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Abstract

Dual class share unifications are important corporate restructurings because: (1) dual class managers are eliminating the structure that keeps them isolated from the market for corporate control, and (2) agency theory suggests higher agency costs for dual class companies (Jensen and Meckling (1976)). With these points in mind, focused on in this paper is a sample of unifications in the U.S. Explored are the motivations for these reclassifications by considering the consequences. Discovered is

evidence that: (1) investors react positively to the announcements of stock unifications; (2) a considerable proportion of dual class firms experience a control transfer or facilitate such a change following their unifications; (3) sample firms are involved in more mergers and acquisitions and boost their investments after unifications, both of which are consistent with a reduction in the cost of equity achieved through unifications; and (4) there is no increase in stock liquidity as a result of the unification. Consequently, the evidence presented in this paper is consistent with two different motives for dual class firms unifying their stocks into one class: control transfer and a reduction in the cost of equity.

Introduction

Dual class literature so far has focused on dual class recapitalizations, and securing the control of insiders has by far been the most prominent explanation for these restructurings. The question then is: Why do some of these managers decide to eliminate the dual class structure and make their control vulnerable? Recent examples of such dual class stock unifications in the U.S. are Dairy Mart Convenience Stores Inc. (2000), J M Smucker Co. (2000), Waddell & Reed Financial Inc. (2000), Continental Airlines (2001), Raytheon Corp. (2001), Seacoast Banking Corp of Florida (2002), Readers Digest Association Inc. (2002), Alberto Culver Co. (2003), Odetics Inc. (2004), Oshkosh Truck Corp. (2005), and Kaman Corp. (2005). In this paper, tested are two hypotheses to explain these unifications.

Hannes (2002) argues that an evolutionary process explains the divergence of antitakeover practices among firms. More specifically, she notes that the likelihood of acquisition and the acquisition premium for target firms depend on the antitakeover defenses deployed by other firms in the same target group or industry. Similar reasoning can be applied to dual class firms, since the dual class structure is the strongest antitakeover protection. Argued here is that, as part of the evolutionary process, dual class managers might get ready to sell their firm and, in order to signal this to the market, they might unify their dual class stock. If this hypothesis is true, one would observe dual class companies change owners more frequently after the unification.

Hypothesis 1 (Control Transfer Hypothesis): Dual class stock unification is undertaken to signal the management's desire to transfer the control of the company.

Security design literature suggests that deviating from the one share-one vote structure may be harmful for shareholders. For example, Jensen and Meckling (1976) predict that dual class managers' interests may diverge from other shareholders' interests to a larger extent than single class managers'. This in turn may increase agency costs and reduce firm value. These agency costs may also lead to a higher cost of equity. Posited here is that dual class companies unify their stocks in order to fund

growth at a reduced cost. Thus, it is expected that these companies will increase their acquisition activity, investments, and equity issuance after their unification.

Hypothesis 2 (Cost of Equity Hypothesis): Dual class stock unification is undertaken to achieve a reduction in cost of equity.

Prior research suggests that the reduction in the cost of equity can work through two potential pathways. First, the cost of equity can be influenced by agency costs. Himmelberg, Hubbard, and Love (2002) relate the cost of capital to investor protection and inside ownership in an agency context. They find a negative relation between investor protection and inside ownership. They also report a positive relation between inside ownership and implied cost of capital. These results would imply a higher cost of capital for dual class firms since their managers are more likely to expropriate outside investors.

Alternatively, the cost of equity can be influenced by liquidity. A firm's cost of equity might be reduced as a result of both reduced expected agency costs and increased liquidity, but here both are treated separately for expository and testing purposes. Theoretical and empirical work on market microstructure has concluded that there is a negative relation between stock liquidity and required returns. (e.g., Easley and O'Hara (2004)) In other words, firms can decrease their cost of capital by increasing their liquidity. Gardiol, Gibson-Asner, and Tuchschmid (1997) study the affects of liquidity and corporate control on the pricing of Swiss dual class shares. They argue that recent governance changes in Swiss corporations can be attributed to their desire to increase the liquidity of their stocks, and thus to decrease their cost of capital. For example, Mitchell Energy and Development Corp. went from dual to single in June 2000. The stated reasons for the unification were to increase liquidity and eliminate confusion in the marketplace over the dual class structure.

First, the study reported on here revealed no evidence that the market reacts positively to the announcements of stock unifications consistent with both the control transfer and cost of equity hypotheses. Second, I evidence consistent with the control transfer hypothesis was found. A considerable number of dual class firms experience a control transfer or facilitate such a change following their unification. Third, the responding sample firms are, on average, involved in more mergers and acquisitions after the unification. They also increase their investments. These are consistent with the implications of the cost of equity hypothesis. Finally, no increase in liquidity following the unification could be found. Thus, the implied reduction in the cost of equity is probably due to a reduction in potential agency costs.

