# What drives the unification of multiple voting class shares?

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**Abstract**

Deviation from one share - one vote by issuing superior voting class shares is common in different countries around the world. This paper explores the reasons why an increasing number of firms in continental Europe are deciding to unify their shares into a single class, and the consequences of this restructuring. The main factor affecting the probability of unification is the need to raise the share value. The probability of unification is positively related with new equity issues, number of acquisitions and industry growth opportunities – situations when the gains from increased share value are particularly high. The paper argues that by unifying the dual-class shares a firm commits to reduce the potential profit diversion, and hence to increase the share value. The evidence shows that firms do indeed reach this goal. The market-to-book ratios of ex-dual-class firms jump to the average level of single class firms in the same industry. The paper also shows that higher value of control rights (for example, high separation between control and cash flow rights) significantly reduces the likelihood of unification.

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> "The 14 percent boost to SAP's market value suggests that investors appear willing to pay for improved corporate governance. Others with *Byzantine dual share structures*, not least Volkswagen and BMW, should take note."
>
> - *Financial Times*, February 28, 2001

## 1. Introduction.

Firms with dual-class shares[1] are rather common in Europe (Faccio and Lang, 2002), and in many countries around the world, including the United States. A growing literature emphasizes that the asymmetry between cash flow and voting rights created by dual-class ownership allows the controlling parties to receive a disproportionate amount of corporate benefits (so-called private benefits[2]) (see e.g. Grossman and Hart, 1988, Harris and Raviv, 1988). As a result, corporate valuation may decrease, cost of capital may increase, and a firm may face investment constraints (see e.g. La Porta et al., 1997 and 2002, Claessens et al., 2002, Cronqvist and Nilsson, 2002). On the other hand, there is a fair amount of theoretical and empirical work showing that, under certain conditions, dual-class shares can benefit shareholders (see e.g. Burkart et al., 1998, DeAngelo and DeAngelo, 1985, Fischel, 1987, Dimitrov and Jain, 2003).

Shleifer and Wolfenzon (2002) show theoretically that firms with weaker shareholder protection have lower valuations because investors take into account that some of the profits can be diverted. If market participants believe that profit diversion is more prevalent in dual-class firms than in single-class firms, they will pay less for the former. We can call it a "dual-class" equilibrium: controlling shareholders enjoy the private benefits, and minority shareholders pay for what they get – expected cash flow after the extraction of private benefits. This begs the question of why, suddenly, some dual-class companies choose to deviate from this "equilibrium".

This papers studies the determinants of the decision to unify the shares with different voting rights into a single share class. Throughout the paper, I refer to this event

[1] Throughout the paper, *dual-class shares* means that the firm has more than one share class (except American Depository Receipts) with different voting rights. There may be more than two share classes, but all the analysis can be easily generalized to such cases.

[2] Examples of such benefits are the power to elect the board members and the CEO, the power to build business empires, the ability to consume perquisites at the expense of the firm, and the ability to transfer assets to private corporate entities.

as the *unification*. The factors driving the probability of unification are inferred both from ex ante and ex post characteristics of the companies that unified their shares. The main prediction is that the goal of the unification is to raise the company's share price. The share price is expected to increase after the unification for several reasons. First, the unification is a commitment to reduce the potential profit diversion. Second, the liquidity should go up (for example, if only one share class was traded before the unification), which may have a positive effect on firm value. Finally, the unification improves investor recognition. Shares become available to a wider pool of investors, which according to Merton (1987) may improve the share value.

The determinants of the unification are explored using a panel data set of 493 publicly traded firms in seven European countries (Denmark, Finland, Germany, Italy, Norway, Sweden, and Switzerland) where dual-class share structures are widely used. A total of 108 of the firms unified the dual-class shares in the period 1996-2002. I call these firms the *event group*. The other 385 firms remained dual-class within the same period. I call these firms the *control group*.

I find that the probability of unification is positively related with a planned new equity issue (seasoned equity offering, SEO). The data show that the event firms are more active in raising new equity. Moreover, the SEOs tend to occur in the same year as the unification. If a firm plans to raise new equity, the likelihood of unification increases by 3 percent a year. More than one third (36 percent) of the event firms issued equity in the same year when they unified the dual-class shares. I also find that the firms that unify their shares are more active in acquiring other companies. Higher acquisition activity suggests that the firm may want to use stock to pay for other companies' shares. The interpretation of these results is that low share value is not much of a concern – the minority shareholders pay a fair price taking into account the potential expropriation – unless the firm wants to do any transactions with stock.

The likelihood of the unification decreases substantially if the firm's controlling shareholders enjoy high private benefits of control. I show that all the variables that proxy for the level of private benefits have the expected signs and are significant. In particular, the event firms are characterized by: a) a smaller difference between the votes and equity held by the largest shareholder, b) a lower voting premium (the price difference between

high and low voting shares), c) a more frequent presence of a financial investor among the largest shareholders, and d) a higher number of firms cross-listed in the U.S. Moreover, the importance of the new equity issues as a determinant of the unification is linked to the private benefits of control argument. The expansion of equity capital is likely to dilute the control, hence the value of control is expected to decrease, and the controlling shareholders are more likely to accept the unification.

The prediction that the unification is intended to increase the share price can be tested alternatively from the ex post consequences of the unification. The results suggest that firms indeed reach their goal of increasing the market value, and the effect is rather persistent. The difference between the firm's market-to-book ratio and the respective average ratio of single class firms in the same industry (INDUSTRY ADJUSTED MTB) jumps from around –0.5 to 0 in the year of the unification. In other words, the ex-dual-class firm achieves the same value as an average single-class firm in the industry. Moreover, it keeps moving up, reaching 0.4 (significantly different from zero) one year after the unification, and then drops back to 0 in the two subsequent years. The value effect remains robust after controlling for sales growth and operating performance. Other ex post consequences of the unification are higher sales growth, higher capital expenditure, and lower leverage.

