23	0.8183
EARN*DIV	-17.2597	-4.04	<.0001	24.0699	1.20	0.2308	-11.0834	-2.37	0.0180	20.7787	0.87	0.3826
ΔEARN							0.7561	4.90	<.0001	2.9069	1.32	0.1894
ΔEARN*IC							-0.0447	-0.07	0.9460	-0.7091	-0.99	0.3222
ΔEARN*LOSS							0.0064	0.07	0.9456	-0.6848	-1.06	0.2905
ΔEARN*SIZE							-0.0263	-0.96	0.3360	-0.1276	-0.44	0.6600
ΔEARN*MB							-0.0046	-0.35	0.7290	-0.0095	-0.14	0.8900
ΔEARN*LEVG							-0.6086	-2.70	0.0069	0.4781	0.44	0.6568
ΔEARN*INSTIT							0.6837	4.94	<.0001	-0.3705	-0.39	0.7004
ΔEARN*DIV							-6.5438	-1.50	0.1330	23.0251	0.68	0.4998
EARN*IC+ΔEARN*IC							-1.1920	4.12	0.0424	-0.7721	1.27	0.2608
Adj R-Sq	0.1792			0.1236			0.2189			0.1697		
# Obs	6,273			351			6,273			351		

Panel E: Unification Sample: Post-Unification												
	Model 1						Model 2					
	Main Control			One-to-One Control			Main Control			One-to-One Control		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	-0.1519	-10.72	<.0001	-0.1207	-1.47	0.1444	-0.1304	-9.16	<.0001	-0.1016	-1.26	0.2096
EARN	4.6674	17.77	<.0001	2.8188	1.17	0.2444	3.8537	13.22	<.0001	6.1437	2.17	0.0321
EARN*IC	0.2308	0.47	0.6371	1.0611	1.23	0.2226	-1.0806	-1.22	0.2242	0.3821	0.30	0.7629
EARN*LOSS	-5.2873	-24.28	<.0001	-5.4966	-3.26	0.0014	-4.7892	-19.60	<.0001	-6.3890	-3.47	0.0007
EARN*SIZE	0.0325	0.69	0.4922	0.0085	0.02	0.9845	0.0558	1.10	0.2710	-0.1022	-0.18	0.8606
EARN*MB	0.0341	1.52	0.1292	-0.1663	-0.62	0.5366	0.0273	1.16	0.2454	-0.8452	-2.26	0.0256
EARN*LEVG	-0.4859	-1.41	0.1572	2.7072	1.02	0.3094	-0.1830	-0.49	0.6213	-0.1012	-1.96	0.0528
EARN*INSTIT	0.1748	0.65	0.5143	0.9827	0.46	0.6493	-0.2475	-0.87	0.3850	2.5057	0.77	0.4415
EARN*DIV	-25.2384	-2.80	0.0051	-49.9289	-1.26	0.2097	-19.6014	-1.86	0.0629	-67.2992	-1.47	0.1453
ΔEARN							0.9861	4.15	<.0001	-5.3850	-1.59	0.1153
ΔEARN*IC							1.1213	1.24	0.2155	0.3020	0.21	0.8334
ΔEARN*LOSS							-0.0739	-0.52	0.6012	2.3258	1.34	0.1820
ΔEARN*SIZE							-0.0813	-1.51	0.1313	0.5615	0.88	0.3783
ΔEARN*MB							0.0255	1.19	0.2352	0.9160	2.84	0.0053
ΔEARN*LEVG							-0.6311	-1.79	0.0741	0.1010	2.06	0.0417
ΔEARN*INSTIT							1.1418	4.20	<.0001	-2.0897	-0.60	0.5498
ΔEARN*DIV							0.3243	0.03	0.9722	10.0845	0.19	0.8525
EARN*IC+ΔEARN*IC							0.0407	0.01	0.9365	0.6841	0.41	0.5255
Adj R-Sq	0.1628			0.0806			0.1960			0.2136		
# Obs	4,284			141			4,284			141		

CHAPTER 3: THE INFORMATION ENVIRONMENT OF DUAL-CLASS FIRMS

3.1. Introduction

Dual-class firms have typically two classes of stock. The “inferior” class has little or no voting rights and the “superior” class has a disproportionately larger number of votes per share. Dual-class share structure creates the ideal setting for owners of voting rights to act in their own interest and extract private benefits at the expense of cash flow rights holders. In addition, owners of voting rights have often superior information about firm performance and incentives to limit the information available to the rest of shareholders. As a result, dual-class firms are often perceived to have low transparency and high information asymmetry. Higher information asymmetry and the lack of high quality information lead to a higher cost of capital and to stock prices that do not reflect correct firm value.

In this chapter I investigate the information environment of dual-class firms. Particularly, I examine four information environment measures: analyst forecast dispersion, analyst forecast error, Amihud’s (2002) illiquidity ratio, and bid-ask spread. To assure that my results are not sample-specific, I investigate four different samples of dual-class firms including a hand-collected sample of dual-class firms that unify their shares.

I document that the information environment for dual-class firms is worse than for single-class firms. In addition, dual-class firms that unify their shares show an improved information environment in the post-unification period. These results have an important implication for market participants and provide explanation as to why market participants mistrust information provided by dual-class firms.

3.2. Literature Review and Development of Hypotheses

Dual-class stock structure creates a divergence between voting rights and cash flow rights. This segregation leads to an agency problem and conflicts of interest between controlling insiders with voting rights and the rest of shareholders. Controlling insiders can act in their own interest and extract private benefits at the expense of the rest of shareholders. The holders of voting rights often have superior information about firm performance and investment opportunities, and have incentive to limit the availability of this superior information to the rest of shareholders and other market participants. The amount of information available and the quality of this information has been the focal point of previous studies. For instance, Tinaikar (2006) suggests that dual-class firms voluntarily release less information compared to single-class firms. Francis, Schipper, and Vincent (2005) document lower quality of earnings in dual-class firms compared to single-class firms. Low earnings quality is shown to be associated with information asymmetry (for example, Bhattacharya, Desai, and Venkataraman, 2008) which creates a higher dispersion of beliefs, larger spreads, and more illiquidity. A higher level of information asymmetry is often associated with a decrease in liquidity as evidenced by the widening of the bid-ask spread (Kyle, 1985; Glosten and Milgrom, 1985). Therefore, I hypothesize that dual-class firms exhibit higher information asymmetry than single-class firms. In particular, my research hypotheses are:

Hypothesis 1: Dual-class firms have larger dispersion of beliefs among analysts compared to single-class firms.