This study contributes to the literature in the several ways. The theoretical contribution is twofold: First, no published article has systematically studied the motivations for dual class unifications. Second, this study adds to the recent literature on the impact of corporate governance issues on asset pricing. In addition, no research has been done on dual class unifications in the United States. Dual class structures, cross-holdings, pyramids, and other similar structures have long been discouraged by

the exchanges and the Securities and Exchange Commission (SEC) in the United States. This paper has a potential international contribution as these structures are more prevalent in Europe and the rest of the world.

Presented below are: (1) a summary of the related dual class research; (2) a description of the sample; (3) an analysis of the market reaction to the unification; (4) a test of the control transfer hypothesis; (5) a test of the cost of equity hypothesis; (6) a test of whether the implied reduction in cost of equity is due to increased stock liquidity; and (7) a summary of the results and the concluding remarks.

Prior Dual Class Research

Presented first in this section, are theoretical papers on the optimality of one share-one vote. Presented next is evidence on the market reaction to dual class recapitalizations. After that, papers on the performance of dual class companies, along with the literature arguing that dual class structure may be optimal in some circumstances, are discussed. All of these studies provide the basis for the hypotheses tested in this paper. This section concludes with a presentation of papers that are directly related to this paper, i.e., prior studies on dual class unifications. Table One (below) summarizes the related literature on dual class structures.

Table One
Prior Dual Class Research

This table presents a summary of the related literature on dual class structures.

Theoretical	Focus	
Alchian and Demsetz (1972)	Optimality of Dual Class Structure	
Jensen and Meckling (1976)	Agency Costs of Dual Class Structure	
Fama and Jensen (1983)	Optimality of Dual Class Structure	
Grossman and Hart (1988)	Optimality of One Share-One Vote	
Harris and Raviv (1988)	Optimality of One Share-One Vote	
Empirical	**Focus**	**Origin of Data**
DeAngelo and DeAngelo (1985)	Managerial Vote Ownership	U.S.
Jog and Riding (1986)	Dual Class Recapitalization	Canada
Partch (1987)	Dual Class Recapitalization	U.S.
Dann and DeAngelo (1988)	Dual Class Recapitalization	U.S.
Jarrell and Poulsen (1988)	Dual Class Recapitalization	U.S.
Cornett and Vetsuypens (1989)	Dual Class Recapitalization	U.S.
Chang and Mayers (1992)	Dual Class Recapitalization	U.S.
Lehn, Netter, and Poulsen (1990)	Operating Performance	U.S.
Mikkelson and Partch (1994)	Operating Performance	U.S.
Jog, Srivastava, and Panangipalli (1996)	Operating Performance	Canada
Dimitrov and Jain (2001)	Operating Performance	U.S.
Gardiol, Gibson-Asner, and Tuchschmid (1997)	Dual Class Stock Valuation	Switzerland
Taylor and Whittred (1998)	Dual Class IPO Valuation	Australia
Ang and Megginson (1989)	Dual Class Unification	U.K.

Hauser and Lauterbach (2000)	Dual Class Unification	Israel
Amoako-Adu and Smith (2001)	Dual Class Unification	Canada
Dittmann and Ulbricht (2003)	Dual Class Unification	Germany
Pajuste (2003)	Dual Class Unification	Denmark, Finland, Germany, Italy, Norway, Sweden, Switzerland
Bigelli (2004)	Dual Class Unification	Italy

In one of the earlier theoretical studies, Grossman and Hart (1988) analyze the impact of a firm's security-voting structure on the market for corporate control. They show that one share-one vote maximizes firm value when only one of the parties in a control contest has significant private benefits of control. On the other hand, if both parties to the control contest have significant private benefits of control, then deviations from one share-one vote may help outside shareholders extract some of those benefits, and hence may be optimal. Their theory is consistent with the high occurrence of dual class structure among family firms in the study by DeAngelo and DeAngelo (1985) of 78 U.S. dual class companies. Harris and Raviv (1988) find that the simple majority rule and one share-one-vote is an optimal governance scheme for choosing the best management team. However, if the aim is to maximize the value of the securities issued, then it is optimal to issue two securities: voting rights with no cash flow claims and cash flow claims with no voting rights.

The author believes in the optimality of one share-one vote, and as a result expects agency costs to be higher with the non-optimal dual class structure. When a company chooses to eliminate the dual class structure, it will lower its agency costs and cost of equity consistent with the cost of equity hypothesis.

While Harris and Raviv (1988) predict an increase in share price if a firm announces dual class recapitalization since the dual class structure is optimal according to them, the agency cost literature predicts a decrease in share price. This is because a dual class recapitalization may increase potential agency problems by entrenching managers (Jensen and Meckling (1976). Consistent with the agency cost literature, Jarrell and Poulsen (1988) find significant negative announcement effects for 94 U.S. corporations that went through a dual class recapitalization. Dann and DeAngelo (1988) also provide evidence from the U.S. that defensive recapitalizations are value decreasing. However, Partch (1987) finds no negative effects for 44 U.S. dual class recapitalizations. With a sample of Canadian recapitalizations, Jog and Riding (1986) also report no abnormal stock price response. On the other hand, Cornett and Vetsuypens (1989) report positive returns around recapitalization announcements in the U.S. However, none of these studies control for managerial vote ownership prior to the recapitalization. Chang and Mayers (1992) document mixed results for a U.S. sample after controlling for managerial vote ownership prior to the recapitalization. The cost of equity hypothesis this paper is based on would, in line with the agency cost literature, imply a negative market reaction to a dual class recapitalization.