Several robustness checks are offered. The firms that unify their shares in general are from industries with higher growth opportunities measured by industry market-to-book ratios. Average industry MTB in the event group is 3.4 percent higher than in the control group. We may question whether the positive correlation between new equity issues and the probability of unification is not purely driven by the firm's growth opportunities. Comparing firms with ex ante similar growth opportunities, i.e. matching event and control firms on industry, size, and MTB, I find that the unification is more likely in firms that actually issue new equity. Other interesting results emerge from this comparison. I do not find that the event firms grow significantly faster or make more capital expenditures than the control firms with similar growth opportunities. The difference is that the event firms are expanding using new equity capital, while the control firms are increasing their leverage.

Two alternative (less formal) explanations for the unification are offered. First, the unification can be used as a marketing tool to boost the share price before a SEO. The switch to one share - one vote is boldly regarded as a step towards improved corporate governance, and normally gets significant media attention. This can work as a positive "free" advertisement, which is highly valuable before a SEO. In this sense, the unification is a "once in a lifetime" opportunity to boost the stock price when this is really needed. Second, a planned change of the controlling shareholders may be a reason to unify the shares. The expected rise in share price after the unification could then be used by the controlling party to sell off her stake. This explanation does not get much support in the data, however, in 28 percent of firms the largest shareholder before the unification is not among the blockholders one year after the unification, while in majority of cases (66 percent) the same controlling shareholder keeps a block of shares (at least 10 percent of total capital) after the unification. A change of the controlling party may be one of the reasons for trying to boost the stock price, but it is not a major one.

This paper relates to a broader literature on dual-class shares: the value of control measured by the voting premium (Bergström and Rydqvist 1990, 1992, and Nenova, 2003), the IPO under-pricing in dual-class firms (Smart and Zutter, 2003), the dual-class share introductions, the switch from a single to dual-class share structure (Partch, 1987, Jarrel and Poulsen, 1988, and Millon-Cornett and Vetsuypens, 1989), and the effect of certain policy changes on dual-class firms (Smith and Amoako-Adu, 1995, Robinson et al., 1996, Hoffmann-Burchardi, 1999, Bennedsen and Nielsen, 2002, and Berglöf and Burkart, 2002).

This is not the first paper to study the unification of dual-class shares. Amoako-Adu and Smith (2001) find that the most common factors leading 56 firms on the Toronto Stock Exchange to eliminate dual class equity were to meet the terms of a debt restructuring agreement, to facilitate the sale of a control block, and to increase institutional appeal for stock prior to a seasoned offering. These factors are derived from the statements made by the companies (in proxy circulars and newspapers). Using data on 67 Israeli stock unifications, Hauser and Lauterbach (2003) estimate the value of voting rights from compensation paid on high voting shares for giving up some of the votes. All the Israeli unifications soared after the Tel-Aviv Stock Exchange introduced a new

regulation (in 1989) which banned new issues of inferior-voting shares. With this regulation, firms that wanted to raise new equity were effectively forced to unify the dual-class shares.

The paper that is closest to this one in its study of the effects of voluntary dual-class share unifications is Dittmann and Ulbricht (2003). Using data on 89 dual-class shares in Germany, Dittmann and Ulbricht find that a company is more likely to abolish the dual-class structure if expected future growth is high, if the firm is large, or if the largest block of voting shares is small. The data used in this paper differ from the German data in several respects. First, this paper studies seven countries, allowing some cross-country comparisons. Second, a wider pool of control firms allows to find more precise matches for the event firms, and to detect the differences in firm characteristics. Third, I use a sample of shareholder approved unifications (in German data, out of 29 announced unifications, 4 companies eventually did not unify their shares). Finally, and most importantly, this study explores not only the determinants of the unification but also the ex post consequences of it. To my knowledge, this is the first paper that explores firm characteristics after the unification, and explicitly documents the effect on share value beyond a short term announcement effect.

The paper proceeds as follows. Section 2 describes the data. Based on the theoretical arguments and previous findings, Section 3 presents several testable hypotheses. Section 4 analyzes the ex ante determinants of the unification decision. Section 5 studies the ex post consequences of the unification. Section 6 discusses some alternative, less formal tests of the hypotheses, and Section 7 concludes.

## 2. Data.

### *2.1. Sample.*

The main sample for empirical investigation consists of 493 companies in seven European countries – Denmark, Finland, Germany, Italy, Norway, Sweden, and Switzerland – where deviation from one share - one vote is allowed and widely used. The seven European countries use different types of dual voting class shares (see Appendix A). Companies in Denmark, Finland, and Sweden, use multiple voting right shares, for example, where one share class has one vote per share, and the other 10 votes per share.

In Norway, the restricted share class usually carries no voting rights. The most common restricted share class in Germany is preference shares (*Vorzugsaktien*) which carry no (or limited) voting rights, but has priority for dividends. The nominal value of non-voting shares must not exceed that of voting shares. In Italy, companies can issue nonvoting savings shares (*azioni di risparmio*), and preferred shares that carry limited or no voting rights. Companies in Switzerland can issue one or more classes of shares (registered (*namen*) or bearer (*inhaber*)) with one vote but different nominal value per share.

A sample firm complies with the following criteria: The firm is present in *Moody's/ Mergent International* Company Database (1996-2002 Manuals), is not a commercial bank or credit institution (two-digit SIC code 60 and 61), had a dual class share structure at the end of 1995; and is still listed on the stock exchange at the end of 2002. The sample construction is presented in Panel A of Table 1. Out of 601 firms that satisfied all the criteria except the last one – the listing at the end of 2002 – for various reasons we drop 108 firms. Ten percent of firms were taken over or merged with another firm. Four percent of firms were delisted because the ownership became too concentrated (no or very little free float). Other four percent of firms were dropped due to data unavailability. We are left with 493 firms (82 percent). Out of this sample, 108 firms (22 percent) now have single share class (*event* group), and 385 firms (78 percent) still have dual-class shares (*control* group). If we compare the number of unifications with the total initial dual-class firm sample (including the firms that dropped out during 1996-2002), the event group represents 18 percent. Clearly, the unification of share classes is an important event among the dual-class shares and the market in whole.