Hypothesis 2: Dual-class firms have larger illiquidity and larger spreads than single-class firms.

Hypothesis 3: Within the sample of dual-class firms, the largest separation between voting and cash flow rights is associated with higher information asymmetry.

Hypothesis 4: The information environment of dual-class firms improves after unification.

3.3. Data and Sample Selection

In this study, I examine four different samples of U.S. listed dual-class firms. The “original sample” consists of 385 firms with two classes of stock termed the “inferior class” and “superior class”. After the collection of necessary data items to construct the variables of interest, my sample size decreases to 336 firms (1,465 firm-years). The sample period starts in 1994 and ends in 2002. In order to be included in the sample, a firm must exhibit dual-class share structure for at least two years during the time period from 1994 to 2002. Firms in utility (two digit SIC code from 40 to 49) and financial industries (two digit SIC code between 60 and 69) are excluded from the sample.

I build the “extended sample” based on the “original sample”. I manually examine each dual-class firm’s 10-K annual report filing at the SEC for each year from 2003 to 2009. I identify 122 dual-class stocks (1,301 firm-years) from the original sample that maintain dual-class share structure beyond 2002 and have enough data to construct the analyzed variables. To be included in the sample, a firm must exhibit dual-class share structure for at least two years during the time period from 1994 to 2002 and at least one year from 2003 to 2009.

The third sample I examine is called the “restricted sample” and is restricted to dual-class firms that maintain dual-class share structure for the entire period from 1995 to 2009. The sample consists of 83 dual-class firms (961 firm-years). I include a firm only if it has a dual-class share structure for each and every year from 1995 to 2009.

The fourth sample consists of dual-class firms that “unify” their shares, i.e., they abolish their dual-class share structure and become single-class companies. I initially identify 65 firms that unify their shares by examining dual-class firms’ proxy statements from 1994 to 2009. After deleting firms with missing data, the unification sample includes 42 firms. The sample is divided into a pre-unification period and post-unification period. I delete the year of unification.

Data on analysts’ dispersion is obtained from the Institutional Brokers Estimate System (I/B/E/S). Stock returns, trading volume, and bid-ask spreads are obtained from the Center for Research in Securities Prices (CRSP). Furthermore, I collect accounting variables to control for different firm characteristics from the COMPUSTAT database. I winsorize all accounting variables at the 1% and 99% level.

3.4. Methodology

3.4.1. Information Environment Measures

To examine the information environment of dual-class companies, I construct four measures: analyst forecast dispersion (Disp), analyst forecast errors (FErr), Amihud’s (2002) illiquidity measure (Illiq), and bid-ask spread (Spread). These measures are used to investigate the degree of information asymmetry in dual-class firms and are compared to single-class firms.

Following Zhang (2006), I compute analyst forecast dispersion as:

$$\text{Disp}_t = \frac{\text{Stdev}_{.4}}{\text{Price}_{t-1}} \quad (1)$$

Where $\text{Stdev}_{.4}$ is the standard deviation of analyst forecast made four months prior to fiscal year-end and Price_{t-1} is the prior year-end stock price. A higher ratio implies a higher level of dispersion in analyst forecasts which corresponds to greater information uncertainty.

The next measure I employ is analyst forecast error which is calculated as the absolute value of the difference between mean estimate and actual earnings scaled by prior year-end stock price:

$$\text{FErr}_t = \frac{\text{abs}(\text{MeanEst}_{.4} - \text{Actual}_t)}{\text{Price}_{t-1}} \quad (2)$$

Where $\text{MeanEst}_{.4}$ is the average of estimated earnings per share forecasts four months prior to fiscal year-end, Actual_t is announced earnings per share at the fiscal-year end, and Price_{t-1} is the prior year-end stock price.

Following Amihud (2002), I estimate daily illiquidity ratio as:

$$\text{Illiq}_d = \frac{\text{abs}(\text{Ret}_d)}{\text{VOL}_d * \text{Price}_d} \quad (3)$$

Where Ret_d is daily return, VOL_d is trading volume on day d , and Price_d is stock closing price on day d . For each stock i in year t , I then calculate the average Illiq as the sum of Illiq_d divided by the number of trading days in year t for which data on daily return, daily

trading volume, and closing price is available. A lower ratio implies higher liquidity which corresponds to lower information asymmetry.

The final measure of information uncertainty is bid-ask spread defined as:

$$\text{Spread}_d = \text{ClosingAsk}_d - \text{ClosingBid}_d \quad (4)$$

Where Closing Ask is the closing ask price on day d in year t and Closing bid is the closing bid price on day d in year t . For each stock i in year t , I calculate the average spread using the sum of daily closing Spread_d divided by the number of trading days in year t . A higher spread is associated with higher information asymmetry.

Each dual-class firm in my sample is matched to one single-class firm based on industry (measured by the two digit SIC code), fiscal year, and size (measured by taking the natural logarithm of price multiplied by shares outstanding).

In order to test for the difference between each information environment measure for dual-class companies and matched single-class companies, I perform a t-test for the difference in means and non-parametric Wilcoxon sum rank test for the difference in medians.