Announcement effects aside, Jog, Srivastava, and Panangipalli (1996) analyze the performance of 213 Canadian firms that have gone through a dual class recapitalization. They document a better performance prior to the recapitalization and a worse performance after the recapitalization. For a sample of U.S. companies, Mikkelson and Partch (1994) report reduced operating performance following a dual class recapitalization. On the other hand, Dimitrov and Jain (2001) focus on the long-run stock market and operating performance of 178 U.S. firms that performed a dual class recapitalization between 1979 and 1998 and conclude that issuing dual class shares is shareholder value increasing. Dimitrov and Jain's (2001) results are consistent with the arguments in dual class literature that dual class shares encourage investment in firm-specific human capital. For example, Alchian and Demsetz (1972) argue that dual class shares are beneficial if it is costly to communicate information about investment opportunities or managerial performance to outside investors. Fama and Jensen (1983) argue that firm's insiders should maintain control when they possess certain firm-specific knowledge. Finally, DeAngelo and DeAngelo (1985) note an analogy between the benefits of dual class structure and the benefits of patent laws. Specifically, the additional control rights vested by the dual class equity provide the private rents that are required to encourage innovative activity. Consistent with these arguments, Taylor and Whittred (1998) observe that firm value depends on the human capital of founding managers in a sample of 53 Australian dual class IPOs. Further, Lehn, Netter, and Poulsen (1990) find higher growth rates of operating income for U.S. firms that have gone through a dual class recapitalization as compared to a sample of control firms with single class equity.

The recapitalization from a dual class structure to a single class structure has been studied for a number of countries. Ang and Megginson (1989) report explicit compensation in the form of a differential stock dividend to superior voting shareholders for most of the dual class unifications in their sample of British dual class firms. Hauser and Lauterbach (2000) consider 67 dual class unifications from Israel during 1990-1996 and compute the value of voting rights. They also find that unifications are accompanied with positive excess returns.

The motivations of dual class companies for undergoing stock unifications have not drawn much attention so far. If control is so valuable, why do these dual class managers decide to forego their control by unifying their shares? While not answering this question, Amoako-Adu and Smith (2001) do examine a sample of Canadian dual class companies that includes firms that undertake dual class unifications. Using a sample of German firms, Dittmann and Ulbricht (2003) find that dual class unification is more likely if expected future growth is high, if the firm is large, or if the largest block of voting shares is small. With a larger sample from seven European countries, Pajuste (2003) finds the need to raise the share value as the main reason for unification. She argues that the stock prices of dual class firms may be discounted due to potential agency costs. Bigelli (2004) reports evidence on 43 Italian unifications that these transactions may result in the expropriation of the minority voting shareholders by the majority voting shareholders and minority non-voting shareholders.

Data

The sample is identified from Center for Research in Security Prices (CRSP) using monthly share class data. There are 383 firms that issued dual class shares during 1925-2001. The time period from January 1925 through December 1992 witnessed 347 of these dual class issues. Panel A of Table Two (below) shows a breakdown of these issues by year and exchange. There is a positive trend in the number of dual issues, especially after 1980. Furthermore, duals tend to be listed more often on National Association of Securities Dealers Automated Quotations (NASDAQ) (225) than on American Stock Exchange (AMEX) (82) or New York Stock Exchange (NYSE) (40). NYSE did not allow the listing of dual class shares from 1960 to 1985.

Table Two
Summary Sample Statistics

This table reports summary statistics for sample firms. Dual class companies are identified from CRSP and crosschecked with their SEC filings. Industrial divisions are based on 2-digit SIC classification of industries by the U.S. Department of Labor.

Panel A: Breakdown of Dual Class Companies by Year and Exchange

Period	Number of Dual Issues	NYSE	AMEX	NASDAQ
1925-1959	4	4	0	0
1960-1969	20	0	20	0
1970-1979	44	0	6	38
1980-1989	202	17	49	136
1990-1992	77	19	7	51
Total	347	40	82	225
Dual as of January 1993	221			

Panel B: Breakdown of Unified Dual Class Companies by Year and Exchange

Period	Number of Dual Issues	NYSE	AMEX	NASDAQ
1925-1959	0	0	0	0
1960-1969	1	0	1	0
1970-1979	2	0	1	1
1980-1989	21	1	4	16
1990-1992	10	2	0	8
Total	34	3	6	25

Panel C: Breakdown of Unifications by Year

Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Unifications	4	7	4	4	0	1	3	3	0	1	27

Panel D: Breakdown of Unifications by Industry

Industrial Division	2-Digit SIC Range	Unified Duals
Mining	10-14	1
Manufacturing	20-39	9
Wholesale trade	50-51	2
Retail trade	52-59	3
Finance, Insurance, and Real Estate	60-67	8
Services	70-89	4
Total		27

The sample utilized in Table Two includes all the companies that issued dual class shares some time before 1993. Thus, it is possible that some of them switched to a single class structure or were delisted. We go through the SEC filings of these firms in order to check whether they still persist as dual class public companies as of the

beginning of 1993. This test identifies 221 public companies that have multiple classes of shares with different voting rights as of January 1993.