Table 2 shows that the fraction of dual-class firms among all firms has decreased since 1995, but is still substantial at the end of 2001. The largest fraction of dual-class firms is in Sweden (46 percent), and the lowest in Norway (7 percent) and Germany (11 percent). Moreover, there are large and important market players among the dual-class firms. The event group consists of mainly large and medium size companies, including such famous names as, for example, ABB, Lufthansa, and Nokia. The control group includes, for example, BMW, Carlsberg, Ericsson, and Fiat.

Panel B of Table 1 tracks the initial sample of dual-class firms by country. The lowest unification activity has been in Sweden, where only 5 percent of the initial sample

(7 out of 136 firms) switched to one share - one vote. In Denmark, the respective figure is 11 percent (10 out of 88 firms). The highest unification activity has been in Norway, Germany, and Switzerland (30, 29, and 25 percent, respectively). It is interesting to note that Sweden and Denmark have the highest fraction of mergers and takeovers among dual-class firms. In Sweden, 18 percent of the initial sample of dual-class firms (25 out of 136 firms) merged or were taken over during 1996-2002. In Denmark, the respective number is 16 percent.

Panel C of Table 1 shows that the number of unifications has been increasing over sample years – from 8 events per year in 1996 to 23 in 2000 and 2001. The highest number of unifications is observed in Germany (41 firm) and Switzerland (26 firms).

*2.2. Summary Statistics.*

Table 3 contains summary statistics for 3451 firm-years – 493 companies and seven years (1996-2002). The number of observations vary due to data availability constraints. The first group until the dividing line presents variables with annual data, while the second group shows data that is assumed constant over sample years. All the variable definitions are provided in Appendix B.

The main data sources used in this study are as follows. Financial data is from *Worldscope* database. Information on different share class characteristics (voting power, dividend rights, listing, etc.) comes from *Moody's/ Mergent International* Company Database, *Datastream*, company annual reports, and *Lexis-Nexis*. Ownership data is from Faccio and Lang (2002) and company annual reports. Data source for acquisitions is *Securities Data Corporation Platinum* database.

Panel A of Table 3 shows that the median firm in the whole sample has a market-to-book (MTB) ratio of 1.53, an industry adjusted market-to-book ratio of –0.98, a size (log of sales) of 5.54, a return on assets of 5 percent, a return on equity of 10 percent, a debt to capital ratio of 24 percent, capital expenditures of 19 percent of net property, plant, and equipment, and annual sales growth of 6 percent. The industry MTB is the average MTB for publicly traded single share class firms in the seven sample countries in the same industry (measured by two-digit SIC code) in each year. In terms of ownership structure, the median firm in the sample has the largest shareholder with 40 percent of

votes and 24 percent of equity. Forty percent of all firms have only one of the share classes listed on the stock exchange, 11 percent of firms have their shares cross-listed in the U.S., 41 percent of firms have a family as the largest shareholder, 11 percent of firms have a financial institution as the largest shareholder, and 42 percent of firms have a second shareholder with at least 10 percent of votes.

In Panel B and Panel C of Table 3, the summary statistics are presented separately for the *event* group – the firms that unified shares in 1996-2002, and the *control* group – the firms that stayed dual-class throughout 1996-2002. In Panel B, the statistical significance of the univariate analysis between the event group and the control group variables is shown. The firms that switched to a single share class compared with other dual-class firms are characterized by higher market-to-book ratios (firm-level, industry, and industry adjusted market-to-book), larger size, lower relative trading days, higher number and size of new equity issues, and higher number of acquisitions (scaled by size).

## 3. Determinants and consequences of unification: discussion and hypotheses.

In this section, different theories and findings about dual-class shares are summarized to form a set of testable predictions about the variables affecting the probability of unification (ex ante effects) and the likely consequences of it (ex post effects). This way of differentiating between ex ante and ex post effects is borrowed from Pagano et al. (1998) who study the question of why companies go public.

### *3.1. Stylized facts about dual-class shares.*

Consider a firm with two classes of shares – high voting shares and low voting shares. The two share classes, as well as the dual-class firms vs. single-class firms may differ with respect to the three main factors: 1) security benefits, 2) liquidity, and 3) control benefits. In many firms (e.g. in Scandinavia), both share classes carry the same dividend and liquidation rights, i.e. the shares differ only with respect to voting rights. While in other firms (e.g. as set by law in Germany and Italy) the low voting shares have preferential rights with respect to dividends. In my sample, about 40 percent of firms actually paid higher dividends on low voting shares than on high voting shares. When security benefits differ, other things equal, the high voting shares have a lower price than

low voting shares. When compared with single share class firms, there is evidence that security benefits in dual-class firms are lower because of lower share valuations (Shleifer and Wolfenzon, 2002, Claessens et al., 2002). Dual-class structures can be seen as an anti-takeover measure that helps managers or controlling shareholders to extract rents that are not shared with other shareholders. Hence, the market may assign lower valuations on these firms than on similar single-class firms. This finding is supported by the data also in our sample. From Table 3, we see that the average INDUSTRY ADJUSTED MTB – the difference between the dual-class firm's MTB and the average MTB in the single-class firms in the same industry – is significantly negative. The lower valuations can also reflect the fact that dual-class firms may forego a positive growth opportunity when it arises. Wurgler (2000) shows that better shareholder protection increases the efficiency of capital allocation – there is higher correlation between investment opportunities and actual investments.