3.4.2. Within-Sample Analysis

Using the “original sample” of dual-class stocks², I follow Francis, Schipper, and Vincent (2005) and identify stocks with high and low ownership concentration to further

² Required data to construct the Voting/Cash Flow Rights Ratio is only available for the “original” sample.

examine the relation between information asymmetry and concentrated ownership. I achieve this by constructing two variables defined as follows:

$$CashFlowRights(\%) = \frac{\text{Number of Inferior Class Shares Outstanding}}{\text{Number of Inferior Class Shares Outstanding} + \text{Number of Superior Class Shares Outstanding}} \quad (5)$$

$$VotingFlowRights(\%) = \frac{\text{Number of Votes Per Inferior Share} \times \text{Number of Inferior Shares Outstanding}}{\text{Number of Votes Per Superior Share} \times \text{Number of Superior Shares Outstanding}} \quad (6)$$

In each year, I rank dual-class firms based on the voting flow rights to cash flow rights ratio. Dual-class firms with the highest (lowest) ratio have the highest (lowest) level of separation between the classes and thus possess more (less) concentrated ownership. I divide the sample based on the ratio into three groups, High, Medium, and Low, with an equal number of firms in each group. I analyze the difference between the High (firms with the most separation between voting and cash flow rights) and Low (firms with the least separation between voting and cash flow rights) group.

3.4.3. Regression Analysis

Following prior studies, I control for factors previously shown to influence the information environment and ownership structure. These factors include Size (defined as the number of shares outstanding multiplied by price), Debt ratio, book-to-market (BM) ratio, return on assets (ROA), and Pastgrowth (defined as Book-to-Market ratio in previous year). Therefore, I estimate the following four models using panel data:

Model 1:

$$Disp_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (7)$$

Where $DUAL_{it}$ is equal to 1 if it is a dual-class firm, and is equal to 0 otherwise.

Model 2:

$$FErr_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (8)$$

Model 3:

$$Illiq_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (9)$$

Model 4:

$$Spread_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (10)$$

I am interested in the coefficient on the dummy variable DUAL. A positive and statistically significant coefficient implies higher information asymmetry for dual-class firms than for single-class firms.

3.5. Empirical Results

3.5.1. Descriptive Statistics

Table 3.1, Panel A through E present summary statistics for the four samples used in analysis of the information environment measures. The sample characteristics are MCAP, TOTAL ASSETS, SIZE, LEVERAGE, PASTGROWTH, SALESGROWTH, DEBT RATIO, BM, ROE, and ROA. MCAP is the number of shares outstanding multiplied by fiscal year-end price plus the difference between total assets and total common equity at the end of fiscal year t. TOTAL ASSETS is a firm's total assets from

COMPUSTAT at the end of fiscal year t . SIZE is the number of shares outstanding multiplied by price at the end of year t . LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year $t-1$. PASTGROWTH is the book-to-market ratio in prior year $t-1$. SALESGROWTH is the total sales for fiscal year t scaled by total sales in fiscal year $t-1$. DEBT RATIO is the ratio of total liabilities to total assets. BM is the ratio of the book value of equity to market value. ROE is the return on equity measured as income before extraordinary items in year t scaled by total stockholder's equity in year t . ROA is the return on assets measured as earnings before extraordinary items in year t scaled by total assets. Panel A shows results for the original sample of dual-class firms. The p -values for the tests of difference in means and medians are displayed in the last two columns of each panel. Dual-class firms from the original sample matched to single-class firms based on industry, fiscal year, and size share similar characteristics. However, dual-class firms on average have higher past growth, higher book-to-market ratio, lower sales growth, and higher return on equity than single-class firms.

Panel B reports summary statistics for the extended sample. The means and medians of most variables are similar to those values from the original sample of dual-class firms. Dual-class firms have similar size and return on assets (ROA) compared to single-class firms.

Table C presents summary statistics for the restricted sample. The restricted sample is represented by dual-class firms that are larger in size, have larger market capitalization, and larger total assets than dual-class firms in the original sample. These firms maintain dual-class share structure for the entire period from 1995 to 2009 and it is

reasonable that these dual-class firms are larger and more financially sound than firms in the original sample.

Summary statistics for the unification sample are provided in Panel D (pre-unification period) and Panel E (post-unification period). The pre-unification sample of dual-class firms has similar characteristics to the original sample of dual-class firms. In addition, dual-class firms in the pre-unification period have lower leverage and lower sales growth than matching single-class firms. After unification, dual-class firms have larger market capitalization (an increase from 2,188.35 to 5,933.97), higher total assets (an increase from 1,476.37 to 3,238.25), and more leverage (an increase from 0.1822 to 0.223) than dual-class firms in the pre-unification period.

3.5.2. Information Environment Measures

Table 3.2, Panels A through E, present results for the univariate analysis of the following information environment measures: Disp, FE_{err}, Illiq, and Spread. The results of the t-test for the difference between means (dual minus single) and the results of Wilcoxon sum rank test for the difference between medians are given in the last two columns of each panel. Panel A reports univariate results for the original sample. The mean analyst forecast dispersion measure (Disp) is 0.1071 for dual-class firms and 0.0619 for single-class firms. The difference (dual minus single) is positive (0.0452) and statistically significant at the 10 percent level. The difference in means of analyst forecast error is also positive (0.0272) and is statistically significant at the 5 percent level. The illiquidity ratio and spreads are higher in dual-class firms than in single-class firms. I find evidence supporting my hypothesis that information asymmetry is higher in dual-class firms than in single-class firms.

Panel B presents univariate analysis of information asymmetry variables for the extended sample while Panel C shows the results for the restricted sample of dual-class firms. Both tables document higher analyst forecast dispersion, higher illiquidity, and higher bid-ask spreads implying higher information uncertainty and more dispersion of beliefs for firms with two classes of stock.

The analysis of information environment measures for the unification sample is given in Panel D (pre-unification period) and Panel E (post-unification period). The differences in means and medians between dual-class firms and single-class firms are positive and statistically significant in pre-unification. However, the differences in means and medians between information asymmetry variables of dual-class firms and single-class firms in the post-unification period are not statistically significant. This implies that the dispersion of beliefs in dual-class firms after unification is the same as in single-class firms. In addition, Panels D and E document that analyst forecast dispersion of dual-class companies, on average, decrease from 0.0612 in pre-unification to 0.0398 after unification. Analyst forecast error (FE_{err}) also shows a decline from 0.0342 before unification to 0.0076 after unification.