Panel B in Table Two shows year and exchange information on 34 dual class companies that reclassified their multiple classes of stock into a single class from January 1993 through April 2002. Twenty-one of these companies issued dual class shares during 1980-1989. Another 10 sold dual class shares between 1990 and 1992. Twenty-five companies were listed on NASDAQ, compared to only six on AMEX and three on NYSE. Both the issue year and exchange distribution for the unified sample is in line with the whole sample. Two unifications were due to the firms being acquired by other companies. Five companies unified their stocks as part of bankruptcy proceedings. These seven firms are excluded for the test of the hypotheses on dual class unification. This results in the using of a final sample consisting of the remaining 27 companies.

Panel C breaks down the dual class unifications of the final sample by year. Seventy percent of the unifications were undertaken during the first four years of the sample period, i.e., from 1993 through 1996. There were no unifications in 1997 or 2001. Panel D breaks down the companies that went through dual class unification by industry. The 2-digit SIC-based industrial divisions by the U.S. Department of Labor are used to define an industry. The incidence of unified dual class firms is greatest in the manufacturing industry (>33 percent) followed by the finance, insurance, and real estate industries (>29 percent). The remaining unified duals are in the following industrial divisions: mining, wholesale trade, retail trade, and services.

Table Three (below) summarizes the stated motives of the 27 companies. Eleven companies had no stated motives, whereas most of the remaining 16 had multiple motives. The most common motives are the following: (1) simplify capital/equity/corporate structure, (2) create greater liquidity / Improve stock's trading prospects, (3) enhance stock/stockholder value / reflect true value better / benefit shareholders, and (4) eliminate investor confusion.

Table Three
Stated Unification Motives

This table summarizes the stated motives of the 27 sample companies in their unification announcements.

Stated Motive	Companies
None	11
Simplify capital/equity/corporate structure	9
Create greater liquidity / Improve stock's trading prospects	8
Enhance stock/stockholder value / Reflect true value better / Benefit shareholders	7
Eliminate investor confusion	6
Increase flexibility to complement strategic/long-term growth	3
Make stock more attractive to investors/institutions	2
Give equal rights to all shareholders	1
Eliminate potential dilutive effect	1
Insure share sufficiency for when additional shares need to be issued	1
Be able to trade on NYSE	1
Better align economic risk of equity ownership with voting rights	1
Increase earnings per share and return on shareholder equity	1

Market Reaction

Both the control transfer and the cost of equity hypotheses suggest that the market should react positively to the announcement of unification. Becoming a possible takeover target (control transfer) or decreasing agency costs (cost of equity) may be considered as favorable actions by the investors. Therefore, expected is a positive market reaction to the announcement of the unification of dual class shares under either hypothesis.

Thus, as a quick test of the validity of either of these hypotheses, the market's reaction to the reclassification was investigated by using a standard event study methodology. First, identified as event dates were the announcement dates of reclassifications obtained by searching in LexisNexis Business News and/or reading the companies' SEC Filings. Second, daily returns for sampled firms and CRSP Value-Weighted Index were obtained. Two sample firms are dropped from the sample due to missing returns. Third, defined was an estimation period from 250 days prior to the announcement till 11 days prior to the announcement, and estimated was the following market parameters for the remaining 25 sample firms during this period:

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it}, \qquad t = [-250, -11]$$

where R_{it} is the return on stock i for day t, α_i is the constant term for stock i, β_i is the beta for stock i, R_{mt} is the market return on day t proxied by the CRSP Value-Weighted Index return on that day, and ε_{it} is the error term.

The three-day window (the day before, event day, and the day after) surrounding the event day is considered as the event period. In order to find the abnormal returns during the event period, utilized was the estimated alpha and beta from the estimation period.

$$AR_{it} = R_{it} - \hat{\alpha}_i - \hat{\beta}_i R_{mt}, \qquad t = -1, 0, 1$$

where AR_{it} is the abnormal return on stock i for day t. Abnormal returns were then used to compute the cumulative abnormal return over the event period:

$$CAR_i = \sum_{t=-1}^{1} AR_{it}.$$

Table Four (below) reports the event study results. Abnormal returns on each day are not significantly different from zero, but the average cumulative abnormal return over the event period is 5.32 percent, which is significantly positive at the 5 percent level. This means that, on average, the market reacts positively to dual class unification announcements. In other words, investors perceive the reclassifications as generally improving shareholder wealth.

Table Four
Market Reaction

This table reports the results of an event study performed to find out the market reaction to unifications. Estimation period is 250 through 11 days before the unification announcement date. Event period is the day before the announcement date (Day -1), announcement day, and the day after the announcement date (Day +1). t_{BMP} is the standardized cross-sectional test statistic from Boehmer, Musumeci, and Poulsen (1991).