The liquidity of high and low voting shares may differ due to foreign ownership restrictions (e.g., at some point, on registered shares in Switzerland), block holdings (large part of high voting shares may be held in a block and are not traded), or an unlisted share class (i.e. that only one of the shares is listed on the stock exchange). Table 3 offers some evidence. Turnover ratio of low voting shares is on average (median) 6.4 (2.3) times higher than on high voting shares. Number of days the share is traded is on average (median) 2.4 (1.0) times higher for low voting shares than for high voting shares. This is, of course, measured in firms where both shares are listed. Forty percent of firms in this sample do not have both shares listed. When comparing with single-class firms, there is some evidence that dual-class firms have a smaller investor base (Giannetti and Simonov, 2002). Using Swedish data, Giannetti and Simonov show that certain investor groups are reluctant to hold stocks in companies where the extraction of private benefits is expected to be larger. Moreover, the investor base could be narrower because dual-class structures are unavailable to certain investor groups (e.g. investment funds) due to legal restrictions.

The valuations of high and low voting shares differ if there is some value attached to the voting rights. The value of voting rights may represent the expected premium that an outside raider may offer to acquire control over firm's decisions (Lease, McConnell, and Mikkelson, 1983, Stulz, 1988, and DeAngelo and DeAngelo, 1985). When there is a

takeover attempt, a higher price may be paid for a high voting share because it carries more votes. Without institutional restrictions (on equal treatment of both share classes), the raider is willing to pay 'per vote' and not 'per share'. The value of voting rights is commonly measured by a voting premium (e.g. Levy, 1983, Zingales, 1994, 1995). Table 3 shows that the average (median) voting premium in our sample is 16 (5) percent – indeed positive and significantly different from zero. When comparing with single-class firms, several authors have argued that private benefits are higher in firms with dual-class shares (DeAngelo and DeAngelo, 1985, and Grossman and Hart, 1988). It has been shown that higher separation between ownership (fraction of capital) and control (fraction of votes) may create the wrong incentives, where those in control become entrenched at the expense of minority shareholders[3]. The private benefits can take the form of excess salaries, beneficial transfer pricing to controlling shareholders' privately held firms, subsidized personal loans, etc. Alternatively, Holmen and Hogfeldt (2003) claim that in Sweden private benefits of control are arising from status, prestige, and social recognition rather than from expropriation of minority shareholders, and thus are not value destroying.

*3.2. Main disadvantage of unification: loss of control.*

Clearly, the main disadvantage of the unification from the controlling shareholders' point of view is the loss of control. Previous studies have shown (Faccio and Lang, 2002, Claessens et al., 2002), and the data in this study confirm that the controlling shareholders use the benefits of dual-class structure by investing in high voting shares, thus having lower capital participation relative to their voting power. The average (median) difference between the votes and the equity stake in our sample is 13 (9) percent. The highest difference is 67 percent: the largest shareholder holds all votes, but only 33 percent of equity capital. Obviously, the unification may substantially

[3] One should note that dual-class share structure is just one of the ways to create separation between control rights and cash flow rights. Pyramids and cross-holdings of companies are other methods to achieve it (Bebchuk et al., 2000). However, dual-class shares is the most common method in Europe. From Faccio and Lang (2002) data set we can estimate that on average 32 per cent of firms in the seven countries used in this study have dual-class shares, compared with 20 per cent of firms using pyramids and 2 per cent – cross-holdings.

decrease the voting power of the controlling shareholder, because after the unification the voting rights are just equal to the equity rights.

We should expect that a controlling shareholder with lower value of control – private benefits – is more likely to accept the unification. Measuring the private benefits of control is not trivial. Claessens et al. (2002) show that high separation between ownership and control can be a sign of entrenchment. The prediction would be that the wedge between control rights and equity rights is lower in firms that abandon dual-class share system. Voting premium is another way of measuring the value of control. We should expect negative correlation between the probability of unification and the voting premium. The type of the owner – family or financial investor – may matter, too. Financial investors may have lower incentives for private benefit extraction, moreover, they should not be concerned about the "free" control benefits – status, prestige, and social recognition. Reese and Weisbach (2002) and Doidge (2003) argue that cross-listing in the U.S. is a bonding mechanism that improves the protection afforded to minority investors and decreases the private benefits of control[4]. This result suggests that we would expect that the dual-class firms that are cross-listed in the U.S., other things equal, are more likely to unify their shares.

The private benefits could also decrease because of changes in corporate governance legislation. Over the sample period (1996-2002) the corporate governance regulations have improved[5]. As shareholder protection improves, the controlling party's easiness to extract private benefits may decrease. This is obviously one of the reasons for higher incidence of unifications in the last few years (see Panel C of Table 1), as well as overall decrease in the fraction of dual-class firms (Table 2). However, in neither of the sample countries the regulatory changes related to dual-class shares have been such that make the switch to one share - one vote compulsory. The unification decision is still left at the discretion of the firm, and there are many firms that have remained dual-class.

The main question here is what are the benefits that make firms (the controlling shareholders) to accept the unification. In the next sections, we will focus on the

[4] There is, however, a countervailing argument by Siegel (2002), who suggests that cross-listing in the U.S. is a reputational bonding rather than a legal bonding. When it comes to implementation, American governance rules affecting U.S. listed foreign firms are much stricter in formal writing than in practice.
[5] See a summary of regulatory issues related to dual-class shares in Appendix A.

advantages of the unification. The discussion is directly linked to the stylized facts presented in the previous section, in particular, comparison between dual-class and single-class firms.

*3.3. Increase share value.*

A dual-class firm may decide to unify its shares with an intention to increase the share price, by committing not to expropriate minority shareholders. As discussed before, dual-class firms tend to have lower valuations (lower market-to-book ratios) than single-class firms in the same industry. Good support for commitment story is the fact that in several of the event firms the controlling shareholders had the same fraction of votes and equity – they did not "use" the dual-class system – prior to the unification. One would presume that the market does not treat these firms as dual-class firms, and there should be no difference in valuation. Though the market may discount the firm value because of the option to use the dual-class structure in future. Therefore, unification of share classes is an obvious commitment not to use the dual-class system also in the future. Main implication of this hypothesis, which can be tested using ex post data, is higher market valuation (MTB ratio) after the unification.