3.5.3. Within -Sample Analysis

The within-sample analysis of measures of information asymmetry is given in Table 3.3. Group “High” represents dual-class firms with the most separation between voting and cash flow rights while group “Low” consists of dual-class firms with the least separation between voting and cash flow rights. The mean difference, median difference, and tests of difference between mean and median for four measures (Disp, FE_{err}, Illiq, and Spread) are given in the last four columns. The differences in Disp, Illiq, and Spread

between “High” and “Low” groups (High minus Low) are positive and statistically significant. This implies that dual-class firms with the most concentrated ownership exhibit the most information asymmetry.

3.5.4. Regression Analysis

The results of four regression models are provided in Table 3.4. The dependent variables in Model 1 through Model 4 are the following information environment measures: analyst forecast dispersion (Disp), analyst forecast error (FErr), Amihud’s illiquidity ratio (Illiq), and bid-ask spread (Spread). I include control variables to control for firm characteristics that are previously shown to affect firm information environment and stock ownership structure. Panel A shows the results for the original sample. The coefficient for DUAL is my main concern. For all four models, I document a positive and statistically significant coefficient for DUAL which suggests higher information asymmetry in dual-class firms compared to single-class firms. For instance, the regression coefficient for DUAL in Model 1 is 0.0459 (significant at the 10% level) and the regression coefficient is 0.0274 (significant at the 5% level) for Model 2. The regression coefficients for Model 3 and Model 4 are 0.6869 (significant at the 1% level), and 0.0771 (significant at the 1% level), respectively. Panel B introduces the results for the extended sample. The restricted sample results are given in Panel C. The results for these two samples are also similar to the original sample results. The coefficient on DUAL is positive and statistically significant in most cases, which is in accordance with my hypothesis that dual-class firms exhibit higher information uncertainty than single-class firms. Panel D and Panel E show the regression analysis results for the pre-unification and post-unification periods, respectively. I document that in the post-

unification period, the coefficient for DUAL in all four models is not statistically significant. This result suggests that there is no difference in the information environment between unified and matching single-class firms after unification.

3.6. Conclusions

In this chapter, I examine the information environment of dual-class firms and compare it to single-class firms. In addition, I investigate changes in the information environment after dual-class firms abolish this structure by unifying shares. I employ four different measures of information environment: analyst forecast dispersion, analyst forecast error, Amihud's illiquidity ratio, and bid-ask spread. To assure that my results are not sample-specific, I investigate four different samples of dual-class firms: the original sample, the extended sample, the restricted sample, and the unified sample. I document higher analyst forecast dispersion, higher analyst forecast error, higher illiquidity ratio, and higher bid-ask spread in dual-class firms compared to single-class firms. I also find that there is no statistically significant difference in the measures of information asymmetry between unified firms and single-class firms in the post-unification period. These results imply that the information environment is worse for dual-class firms than for single-class firms. In addition, dual-class firms that unify their shares enjoy a better information environment in the post-unification period. The results of this chapter provide some explanation into the contradictory results of the first and second chapters. In the first chapter, I document that the quality of accruals is better in dual-class firms than in single-class firms. In the second chapter, I conclude that earnings informativeness is worse for dual-class firms than that for single-class firms which is contrary to the results of the first chapter. In this chapter, my findings of higher

information asymmetry in dual-class firms explain my prior contradicting results. Dual-class firms' inferior information environment results in uncertainty about the quality of information provided by dual-class firms to the public. Even though, my analysis suggests that the quality of accruals is higher in dual-class firms, the market perceives the credibility of this information as low.

Table 3.1 Summary Statistics

The table presents summary statistics for the sample of dual-class firms and matching single-class firms based on industry, fiscal year and size. MCAP is the number of shares outstanding multiplied by fiscal year-end price plus the difference between total assets and total common equity at the end of fiscal year t. TOTAL ASSETS is a firm's total assets from COMPUSTAT at the end of fiscal year t. SIZE is number of shares outstanding multiplied by price at the end of year t. LEVERAGE is the ratio of long term debt to total assets at the end of fiscal year t-1. PASTGROWTH is book-to-market ratio in prior year t-1. SALESGROWTH is total sales for fiscal year t scaled by total sales in fiscal year t-1. DEBT RATIO is the ratio of total liabilities to total assets. BM is the ratio of book value of equity to market value. ROE is return on equity measured as income before extraordinary items in year t scaled by total stockholder's equity in year t. ROA is return on assets measured as earnings before extraordinary items in year t scaled by total assets. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. Panels A shows summary statistics of original sample. Panels B provide summary statistics for extended sample. Panel C illustrate summary statistics for restricted sample. The results of the unification sample in pre-unification and post-unification periods are given in Panels D and E.

Panel A: Original Sample											
Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test
MCAP (MMS)	1,961.57	278.87	820.28	1,901.08	1,893.94	264.78	750.20	1,783.55	67.6313	0.6100	0.2755
ASSETS (MM\$)	1,207.39	204.04	553.91	1,353.53	1,176.14	175.91	470.96	1,124.78	31.2565	0.7144	0.0057
SIZE	5.9518	4.8301	6.0296	6.9540	5.9584	4.8514	6.0181	6.9338	-0.0066	0.9063	0.9039
LEVERAGE	0.2336	0.0775	0.2147	0.3452	0.2342	0.0883	0.2197	0.3412	-0.0006	0.9274	0.6947
PASTGROWTH	0.7249	0.5043	0.7133	0.9217	0.6723	0.4671	0.6751	0.8691	0.0525*	<.0001	<.0001
SALESGROWTH	1.1374	0.9993	1.0791	1.1881	1.1974	1.0006	1.0953	1.2541	-0.0600*	<.0001	0.0012
DEBT RATIO	0.5402	0.3954	0.5364	0.6696	0.5470	0.4136	0.5486	0.6736	-0.0068	0.3771	0.2814
BM	0.7516	0.5227	0.7474	0.9584	0.6990	0.4977	0.6931	0.8959	0.0526*	<.0001	<.0001
ROE	0.0496	0.0286	0.0963	0.1517	0.0165	0.0022	0.0949	0.1584	0.0330**	0.0280	0.3170
ROA	0.1200	0.0886	0.1274	0.1714	0.1241	0.0897	0.1349	0.1803	-0.0042	0.3376	0.0334
# Obs	1,465				1,465						