Abnormal Return	N	Mean	Median	Std Error	t	p	t_{BMP}
Day -1	25	4.82%	0.23%	4.09%	1.18	0.2501	1.39
Announcement Day	25	-0.24%	1.68%	2.19%	-0.11	0.9129	1.41
Day +1	25	0.75%	-0.03%	1.53%	0.49	0.6296	0.92
Cumulative	25	5.32%	0.87%	2.47%	2.15	0.0418	2.37

To check the robustness of the results of this work with respect to event-induced variance, utilized was the standardized cross-sectional test developed by Boehmer, Musumeci, and Poulsen (1991). To implement their procedure, computed first were the standardized residuals:

$$SR_{it} = \frac{AR_{it}}{\hat{s}_i \sqrt{1 + \frac{1}{T_i} + \frac{(R_{mt} - \overline{R}_m)^2}{\sum_{k=1}^{T_i} (R_{mk} - \overline{R}_m)^2}}} \qquad t = -1, 0, 1$$

where SR_{it} is the standardized residual of stock i on day t, $\hat{s}_i$ is the estimated standard deviation of abnormal returns to stock i during the estimation period, T_i is the number of days in the estimation period of stock i, and $\overline{R}_m$ is the average market return over the estimation period. Then, the test statistic is given by:

$$t_{BMP} = \frac{\frac{1}{N} \sum_{i=1}^{N} SR_i}{\sqrt{\frac{1}{N(N-1)} \sum_{i=1}^{N} (SR_i - \frac{1}{N} \sum_{i=1}^{N} SR_i)^2}}$$

where N is the number of firms in the sample. Boehmer, Musumeci, and Poulsen (1991) show that this statistic is not affected by event-induced variance changes. For our sample this statistic is 2.37, which indicates that the significant positive abnormal returns observed upon announcements of dual class unifications are robust to changes in the variance induced by the announcement.

The significantly positive market reaction reflects either the anticipated premium in a potential takeover or the anticipated increase in firm value due to a reduction in agency costs. Therefore, this positive reaction suggests that either of the hypotheses tested by this study are feasible explanations of the motives behind these transactions, and so worthy of further study.

Control Changes

The first reason this research proposes for unification is the controlling shareholders' desire to sell the company or their control block. Coates (2000) finds evidence that suggests that the most extreme form of takeover defense is a dual class structure. This is consistent with the evidence in research by Field (1999) that concludes that IPO firms issuing dual class shares are not likely to implement any other antitakeover provisions. Therefore, elimination of the dual class structure would signal to the market that the control of the company is up for grabs. If correct, then one should expect to observe a high frequency of ownership transfers following unification. Consistent with this, 30 percent (8 out of 27) of the firms sampled by this research were subsequently acquired by other firms within five years after the unification. For eight sample firms (including two that were acquired) five years haven't elapsed between the unification date and the cut-off date, April 1, 2002.

The non-unified duals, on the other hand, had an acquisition rate of only 17 percent (32 out of 187) over the five-year period 1993-1997. During the same time period, only 10 percent of the firms in Standard and Poor's 500 (S&P 500) Index were acquired (see Figure 2 in Coates and Kraakman (2003)).

Table Five (below) reports a breakdown of the sample by whether they were acquired and by whether the controlling shareholder was a family. Dual class structure is very common in family firms since keeping the control within the family and employing family members are much easier with such a structure. Family firms are identified by checking the information on the managerial and beneficial ownership of the sample firms in their SEC filings. There were a total of 12 family firms (44 percent) and four of them were subsequently acquired. This high percentage is consistent with the evidence in DeAngelo and DeAngelo (1985). There was one firm in which the family sold their shares before the unification. This firm was not identified as a family firm since the family was not in control at the time of unification. For the remaining eight family firms, the controlling family did not relinquish control even after the unification. The proportion of family firms that were acquired is slightly higher than the proportion of non-family firms that were acquired (33 percent vs. 27 percent). Therefore, there is some evidence that the desire to sell may be a more prominent reason for the unification of dual class firms that are controlled by families.

Table Five
Acquisitions of Sample Firms

This table gives information regarding the acquisitions of sample firms. Family denotes whether a family is in control of the firm. Management Change denotes whether the controlling shareholder changed over the five years after unification. Decrease in Management Ownership is again over the five years following the unification.

Whole Sample (27 firms)			
	Family	Non-Family	Total
Acquired	4	4	8
Not Acquired	8	11	19
Total	12	15	27
Not Acquired Sub-Sample (19 firms)			
	Family	Non-Family	Total
Management Change	0	1	1
Decrease in Management Ownership	3	4	7
No Change in Management or Management Shareholdings	5	6	11
Total	8	11	19
Non-Unified Dual Class Sample (187 firms)			Total
Acquired			32
Not Acquired			155

Table Five also reveals evidence that out of the 19 sample firms that were not acquired following the unification, one of them experienced a change in management, and in seven cases management reduced their vote ownership, which may further signal their intent to transfer the control of the firm. Thus, the control transfer hypothesis seems to be a plausible explanation for the unification of 16 of the sample firms.