The question arises, Why suddenly firm cares about higher valuation? The chance to raise the share price should be particularly appealing for companies that plan to issue new equity and to make acquisitions using stock. The stock price may not bother the controlling shareholders as long as there are no stock transactions to the "outside" – the expansion is financed with cash or debt – , but it becomes more of an issue when the firm has to approach the equity markets and/ or use the stock in acquisitions. We should expect that the likelihood of share class unification should increase if a firm is issuing substantial amounts of new equity. This prediction is related to Ehrhard and Nowak (2002) who find that firms that issued dual-class shares at the IPO stage are less likely to return to capital markets for a seasoned equity offering. The new equity issues are measured by a dummy variable which takes a value of one in year when company issued new equity. The size of new equity issues is measured by total proceeds of new equity issues (less stock repurchases) scaled by book value of equity in the previous year. The acquisition activity is measured by number of acquisitions a firm made in a given year

scaled by size (log of sales). The data does not allow us to distinguish between the acquisitions with cash and stock. Higher acquisitions activity is expected to measure the fact that the firm may want to use stock in at least some of the acquisitions.

Firms with better growth opportunities in general should have higher incentives to unify the shares. Even if a firm is not issuing new equity right after the unification, it may need to raise substantial amount of capital for investments and expansion in the future, for example to attract a strategic investor. Simplifying the share structure may make the process easier. Moreover, when the current controlling shareholders are cash constrained, in times of rapid expansion the dilution of control is inevitable. As a result, the value of control decreases, and the controlling shareholders are more likely to accept the unification. As a proxy for firm's future growth opportunities, we use the average MTB of public single-class companies in the same two-digit SIC industry. The hypotheses that the unification is a way to ease the expansion can be tested using ex post data: firms that unified shares should increase their investment (measured by capital expenditure over property, plant and equipment), and the sales should rise.

A controlling shareholder may also be tempted to boost the stock price before selling the shares (partly or fully) to a new shareholder, assuming that the new shareholder is not interested (or able) to extract private benefits and thus not ready to pay the full value of control. If this is the case, we should expect a change of controlling shareholder after the unification.

*3.4. Increase share liquidity.*

Another potential reason to unify share classes is to raise the liquidity of company's shares. The motives why firm needs to increase liquidity are similar to the ones why firm needs to raise stock price. In particular, liquidity becomes important when firm is expanding and needs to attract new investors, to issue new equity, or to make acquisitions using stock, or when the controlling shareholders want to sell their stake. This prediction is tested using the same measures as in the previous section.

*3.5. Investor recognition.*

The previous discussion pointed out that the dual-class firms may have a smaller investor base due to unavailability (or unfamiliarity) of dual share structure to certain investor groups. According to Merton's (1987) model, an increase in the relative size of the firm's investor base will reduce the firm's cost of capital and increase the market valuation. Again when firm's stock price and liquidity is important, the unification can help to increase the investor base and hence raise the market valuation. However, unlike in Giannetti and Simonov (2003), there is no clean way to test the hypothesis about the investor base in my data. One implication of this hypothesis, which can be tested using ex post data, is higher market-to-book ratio after the unification. High MTB may alternatively indicate that there is simply lower extraction of private benefits. It is hard to discriminate between these two hypotheses. This issue will be addressed in Section 6.

The unification can also act as an advertisement for the company by exploiting the marketing benefits of media attention around the unification event. This prediction is closely linked to Demers and Lewellen (2003) who find that there are marketing benefits associated with IPO under-pricing. We should expect that firms with good growth opportunities and planned new equity issues are the ones that gain the most from positive publicity around the unification event. The publicity is most likely to be positive, as the unification is associated with improved corporate governance.

*3.6. Other issues.*

Zingales (1995) and Nenova (2003) have shown that dividend preference for low voting shares reduces the value of control (the voting premium). One of the advantages of unification is that high voting share holders may receive higher dividends after the unification. We should expect a positive correlation between the probability of unification and the presence of preferential dividends on low voting shares.

In the event of unification, some firms may compensate the loss of control with additional stocks. In my sample, there are 9 firms, predominantly in Italy and Norway, that offered some kind of compensation for high voting shareholders. The compensation would arguably make the unification more attractive to the controlling shareholders, however it may face strong opposition from the low voting shareholders. The low number

of compensation cases does not allow us to make any statistically meaningful tests. Moreover, the decision about the compensation is of a second-order after the proposal to unify the shares has been made.

In several dual-class firms the high voting shares can be converted into the low voting shares. This gives an additional benefit to high voting shareholders, and should decrease the incentives to give up these shares. However, it is not very common to use the conversion option, and Nenova (2003) shows that the convertibility is not an important source of differences in the value of the two share classes. Suspecting that the convertibility will not have any significance in explaining the unification decision, I decided that it is not worth the time and effort to collect this data.

*3.7. Hypotheses summarized.*

The main testable hypotheses about the ex ante determinants of the unification and the ex post consequences of it are as follows. The probability of unification should be higher in firms with: 1) low difference between control rights and equity rights held by the largest shareholder, 2) low voting premium, 3) financial investor as the largest shareholder, 4) cross-listing of shares in the U.S., 5) preferential dividends for low voting shares, 6) planned new equity issues, 7) planned acquisitions of other companies, and 8) high growth opportunities. These predictions are tested in the next section. The expected consequences after the unification are: 1) higher market-to-book ratio, 2) higher sales growth, 3) higher capital expenditure over property, plant and equipment, and 4) change of the controlling shareholder. These predictions are tested in Section 5.