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel B: Extended Sample											
Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test
MCAP (MM\$)	2,387.91	334.45	1,081.67	2,584.34	2,409.44	326.44	1,020.31	2,622.19	-21.5301	0.8872	0.4334
ASSETS (MM\$)	1,451.85	265.56	738.76	1,795.59	1,601.41	224.84	598.88	1,507.52	-149.6000	0.1351	0.0041
SIZE	6.2219	5.0417	6.3176	7.3406	6.2138	5.0362	6.3137	7.3325	0.0081	0.8948	0.9135
LEVERAGE	0.2157	0.0887	0.2041	0.3213	0.2300	0.0831	0.2138	0.3302	-0.0142**	0.0324	0.4291
PASTGROWTH	0.7591	0.5333	0.7552	0.9589	0.6829	0.4935	0.6753	0.8689	0.0762*	<.0001	<.0001
SALESGROWTH	1.0752	0.9969	1.0632	1.1385	1.1284	0.9853	1.0694	1.2009	-0.0532*	<.0001	0.0234
DEBT RATIO	0.5212	0.3964	0.5221	0.6452	0.5525	0.4046	0.5498	0.6752	-0.0314*	<.0001	0.0022
BM	0.7673	0.5436	0.7643	0.9647	0.6988	0.4995	0.6845	0.8833	0.0685*	<.0001	<.0001
ROE	0.0801	0.0451	0.0961	0.1465	0.0241	0.0054	0.0970	0.1602	0.0560*	0.0002	0.2332
ROA	0.1280	0.0948	0.1267	0.1675	0.1280	0.0919	0.1320	0.1791	0.0000	0.9995	0.1355
# Obs	1,301				1,301						

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel C: Restricted Sample												
Variable	DUAL				SINGLE				Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test	
MCAP (MM\$)	2,650.13	396.33	1,314.75	2,858.86	2,823.13	434.75	1,180.75	3,277.52	-173.00	0.3508	0.9148	
ASSETS (MM\$)	1,629.95	322.70	874.46	2,040.68	1,889.98	290.79	735.50	1,933.57	-260.00**	0.0413	0.1345	
SIZE	6.4325	5.3997	6.5657	7.5345	6.4278	5.3761	6.5581	7.5332	0.0047	0.9468	0.9214	
LEVERAGE	0.2158	0.0966	0.2069	0.3133	0.2306	0.0924	0.2175	0.3280	-0.0148**	0.0499	0.3384	
PASTGROWTH	0.7523	0.5353	0.7457	0.9392	0.6828	0.4937	0.6798	0.8631	0.0696*	<.0001	<.0001	
SALESGROWTH	1.0755	0.9991	1.0615	1.1317	1.1208	0.9812	1.0700	1.1956	-0.0453*	<.0001	0.0728	
DEBT RATIO	0.5094	0.3969	0.5121	0.6322	0.5615	0.4163	0.5589	0.6826	-0.0522*	<.0001	<.0001	
BM	0.7593	0.5356	0.7572	0.9507	0.6991	0.5017	0.6919	0.8734	0.0602*	<.0001	<.0001	
ROE	0.0825	0.0506	0.0973	0.1432	0.0129	0.0037	0.0987	0.1589	0.0696*	0.0001	0.2389	
ROA	0.1291	0.0986	0.1275	0.1666	0.1273	0.0887	0.1304	0.1753	0.0017	0.6618	0.6625	
# Obs	961				961							

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel D: Pre-Unification Sample

Variable	DUAL				SINGLE				Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	t-test	Wilcoxon sum rank test
MCAP (MM\$)	2,183.35	490.65	935.95	1,543.33	2,186.22	511.68	991.40	1,902.29	-2.8774	0.9956	0.3670
ASSETS (MM\$)	1,476.37	183.24	553.83	1,002.97	1,231.07	257.13	598.40	1,385.70	245.30	0.5470	0.2827
SIZE	6.3164	5.5684	6.4139	6.9647	6.3164	5.5441	6.3695	6.9471	0.0001	0.9996	0.9099
LEVERAGE	0.1822	0.0627	0.1609	0.2813	0.2220	0.0658	0.2045	0.3432	-0.0398**	0.0402	0.1213
PASTGROWTH	0.5930	0.4254	0.6046	0.7979	0.6088	0.3997	0.5860	0.8114	-0.0158	0.6299	0.8546
SALESGROWTH	1.1968	1.0287	1.1104	1.2666	1.2913	1.0263	1.1249	1.3707	-0.0945***	0.0782	0.2891
DEBT RATIO	0.5075	0.4005	0.5064	0.6084	0.5450	0.4036	0.5292	0.6947	-0.0375	0.1321	0.1923
BM	0.5984	0.4018	0.5749	0.7979	0.6405	0.4410	0.6060	0.8197	-0.0420	0.2136	0.3246
ROE	0.0141	0.0196	0.1121	0.1621	-0.0259	-0.0068	0.0904	0.1611	0.0399	0.4894	0.5384
ROA	0.1180	0.0841	0.1431	0.2049	0.1061	0.0876	0.1225	0.1883	0.0118	0.5253	0.2659
# Obs	256				256						