Cost of Equity

The agency cost literature suggests that dual class companies suffer more from moral hazard costs than single class companies. One consequence of these costs may be a higher cost of equity. To the extent that the removal of the dual class structure alleviates, if not eliminate, these agency costs, the unified firm should face a lower cost of equity. Consistent with this argument, Hauser and Lauterbach (2000) find the desire to reduce the cost of equity as the most frequently cited motive for unifications in Israel. Once a lower cost of equity is attained, these firms will not only increase their mergers and acquisitions activities, but they also boost their investments. It should also be noted, however, that an increase in firm value can be achieved through a dual class stock

unification because reducing agency costs not only lowers the cost of equity but also increases the expected future cash flows.

In order to test any changes in cost of equity due to the unification, monthly beta estimates from the market model for sample firms before and after the unification were compared. Consistent with a reduction in the cost of equity, it was expected that market beta would decrease following the unification. Estimated were monthly betas from 60 months through 1 month before the unification announcement and 1 month through 60 months after the unification. There is a slight decrease in average beta following the unification, from 0.78 to 0.76. This decrease is consistent with the cost of equity hypothesis, but it is not statistically significant.

Accordingly, no change in the cost of equity measured by the market model beta estimates was found. However, this conclusion is conditional on the Capital Asset Pricing Model (CAPM) being a valid asset-pricing model, which is a questionable assumption. Unfortunately, given the lack of agreement in the literature on what asset pricing model is the true asset pricing model, an alternative approach to test whether there is a reduction in the cost of equity for dual class firms that perform a stock unification was turned to. Specifically, focused on is the sample firms' demonstrated need for funds before and after the unification. Ostensibly, if these firms were seeking to reduce their cost of equity, then they must have had plans to increase their investment expenditures, whether on assets-in-place or for new assets.

First, the acquisition activity of the sample firms before and after the unification is compared. For 13 of the sample firms acquisitions five years before and five years after the unification are reported. The remaining 14 firms are either acquired within five years of their unification or five years do not elapse between their unification and April 2002. For these firms the window is the time between unification month and acquisition month or April 2002, whichever comes first. Expected is that the sample firms increase their acquisition activities following the unification because they are able to obtain funds cheaper with a lower cost of equity.

Panel A of Table Six (below) summarizes the acquisition activity for the whole sample. Twelve of the sample firms perform at least one acquisition before the unification, compared with 18 firms that acquire at least one company after the unification. Eight sample firms perform acquisitions only after the unification, compared to two firms that acquire other companies only before the unification. The firms in the sample perform a total of 42 acquisitions before the unification as compared to 118 after the unification. Thus, in terms of numbers, the acquisition activity almost triples after the unification. Moreover, the value of the acquisitions increases to a total of $8 billion from $3 billion. Both are consistent with the hypothesis that these firms were able to increase their acquisition activity once they lowered their cost of equity by unifying their stock. An alternative explanation for this result is that firms undertook dual stock unification because they wanted to lower their cost of equity since they were planning acquisitions (even though in the end, they may have not lowered their cost of equity). This result is also supported by the evidence that 15 firms carried out a higher number of acquisitions

after the unification compared with three firms that acquired more companies before the unification. Moreover, 16 firms had a higher total dollar value for the acquisitions that they had executed after the unification compared with only four firms that spent more on their acquisitions before the unification.

Table Six
Acquisitions by Sample Firms

This table reports acquisition activity for sample firms five years before and after unification.

Panel A

Whole Sample (27 firms)		
	Before Unification	After Unification
Acquirer Firms	12	18
Acquirer Firms (only after)	-	8
Acquirer Firms (only before)	2	-
Acquisitions (number)	42	118
Acquisitions (dollar amount, in millions)	3,022.1	8,073.1
Number of Acquisitions higher	3	15
Dollar Amount of Acquisitions higher	4	16
Issue Equity	11	13

Panel B

Not Acquired Sub-Sample (19 firms)		
	Before Unification	After Unification
Acquirer Firms	10	13
Acquirer Firms (only after)	-	4
Acquirer Firms (only before)	1	-
Acquisitions (number)	37	102
Acquisitions (dollar amount, in millions)	2,998	4,799
Number of Acquisitions higher	1	11
Dollar Amount of Acquisitions higher	3	11
Issue Equity	9	9

Also in Panel A is the number of firms that issued equity before and after the unification. Eleven sample firms issued equity during the pre-unification period, and 13 sample firms issued equity during the post-unification period. The difference is not significant. The cost of equity hypothesis would imply a significant increase in the number of firms issuing equity following the unification.

Next to be focused on is the sub-sample of 19 firms that were not acquired subsequent to the unification. Panel B shows that the results for the sub-sample are similar to the results for the whole sample. Thirty-seven acquisitions are undertaken by the sample firms before the unification, which is approximately one-third of the number (102) after unification. The total value of acquisitions again increases from around $3

billion to $5 billion. Number of equity issuing firms is nine for both before and after the unification.

Continuing with this line of inquiry, the focus shifts to sample firms' investment activities. Again, it is expected that the sample firms will increase their investment activities with the cheaper funds they obtain due to lower cost of equity. Two measures of investment activity are utilized: capital expenditures and property, plant, and equipment. Both measures are scaled by total assets. The comparisons are reported in Panel A of Table Seven (below).