## 4. Ex-ante determinants of unification.

In this section, the firm characteristics that increase the likelihood of unification are estimated. The main model is a panel data discrete choice model (probit) using data on 3451 firm-years. Alternative methods are presented as a robustness check in Section 4.2. and 4.3.

*4.1. Main model.*

A *pooled probit model* of the probability of dual-class share unification is used (as in Pagano et al., 1998). On the basis of the discussion in previous section, the following model is estimated:

$$Pr(\text{Unify}_{it}=1) = F(\alpha_1(\text{Equity Issue}_{it}) + \alpha_2(\text{Acquisitions}_{it}) + \alpha_3\text{SIZE}_{it} + \alpha_4\text{INDUSTRY MTB}_{it} + \alpha_5(\text{Private benefits}_i) + \alpha_6\text{YEAR}_t + \alpha_7\text{COUNTRY}_i)$$

where $\text{Unify}_{it}$ is a variable that equals 1 if the company *i* switched to a single-class share system in year *t* and 0 if it remained dual-class in this year (a firm is dropped from the sample after it unifies the shares), *F(.)* is the cumulative distribution function of a standard normal variable. Different specifications of the explanatory variables are described in the following paragraphs. The predicted signs of the variables were discussed in the previous section. The only explanatory variable that was not discussed is SIZE. The costs of keeping a controlling block are higher in large companies, which would predict positive relation between size and the likelihood of unification. On the other hand, having control of a big company has more positive effect on owner's social status, and hence lower incentives to give up the control. The prediction on the sign of the size variable is therefore unclear.

Table 4 reports the maximum likelihood estimates of the probit model, as well as their standard errors, which are corrected for heteroskedasticity using White (1980). Because of repeated similar observations, the standard errors are corrected for clustering at the firm level. This specification relaxes the independence assumption required by the probit estimator to being just independence between the clusters (firms). Coefficients are the same if we use the random-effects regression, but the standard errors are different. The random-effects regression estimator is more restrictive. It requires independence between firm unobserved effect and the explanatory variables, while robust and clustered errors simply assume that the observations within a firm can be correlated.

The variables that measure the equity issue and acquisitions activity are contemporaneous because they proxy for the *planned* new equity issues and acquisitions. SIZE and INDUSTRY MTB are lagged one year in order to measure the situation *before* the unification. The variables that proxy for private benefits (e.g. ownership) are fixed—

they measure the situation before the unification in the event firms and the average situation in the control firms in the period 1996-2002[6].

We hypothesized that controlling shareholders whose firm is expanding rapidly through new equity issues and acquisitions are more likely to face a control dilution and potential decrease in private benefits. Moreover, raising additional equity capital and acquiring new firms increases the importance of boosting the stock price. The results reported in Table 4 strongly confirm these predictions. Regression (1) shows that the probability of unification significantly increases in the years when a firm plans to issue new equity. A planned new equity issue raises the probability of unification by 2.9 percent in any given year. Regression (2) reports that the size of new equity issue proceeds scaled by book value of equity significantly increases the likelihood of unification. A one standard deviation increase in EQUITY ISSUE PROCEEDS/ EQUITY raises the probability of unification by 0.8 percent a year. Regression (3) reports the results of the acquisitions effect. A one standard deviation increase in ACQUISITIONS/ SIZE raises the likelihood of unification by 0.6 percent a year. In Regression (4) both – equity issues and acquisitions – effects are included in one model. The estimates remain highly significant.

All the regressions in Table 4 show that SIZE has a negative effect on the probability of unification, but it is not statistically significant (it is significant at the 10 percent level only in one of the five regressions). INDUSTRY MTB which is a proxy for future growth opportunities has a positive relation with the probability of unification, as predicted (the coefficients are significant at the 10 percent level in two out of five regressions).

All the proxies for the value of control – the private benefits – are significant and have the predicted signs. The most significant is a dummy variable that takes a value of 1 if the difference between the fraction of control and the fraction of ownership held by the largest shareholder is above the median separation in firms where control and ownership differ (CONTROL EXCEEDS OWNERSHIP, HIGH). If the controlling shareholder moves from high separation between ownership and control to low separation, the

[6] This is due to lack of data. Collecting ownership data for 493 firms from 7 countries over 7 years is not very feasible.

likelihood of unification raises by 1.5 percent a year. If the largest shareholder is a financial investor, the probability of unification increases by 2.3 percent a year. This result can mean that the financial investors have lower incentives for private benefit extraction. Alternatively, the financial investors are more concerned about the stock price of the companies they have invested in, as their performance is mostly valued by the return of investments made. As predicted, the U.S. cross-listing is positively related to the likelihood of unification. If US CROSS-LISTING DUMMY changes from zero to one, the odds of unification increase by 2.6 percent a year. We do not differentiate between Level 1, 2, 3 and Rule 144A ADRs, but most of them are traded as Level 2 and Level 3 (capital raising issues that trade on the NYSE or NASDAQ). There are 19 cross-listed firms among the event group. All but 4 of them were cross-listed before the unification, 2 tapped the US market in the same year as the unification took place (a couple of months after it), and 2 firms cross-listed in the US one and two years after the unification. Coding these 4 firms as not cross-listed slightly reduces the significance of this variable (to the 10 percent level).

Regression (5) reports the results when an interaction term between EQUITY ISSUE DUMMY and INDUSTRY MTB is included. This specification attempts to measure whether there is any effect of future growth opportunities if a firm is not planning the equity issue in the nearest future. The coefficient on INDUSTRY MTB is positive and significant at the 10 percent level. It means that among firms that do not plan to issue equity in the nearest future, the presence of growth opportunities still raises the likelihood of unification. The results are very similar if we include only EQUITY ISSUE DUMMY or add the ACQUISITIONS/ SIZE variable. Not surprisingly, for firms that did issue new equity, INDUSTRY MTB does not have any additional explanatory power – the sum of coefficients on the interaction term and INDUSTRY MTB is not different from zero (p-value 0.5).