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel E: Post-Unification Sample											
Variable	UNIFIED				SINGLE				Mean Diff	Test of Difference between Mean (p-values)	Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3		t-test	Wilcoxon sum rank test
MCAP (MM\$)	5,933.97	936.56	1,905.21	4,965.40	6,130.65	795.35	1,954.99	4,756.56	-196.70	0.8777	0.6721
ASSETS (MM\$)	3,238.25	554.14	1,193.50	2,935.53	3,443.98	461.88	1,286.69	2,903.62	-205.70	0.7274	0.4851
SIZE	7.0829	6.2993	7.1054	8.0199	7.0821	6.2759	7.1319	7.9812	0.0008	0.9953	0.9702
LEVERAGE	0.2223	0.0724	0.1623	0.3057	0.1905	0.0554	0.1738	0.2965	0.0318***	0.0701	0.4082
PASTGROWTH	0.6531	0.4544	0.6502	0.8641	0.6362	0.4053	0.6435	0.8248	0.0169	0.4765	0.3872
SALESGROWTH	1.0886	0.9832	1.0854	1.1786	1.1361	0.9887	1.0839	1.2111	-0.0474	0.0425	0.4102
DEBT RATIO	0.5397	0.3796	0.5104	0.6230	0.5074	0.3998	0.4986	0.6160	0.0323	0.1059	0.6535
BM	0.6660	0.4637	0.6572	0.8641	0.6481	0.4599	0.6589	0.8204	0.0179	0.4331	0.4400
ROE	0.0549	0.0126	0.0914	0.1447	0.0051	0.0161	0.0945	0.1580	0.0498	0.1751	0.9084
ROA	0.1334	0.0847	0.1254	0.1791	0.1124	0.0796	0.1186	0.1615	0.0210**	0.0224	0.2318
# Obs	133				133						

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Table 3.2 Univariate Analysis of Information Environment Measures

This table presents the univariate analysis results of the following variables: Disp, FErr, Illiq, and Spread. Disp is defined as the standard deviation of analyst forecast made four month prior to fiscal year-end scaled by the prior year-end stock price. FErr is defined as the absolute value of the difference between mean estimate of earnings per share four month prior to fiscal year-end and actual earnings per share at the fiscal year-end divided by prior year-end stock price. Illiq is the average of daily Amihud's (2002) illiquidity ratio in year t defined as the ratio of absolute value of daily return to daily trading dollar volume. Spread is defined as the average of daily closing spread (closing ask minus closing bid) in year t. The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel. Panel A shows Univariate analysis results of original sample. Panels B provide Univariate analysis for extended sample. Panel C illustrate univariate analysis for restricted sample. The Univariate results of the unification sample in pre-unification and post-unification periods are given in Panels D and E.

Panel A: Original Sample											
Variable	DUAL				SINGLE				Test of Difference between Mean (p-values)		Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	t-test	Wilcoxon sum rank test
Disp	0.1071	0.0112	0.0246	0.0627	0.0619	0.0059	0.0128	0.0381	0.0452***	0.0985	<.0001
FErr	0.0524	0.0018	0.0066	0.0245	0.0252	0.0004	0.0014	0.0059	0.0272**	0.0398	<.0001
Illiq	3.9136	0.0833	0.5061	2.6499	3.4098	0.0592	0.3082	2.2593	0.5038***	0.0946	0.0008
Spread	0.4457	0.2037	0.344	0.4727	0.3786	0.1876	0.3155	0.4427	0.0671*	0.0090	0.0010
# obs					1,465						1,465

*Significant at 1% level
**Significant at 5% level
***Significant at 10% level

Panel B: Extended Sample											
Variable	DUAL				SINGLE				Test of Difference between Mean (p-values)		Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	t-test	Wilcoxon sum rank test
Disp	0.0998	0.0104	0.0226	0.0552	0.0492	0.005	0.0118	0.0338	0.0505***	0.0591	<.0001
FErr	0.0454	0.0017	0.0057	0.0172	0.0205	0.0005	0.0014	0.0046	0.0249***	0.0564	<.0001
Illiq	3.0873	0.0304	0.1886	1.4745	2.1652	0.0267	0.1715	1.1027	0.9222*	0.0002	0.1508
Spread	0.3520	0.0602	0.1993	0.4068	0.2591	0.0515	0.1698	0.3703	0.0928*	0.0010	0.0013
# obs					1,301						1,301

*Significant at 1% level
**Significant at 5% level
***Significant at 10% level

Panel C: Restricted Sample												
Variable	DUAL				SINGLE				Test of Difference between Mean (p-values)		Test of Difference between Median (p-values)	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	t-test	Wilcoxon sum rank test	
Disp	0.0607	0.0095	0.0213	0.0485	0.0389	0.0046	0.0106	0.029	0.0218*	0.0022	<.0001	
FErr	0.0299	0.0015	0.0054	0.0160	0.0195	0.0004	0.0013	0.0043	0.0105	0.1638	<.0001	
Illiq	2.2242	0.0223	0.1093	0.8469	1.7096	0.0199	0.1130	0.7517	0.5146**	0.0281	0.7082	
Spread	0.2714	0.0521	0.1627	0.3891	0.2446	0.0430	0.1370	0.3460	0.0268	0.1432	0.0084	
# obs					961				961			

*Significant at 1% level
**Significant at 5% level
***Significant at 10% level

Panel D: Pre-Unification Sample											
Variable	DUAL				SINGLE				Test of Difference between Mean (p-values)		Test of Difference between Median (p-values)
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	t-test	Wilcoxon sum rank test
Disp	0.0612	0.0113	0.0224	0.0588	0.0428	0.0042	0.0095	0.0261	0.0184	0.1477	<.0001
FErr	0.0342	0.0023	0.0056	0.0148	0.0064	0.0004	0.0014	0.0044	0.0277**	0.0287	<.0001
Illiq	0.7242	0.0062	0.0240	0.1272	0.4401	0.0078	0.0300	0.1354	0.2841***	0.0949	0.2537
Spread	0.1444	0.0236	0.0421	0.0821	0.0765	0.0218	0.0359	0.0801	0.0680**	0.0214	0.2401
# obs	256				256						

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel E: Post-Unification Sample												
Variable	UNIFIED				SINGLE				Test of Difference between Mean (p-values)		Test of Difference between Median (p-values)	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	t-test	Wilcoxon sum rank test	
Disp	0.0398	0.007	0.0164	0.0518	0.0646	0.0042	0.0100	0.0209	-0.0248	0.4301	0.0277	
FErr	0.0076	0.0003	0.0009	0.0043	0.0187	0.0002	0.0009	0.0055	-0.0111	0.3238	0.9541	
Illiq	1.2858	0.0797	0.2616	0.8528	1.3173	0.0492	0.1728	0.6577	-0.0315	0.9392	0.0663	
Spread	0.3648	0.171	0.3455	0.5074	0.3259	0.1345	0.3076	0.4532	0.0389	0.1934	0.0768	
# obs					133							