Table Seven
Investment Activity

This table reports comparisons of median Capital Expenditure (scaled by total assets), median growth in Capital Expenditure, median Property, Plant, and Equipment (scaled by total assets) and median growth in Property, Plant, and Equipment before and after the unification. We measure growth as the percentage increase in the variables from one year to the next. Compustat item numbers are reported in parentheses.

Panel A

Whole Sample (27 firms)	Before Unification	After Unification
Median Capital Expenditure (raw) (ITEM128/ITEM6)	5.82%	4.66%
Median Capital Expenditure (industry-adjusted)	0.11%	0.13%
Median Growth in Capital Expenditure (raw)	6.56%	6.88%
Median Growth in Capital Expenditure (industry-adjusted)	21.29%	39.33%
Median Property, Plant, and Equipment (raw) (ITEM30/ITEM6)	6.93%	4.75%
Median Property, Plant, and Equipment (industry-adjusted)	1.31%	0.15%
Median Growth in Property, Plant, and Equipment (raw)	4.47%	5.85%
Median Growth in Property, Plant, and Equipment (industry-adjusted)	-13.09%	39.33%

Panel B

Not Acquired Sub-Sample (19 firms)	Before Unification	After Unification
Median Capital Expenditure (raw) (ITEM128/ITEM6)	5.78%	4.57%
Median Capital Expenditure (industry-adjusted)	0.09%	0.34%
Median Growth in Capital Expenditure (raw)	2.37%	6.67%
Median Growth in Capital Expenditure (industry-adjusted)	-12.39%	32.49%
Median Property, Plant, and Equipment (raw) (ITEM30/ITEM6)	7.03%	4.77%
Median Property, Plant, and Equipment (industry-adjusted)	0.78%	0.20%
Median Growth in Property, Plant, and Equipment (raw)	0.41%	5.03%
Median Growth in Property, Plant, and Equipment (industry-adjusted)	-18.67%	32.49%

Median capital expenditure is 5.82 percent before the unification and 4.66 percent after the unification. Median property, plant, and equipment is 6.93 percent before the unification and 4.75 percent following the unification. For capital expenditure the industry-adjusted ratio, which is computed by subtracting the 3-digit SIC median, is 0.11 percent before and 0.13 percent after. The industry-adjusted ratio for property, plant, and equipment is 1.31 percent before and 0.15 percent after. Hence, only the industry-adjusted median capital expenditure provides weak evidence that firms increase their capital expenditures after the unification.

The results for spending growth are stronger. Growth is measured as the percentage increase in the variables from one year to the next. Median growth in capital expenditures increases from 6.56 percent to 6.88 percent and industry-adjusted median growth goes up from 21.29 percent before the reclassification to 39.33 percent after the reclassification. Panel A also shows similar results for property, plant, and equipment. Median growth in property, plant, and equipment increases from 4.47 percent to 5.85 percent and industry-adjusted median growth goes up from –13.09 percent before the reclassification to 39.33 percent after the reclassification. In sum, the rate at which the sample firms increase their investments is higher in the post-unification period, which is consistent with the implications of the reduced cost of equity hypothesis.

Once again, the analysis is repeated after eliminating the acquired sample firms. As Panel B demonstrates, the results are qualitatively unchanged. Industry-adjusted capital expenditures (0.09 percent vs. 0.34 percent) and their growth (-12.39 percent vs. 32.49 percent) are higher in the period after the unification. Industry-adjusted property, plant, and equipment figures are lower (0.78 percent vs. 0.20 percent) in line with the whole sample. Their growth, however, is again higher after the recapitalization (-18.67 percent vs. 32.49 percent). One explanation for the increase in growth despite a decrease in the levels is that the smaller companies experienced high growth and this increased the median growth following the unification. However, the levels did not increase since the larger companies did not experience the growth and the decline in their levels overcame the increase in the levels of the smaller companies resulting in a decrease in the median level.

Overall, firms that unify their stock do increase their acquisition and investment activity following the unification, which is consistent with the conjecture that they unified their stock in order to lower their cost of capital. These results are consistent with the cost of equity hypothesis; though the mechanism through which they accomplish the reduction in the cost of equity is unclear.

Liquidity

As noted earlier, another rationale for a reduction in the cost of equity in dual class unifications is that unification increases the liquidity of the firm's stock. Dual class shares may have low liquidity, which can be increased through unification by attracting

new investors, particularly those with an interest in the firm's control rights or the reduced agency problems.

In order to test this hypothesis, the liquidity of shares before and after the unification were compared. The pre-unification period is 250 through 11 days before the unification announcement and the post-unification period is 11 through 250 days after the day unification actually takes place. Three measures of liquidity are utilized. If the implied reduction in cost of equity is due to an increase in liquidity, then liquidity is expected to increase following the unification.

First, liquidity is measured by stock turnover; daily trading volume divided by the number of shares outstanding. Table Eight (below) confirms that the liquidity increases following the unification. The average turnover is 0.0255 before the unification and 0.0366 after the unification. However, the difference is not statistically significant.