Several alternative specifications were tested (not reported). If we include industry dummies instead of INDUSTRY MTB, the results on equity issues and acquisitions, as well as on private benefits proxies do not change. Firm MTB is not significant when INDUSTRY MTB is included. This means that the positive effect of firm market-to-book value is driven by industry growth opportunities. Past SALES

GROWTH and past CAPEX (as proxies for growth opportunities) are not significant, suggesting that the event firms are associated with high *expected* growth rather than high *current* growth. Excluding financial industry (SIC 62-67) does not change the results. Excluding years of lower unification activity (1996 and 1997) does not change the results. The proxies for firm's equity dependence as suggested by Kaplan and Zingales (1997) – LEVERAGE, CASH FLOW/ ASSETS, CASH BALANCE/ ASSETS, CASH DIVIDENDS/ ASSETS – are not significant. These variables have only indirect effect on unification as they have some power in explaining the likelihood of new equity issues. However, a firm with higher leverage and lower cash resources is not more likely to unify the shares unless it actually plans to issue new equity. MULTIPLE BLOCKHOLDER DUMMY has a negative effect on the probability of unification, and it is significant at the 10 percent level in only one out of five regressions in Table 4. This result can be interpreted a coalition formation – when the largest shareholder does not have a majority (50 percent of votes), it is easier to persuade another blockholder to vote 'against' unification rather than to persuade many dispersed shareholders.

The pooled probit ignores the possible effect of unobserved firm-specific factors which might be correlated with the explanatory variables. For example, majority owner's family tradition to keep control might affect the resistance to issue new equity, the wish to keep higher separation between votes and equity, as well as resistance to abandon dual class shares. To control for these unobserved firm-specific effects, we also estimate *fixed effects logit model* (not reported). The advantage of this model is that it is possible to obtain a consistent estimator without any assumptions about how the unobserved firm effects are related to the explanatory variables. The disadvantage though is that we can only include variables that vary over time at least for some firms. All the signs on the main time-varying variables – EQUITY ISSUE DUMMY, EQUITY ISSUE PROCEEDS/ EQUITY, ACQUISITIONS/ SIZE, and INDUSTRY MTB – remain as predicted. The new equity issues loose significance (p-value is 0.2), acquisitions remain significant (at the 1 percent level), and industry growth opportunities are significant (at the 5 percent level), too. The results suggest that keeping unobserved firm effects fixed, increase in respective industry's growth opportunities and acquisition activity raises the likelihood of unification. The reason why new equity issues variable looses significance

in the within model is related to the previous result that even if a firm is not issuing equity in the current year, high growth opportunities increase the likelihood of unification. The firm may want to issue equity in the subsequent years (since the firm is dropped from the sample after the unification, we cannot capture the effect of future issues).

*4.2. Robustness check: Cross-sectional analysis.*

Table 5 presents the results of a *probit model* on the probability to unify dual-class shares using average (cross-sectional) data on 493 firms. This model specification asks the question: What are the *average* characteristics of firms that unify their shares? In this model, time-varying variables are averaged according to the following algorithm. The equity issue and acquisitions variables are averaged over all the sample years 1996-2002 to measure the average equity issuance and acquisitions activity in this period. SIZE and INDUSTRY MTB are averaged over two years prior to the unification for event firms, and over 1994-2001 for control firms. This way of averaging attempts to capture the situation in the dual-class firms prior to a potential unification. The results are largely the same if the averaging for event firms is done over 1994 to one year prior to the unification. The proxies for private benefits are not time-varying, so no averaging is needed. One variable is added if compared with the previous specifications, namely a dummy variable which takes a value of 1 if there has been at least one new equity issue in period 1996-2002. The average of EQUITY ISSUE (ADJUSTED) DUMMY is used instead of simple EQUITY ISSUE DUMMY to avoid overstating equity issuance activity if the firm does not report the proceeds from new equity issues in years when there have been no issues.

The results in Table 5 largely confirm my previous findings. All equity issue and acquisitions variables are significant. If a firm has made a seasoned equity offering at least once during 1996-2002, the probability of unification in this period increase by 17 per cent. One standard deviation increase in EQUITY ISSUE PROCEEDS/ EQUITY (AVERAGE) raises the likelihood of unification by 5 per cent, and one standard deviation increase in ACQUITIONS/ SIZE (AVERAGE) – by 4 per cent. INDUSTRY MTB is highly significant, too (at the 1 percent level), one standard deviation increase in

this variable raises the likelihood of unification by 7 per cent. Equity issues, acquisitions and industry MTB remain significant if they are included one by one (not reported). High separation between ownership and control remains negative and highly significant. The effect of financial investor and U.S. cross-listing is positive but less significant. The results suggest that the firms that unified their shares in 1996-2002 were on average more active in issuing new equity and making acquisitions, and had substantially higher growth opportunities than other dual-class firms.

A source of concern both in cross-sectional model and panel data is that the equity issue and acquisitions variables are endogenous. It is difficult to find a good instrument for these variables to carry out the instrumental variables models or a bivariate probit. As a robustness, I did a test of endogeneity using *continuous endogenous explanatory variables* method (described in e.g. Wooldridge, 2002) treating EQUITY ISSUE DUMMY (AVERAGE) as an endogenous variable. I use LEVERAGE (AVERAGE) as an instrument for equity issues. Leverage is clearly correlated with new equity issues – high leverage is one of the reasons why companies need to approach the equity markets, and there is no evidence why it should be directly correlated with the unification decision. However, we can only rely on the results of this test if we believe that average leverage is exogenous (one can argue that it is hard to change leverage quickly and dramatically). If one disagrees with this assumption, the following test does not make sense. So, for those who believe… In the first step, average EQUITY ISSUE DUMMY is regressed on INDUSTRY MTB, LEVERAGE, SIZE, and country dummies. Indeed, LEVERAGE has a significant positive impact on the new equity issues, and so does INDUSTRY MTB. In the second step, probit regression is estimated including the residuals from the first-step regression. The t-statistic on the residuals is a direct test of null hypothesis of endogeneity of the proceeds variable. The t-statistic is 0.68 (not significant). The average EQUITY ISSUE DUMMY remains significant.