*Significant at 1% level
**Significant at 5% level
***Significant at 10% level

Table 3.3 Within-Sample Analysis

This table provides the within-sample analysis of measures of information environment: Disp, FErr, Illiq, Spread. Disp is defined as the standard deviation of analyst forecast made four month prior to fiscal year-end scaled by the prior year-end stock price. FErr is defined as the absolute value of the difference between mean estimate of earnings per share four month prior to fiscal year-end and actual earnings per share at the fiscal year-end divided by prior year-end stock price. Illiq is the average of daily Amihud's (2002) illiquidity ratio in year t defined as the ratio of absolute value of daily return to daily trading dollar volume. Spread is defined as the average of daily closing spread (closing ask minus closing bid) in year t. Dual-class firms from the original sample are ranked based on the VotingFlowRights(%)/CashFlowRights(%) ratio into three groups: High, Medium, and Low. The results for groups High and Low are given in table. Group "High" represent the highest separation between voting rights and cash flow rights while group "Low" represents the lowest separation between cash flow and voting rights. The CashFlowRights(%) variable is defined as:

$$CashFlowRights(\%) = \frac{\text{Number of Inferior Class Shares Outstanding}}{\text{Number of Inferior Class Shares Outstanding} + \text{Number of Superior Class Shares Outstanding}} \quad (1)$$

The VotingFlowRights(%) variable is defined as:

$$VotingFlowRights(\%) = \frac{\text{Number of Votes Per Inferior Share} \times \text{Number of Inferior Shares Outstanding}}{\text{Number of Votes Per Superior Share} \times \text{Number of Superior Shares Outstanding}} \quad (2)$$

The p-values for t-test to test the difference between means and p-values for Wilcoxon sum rank test to test the difference between medians are given in the last two columns of each panel.

Original Sample with VotingFlowRight(%)/CashFlowRight (%) Ratio												
VAR	HIGH				LOW				Test of Difference between Mean (p-values)		Test of Difference between Median (p-values)	
	Mean	Q1	Median	Q3	Mean	Q1	Median	Q3	Mean Diff	Median Diff	t-test	Wilcoxon sum rank test
Disp	0.2015	0.0145	0.0296	0.0889	0.0654	0.0095	0.0236	0.0574	0.1362**	0.0060*	0.0168	0.0044
FErr	0.0265	0.0003	0.0012	0.0048	0.0141	0.0004	0.0015	0.0056	0.0125	-0.0003	0.2004	0.3200
Illiq	9.6610	0.1126	0.6287	4.8935	6.6551	0.0589	0.4778	1.6573	3.0059*	0.1509*	0.0014	<.0001
Spread	0.4901	0.2189	0.3551	0.4906	0.3345	0.1486	0.2728	0.4085	0.1556***	0.0206*	0.0639	0.0002
#obs					481				481			

*Significant at 1% level
**Significant at 5% level
***Significant at 10% level

Table 3.4 Regression Analysis

This table presents the results of the following four models

$$Disp_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (1)$$

$$FErr_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (2)$$

$$Illiq_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (3)$$

$$Spread_{it} = \alpha + \beta_0 Size_{it} + \beta_1 Debt_Ratio_{it} + \beta_2 BM_{it} + \beta_3 ROA_{it} + \beta_4 Pastgrowth_{it} + \beta_5 DUAL_{it} + \varepsilon_{it} \quad (4)$$

Where dependent variables are the measures of information environment: Disp, FErr, Illiq, and Spread. Disp is defined as the standard deviation of analyst forecast made four month prior to fiscal year-end scaled by the prior year-end stock price. FErr is defined as the absolute value of the difference between mean estimate of earnings per share four month prior to fiscal year-end and actual earnings per share at the fiscal year-end divided by prior year-end stock price. Illiq is the average of daily Amihud's (2002) illiquidity ratio in year t defined as the ratio of absolute value of daily return to daily trading dollar volume. Spread is defined as the average of daily closing spread (closing ask minus closing bid) in year t. The control variables are Size, Debt Ratio, Book-to-Market (BM), Return on Assets (ROA) and Pastgrowth. Size is number of shares outstanding multiplied by price at the end of year t. Debt Ratio is the ratio of total liabilities to total assets. . BM is the ratio of book value of equity to market value. ROA is return on assets measured as earnings before extraordinary items in year t scaled by total assets. Pastgrowth is book-to-market ratio in prior year t-1. DUAL is equal to 1 for a dual-class firm, and is equal to 0, otherwise. Panels A shows regression results of original sample. Panels B provide regression results for extended sample. Panel C illustrate regression results for restricted sample. The results of the regression analysis of the unification sample in pre-unification and post-unification periods are given in Panels D and E.

Panel A: Original Sample												
	Model 1 Disp			Model 2 Ferr			Model 3 Illiq			Model 4 Spread		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.3118*	2.93	0.0035	0.1502*	2.94	0.0033	17.3752*	21.88	<.0001	0.0732	0.88	0.3793
Size	-0.0380*	-3.29	0.0010	-0.0234*	-4.24	<.0001	-2.6842*	-29.20	<.0001	0.0236**	2.47	0.0136
Debt Ratio	0.3163*	4.43	<.0001	0.2069*	6.05	<.0001	0.4165	0.72	0.4714	0.1923*	3.17	0.0016
BM	-0.2295*	-2.78	0.0055	-0.1016*	-2.59	0.0097	-1.0754	-1.57	0.1169	-0.1016	-1.41	0.1576
ROA	-1.1227*	-7.19	<.0001	-0.5258*	-7.04	<.0001	3.0081*	2.85	0.0044	0.2662**	2.43	0.0153
Pastgrowth	0.1999**	2.52	0.0119	0.0819**	2.17	0.0302	2.8301*	4.19	<.0001	0.1307***	1.86	0.0636
DUAL	0.0459***	1.72	0.0851	0.0274**	2.15	0.0315	0.6869*	2.87	0.0041	0.0771*	3.05	0.0023
Adj R-Sq	0.0574			0.0722			0.3016			0.0127		
# Obs				1,834						2,928		