Table Eight
Liquidity

This table compares three liquidity measures for sample firms 250 through 11 days before the unification announcement date and 11 through 250 days after the actual unification date. Turnover is defined as daily volume divided by number of shares outstanding. Bid-Ask Spread is the ratio of the highest sale during a trading day less the lowest sale to the midpoint of the sale price range. Following Pastor and Stambaugh (2001), Order Flow is the estimated slope coefficient ($\hat{\gamma}_i$) for "order flow" - daily volume signed by stock return in excess of the market return - in the following regression:

$$r^e_{i,t+1} = \theta_i + \phi_i r_{i,t} + \gamma_i \, sign(r^e_{i,t}).v_{i,t} + \varepsilon_{i,t+1}.$$

t-test is the t-value from a t-test of unequal variances. z-value is from the Wilcoxon signed-rank test.

	Before Unification	After Unification	t-test	z-value
Average Turnover	0.0255	0.0366	1.24	1.22
Median Turnover	0.0191	0.0289		
Average Bid-Ask Spread	0.0429	0.0508	0.62	0.34
Median Bid-Ask Spread	0.0379	0.0366		
Average Order Flow	0.1320	-0.3908	-1.51	-2.38
Median Order Flow	0.0572	0.0024		

The second liquidity measure used is the bid-ask spread. Bid-ask spread has been used extensively as a proxy for liquidity (e.g., Conroy, Harris, and Benet (1990), Erwin and Miller (1998)). Bid-ask spread is defined as Bid-Ask Spread = (highest sale – lowest sale) / ((highest sale + lowest sale) / 2). Table Eight shows that average bid-ask spread increases from 0.0429 to 0.0508 following the unification. This result suggests

that liquidity actually decreases after the unification. The increase in bid-ask spread once again is not significant with a t-statistic of 0.62.

Finally, following Pastor and Stambaugh (2001), computed is an order flow measure of liquidity. More specifically, the following regression is estimated before the unification announcement (250 through 11 days before) and after the unification (11 through 250 days after):

$$r^{e}_{i,t+1} = \theta_i + \phi_i r_{i,t} + \gamma_i \, sign(r^{e}_{i,t}) . v_{i,t} + \varepsilon_{i,t+1} .$$

where $r_{i,t}$ is the return on stock i on day t, $r^{e}_{i,t}$ is the return on stock i in excess of the market return on day t, and $v_{i,t}$ is the trading volume for stock i on day t. Pastor and Stambaugh (2001) construct "order flow" by signing the volume by the excess return and the "order flow" measure of liquidity is the estimated slope coefficient ($\hat{\gamma}_i$) on this variable from the above regression. This measure is motivated by arguments and evidence linking volume-related return reversals to liquidity effects (Campbell, Grossman, and Wang (1993)).

Shown in Table Eight was a comparison of the average "order flow" measure before the unification announcement and after the unification. Average "order flow" is 0.1320 before the unification and goes down to -0.3908 after the unification suggesting a decrease in liquidity following the unification. As a result, considering all three measures, there is no evidence that the implied reduction in the cost of equity capital is due to an increase in the liquidity of these firms' stock.

Summary and Conclusions

Tested in this research are two hypotheses regarding the motivations of dual class firms to unify their stock into one class. The control transfer hypothesis suggests a desire to sell the firm or a control block as the primary motive for unifying the dual class shares. The cost of equity hypothesis posits that the reason for unification is to decrease the cost of equity, and hence obtain cheaper funds for acquisitions and investments. With respect to the second hypothesis, prior literature suggests that the cost of equity might be reduced through either a reduction in expected agency costs or increased liquidity (or both).

Using a sample of U.S. dual class firms, evidence was discovered that there is a significantly positive market reaction to the unification announcements. This positive reaction is indicative of the anticipated takeover premium or the anticipated increase in firm value due to a decrease in agency costs, and this suggests that either hypothesis is potentially valid. Consequently, each hypothesis was examined further. It has to be noted that the small sample size makes it difficult to test the hypotheses and obtain statistically significant results.

With respect to the control transfer hypothesis, discovered was that almost 30 percent of the sample firms experience control changes. Another 26 percent observe their managers' shareholdings decrease over time, which may be interpreted as them relaxing their hold on control and signaling this to the market for corporate control.

With respect to the cost of equity hypothesis, evidence was uncovered that following the unification, dual class firms not only increase their acquisition activities, but they also expend more on investments. Thus, these firms seem to have unified their shares in order to obtain cheaper funds to use in acquisitions and expenditures. However, revealed was that the conjectured reduction in cost of equity is not due to an increase in stock liquidity after the unification since no evidence was found of a significant change in the liquidity of these firms' stocks. Accordingly, the implied reduced cost of equity must be simply due to reduced expected agency costs.

Overall, the results suggest that U.S. dual class firms unify their stocks for more than one reason. Some firms do it to facilitate a change in control. Other firms do it to facilitate the raising of capital to finance investment. Yet other motivations remain to be identified and tested. For example, the managers could be using the unification as a signal to increase their firm's analyst following.

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