*Significant at 1% level
**Significant at 5% level
***Significant at 10% level

Panel B: Extended Sample												
	Model 1 Disp			Model 2 FErr			Model 3 IlliQ			Model 4 Spread		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.2654**	2.47	0.0137	0.1431*	2.58	0.0099	14.7913*	19.45	<.0001	0.2845*	3.03	0.0025
Size	-0.0457*	-4.00	<.0001	-0.0293*	-5.00	<.0001	-2.3927*	-29.09	<.0001	-0.0175***	-1.72	0.0859
Debt Ratio	0.3051*	4.29	<.0001	0.2056*	5.62	<.0001	1.4885*	2.69	0.0072	0.2425*	3.50	0.0005
BM	-0.1944**	-2.22	0.0262	-0.0874***	-1.95	0.0514	-0.3845	-0.57	0.5715	-0.1244	-1.47	0.1413
ROA	-0.6969*	-4.27	<.0001	-0.3445*	-4.06	<.0001	5.9063*	4.66	<.0001	0.3148**	2.07	0.0390
Pastgrowth	0.2262*	2.61	0.0092	0.1084**	2.43	0.0154	1.8029*	2.74	0.0062	-0.0184	-0.22	0.8228
DUAL	0.0616**	2.31	0.0212	0.0276**	2.02	0.0439	0.5775*	2.61	0.0091	0.1184*	4.22	<.0001
Adj R-Sq	0.0456			0.0595			0.3186			0.0110		
# Obs	1,740						2,602					

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel C: Restricted Sample

	Model 1 Disp			Model 2 FErr			Model 3 Illiq			Model 4 Spread		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.1316*	4.52	<.0001	0.1126*	2.76	0.0058	11.4442*	16.24	<.0001	0.4875*	7.69	<.0001
Size	-0.0213*	-7.25	<.0001	-0.0219*	-5.33	<.0001	-1.8683*	-24.84	<.0001	-0.0292*	-4.33	<.0001
Debt Ratio	0.1134*	6.14	<.0001	0.1445*	5.58	<.0001	1.1871**	2.33	0.0197	-0.0874***	-1.91	0.0568
BM	0.0479**	2.10	0.0364	0.0096	0.30	0.7631	-0.0806	-0.13	0.8966	-0.1163**	-2.08	0.0381
ROA	-0.2081*	-4.30	<.0001	-0.1862*	-2.76	0.0059	5.3722*	4.46	<.0001	0.7561*	6.90	<.0001
Pastgrowth	-0.0182	-0.81	0.4196	0.0042	0.13	0.8951	1.4353**	2.34	0.0193	-0.0392	-0.71	0.4798
DUAL	0.0243*	3.59	0.0003	0.0093	0.98	0.3265	0.4809**	2.43	0.0153	0.0373**	2.06	0.0399
Adj R-Sq	0.1334			0.0651			0.3201			0.0399		
# Obs			1,364						1,922			

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel D: Pre-Unification Sample

	Model 1 Disp			Model 2 FErr			Model 3 Illi			Model 4 Spread		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	-0.0960**	-2.05	0.0415	0.0306	0.61	0.5443	4.2717*	8.39	<.0001	0.5147*	5.35	<.0001
Size	0.0098**	2.18	0.0296	-0.0039	-0.81	0.4157	-0.5624*	-10.90	<.0001	-0.0423*	-4.34	<.0001
Debt Ratio	-0.0364	-1.19	0.2341	-0.0146	-0.45	0.6553	0.5924***	1.75	0.0815	-0.1233***	-1.92	0.0550
BM	0.3252*	8.48	<.0001	0.1304*	3.19	0.0015	-1.2751*	-2.82	0.0051	-0.0642	-0.75	0.4530
ROA	-0.1236	-1.64	0.1025	-0.1580***	-1.96	0.0507	-0.5060	-0.66	0.5080	0.5592*	3.88	0.0001
Pastgrowth	-0.1682*	-4.76	<.0001	-0.0776**	-2.08	0.0382	1.1538*	2.68	0.0075	-0.1535***	-1.89	0.0594
DUAL	0.0112	0.96	0.3366	0.0243***	1.95	0.0517	0.2793***	1.84	0.0659	0.0640**	2.24	0.0257
Adj R-Sq	0.1685			0.0442			0.2201			0.0811		
# Obs				418						512		

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

Panel E: Post-Unification Sample

	Model 1 Disp			Model 2 FErr			Model 3 Illiq			Model 4 Spread		
	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value	Coeff.	T-test	P-value
Intercept	0.4902*	3.70	0.0003	0.1956*	4.11	<.0001	10.8235*	7.02	<.0001	0.2874*	3.06	0.0025
Size	-0.0575*	-3.65	0.0004	-0.0227*	-4.02	<.0001	-1.3661*	-6.72	<.0001	0.0044	0.36	0.7175
Debt Ratio	0.1048	1.30	0.1955	0.0264	0.91	0.3634	-3.6171*	-2.94	0.0036	0.0006	0.01	0.9932
BM	0.0164	0.16	0.8756	0.0343	0.92	0.3580	-0.8726	-0.58	0.5637	-0.1075	-1.18	0.2383
ROA	-0.4463*	-2.91	0.0043	-0.1633*	-2.96	0.0036	1.2551	0.78	0.4386	0.3909*	4.05	<.0001
Pastgrowth	-0.0805	-0.82	0.4115	-0.0644***	-1.84	0.0680	3.2029**	2.07	0.0390	0.0466	0.50	0.6201
DUAL	-0.0263	-0.92	0.3611	-0.0024	-0.24	0.8133	-0.2956	-0.63	0.5280	0.0391	1.37	0.1716
Adj R-Sq	0.1721			0.2124			0.2084			0.0661		
# Obs			138						278			

*Significant at 1% level

**Significant at 5% level

***Significant at 10% level

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