A cleaner way to deal with the problem of endogeneity of equity issues and acquisitions variables is to construct a matching sample of firms, where the matching is based on the most likely suspects for endogeneity. In the next section, we match firms on size, industry and market-to-book, and check whether there is still substantial difference

in new equity issues and acquisitions (and other variables) between the event group and the control group.

*4.3. Robustness check: Matching sample.*

The combination of Loughran and Ritter (1997) and Barber and Lyon (1997) matching algorithms is used to find the closest match for each event firm. The firms are matched on industry, size (log of sales) and market-to-book ratios. All 493 main sample dual-class firms are divided into 108 groups – 12 industries times 3 size categories times 3 market-to-book (MTB) categories. The two-digit SIC codes are combined into 12 larger industry groups following Campbell (1996): Basic industry (SIC 10, 12, 14, 24, 26, 28, 33), Capital goods (SIC 34-35, 38), Construction (SIC 15-17, 32, 52), Consumer durables (SIC 25, 30, 36, 37, 39, 50, 55, 57), Financial/ real estate (excluding banks) (SIC 62-69), Food and tobacco (SIC 1, 20, 21, 54), Leisure (SIC 27, 58, 70, 78-79), Petroleum (SIC 13, 29), Services (SIC 72-73, 75-76, 80, 82, 87, 89), Textiles and trade (SIC 22-23, 31, 51, 53, 56, 59), Transportation (SIC 40-42, 44-45, 47), and Utilities (SIC 46, 48, 49). Size and MTB categories are *High* ($75^{th}$ percentile and upward), *Medium* ($25^{th}$ to $75^{th}$ percentile), and *Low* ($25^{th}$ percentile and downward). Market-to-book data at the end of the year preceding the unification is missing for seven event firms, so these firms are excluded. We proceed with finding the closest match for 101 event firm. The matching is done based on the firm characteristics at the end of the year preceding the unification. If there are more than one dual-class firm in the same group as the event firm, the firm with the closest MTB is chosen. If there is no matching firms in the same group (there are 3 such cases), the firm from the same industry with the closest MTB ratio from the next closest size category is taken.

Panel A of Table 6 reports the comparison of means of different variables in the two matched groups three, two, and one year prior to the unification. The table reports the t-Statistic of testing the equality of means. The results are largely the same if we use the z-Statistic testing the equality of distributions between the event firms and control firms using the Wilcoxon matched-pairs signed-rank test. The results provide strong support for the hypotheses that the value of control (private benefits) is lower in firms that decide to unify their dual-class shares. In particular, in the event firms CONTROL EXCEEDS

OWNERSHIP, HIGH is significantly lower (at the 1 percent level), there are more firms with preferential dividends on low voting shares, and the VOTING PREMIUM three, two, and one year prior to the unification is significantly lower. The DIVIDEND DUMMY is capturing the "Germany effect" – there is high fraction of German firms in the event group (and German dual-class firms have been among the most active in switching to one share - one vote, see Panel B of Table 1). In Germany, the preferential dividend for low voting shares is set by law. Regarding the voting premium, one could argue that one year prior to the unification, the market expects the unification and therefore the voting premium goes down. Though it is difficult to argue that the market predicts the unification already three years prior to the event, therefore the significant difference in VOTING PREMIUM three years prior to unification should be a good proxy for private benefits of control associated with a particular controlling shareholder.

The relative liquidity between the two share classes is measured by two variables. RELATIVE TURNOVER is higher (not significant) in the event firms – the high voting shares have lower relative trading volumes than low voting shares compared to the matched control firms. RELATIVE TRADING DAYS is lower (significant at the 10 percent level) in the event firms two and three years prior to the unification – the difference between the number of days when high and low voting shares are trading is lower than in control firms. The results are inconclusive, the relative liquidity between high and low voting shares does not differ much in the event and the control group. The interpretation is that the simple fact that the high voting shares are traded significantly less frequently and in lower volumes than the low voting shares, and that in 37 percent of firms only one share class is traded is the reason for unification. The firms apparently hope to raise the trading volume to at least the level of low voting shares, and to raise the trading activity by having more shares listed on the market.

The comparison between the matching sample strongly corroborates the finding that the firms that issue new equity and make acquisitions are the ones that are more likely to decide to unify their shares (see Panel B of Table 6). The difference between the equity issue and acquisitions variables in year zero (the unification year) is statistically significant. 36 percent of event firms issued equity compared to only 19 percent of the

matched control firms, and average ACQUISITIONS/ SIZE was 0.23 in event firms compared to 0.11 in the matched control firms.

The results also show that INDUSTRY ADJUSTED MTB prior to the unification are consistently higher in event firms, but the difference is not significant. The event firms appear to pay lower cash dividends prior to the unification. Also cash flow is lower and the leverage higher (not significant). The only explanation for these results is the Kaplan and Zingales (1997) equity dependence story – the cash constraints raise the need for new equity capital and hence the likelihood of unification. Keeping growth opportunities constant, the event firms are the ones that are more dependent on equity capital. All the equity issue and acquisitions variables are consistently higher in the event group in all three years prior to the unification (though the difference is significant only at the 10 percent level in two cases), again suggesting higher equity capital dependence.

The probit model regressions using the panel data of the matched 202 firms (not reported) provide qualitatively similar findings to the ones presented before. In particular, the new equity issues and acquisitions in the year of unification, and high separation between votes and equity remain highly significant. This result means that keeping growth opportunities fixed, the firms that actually issue new equity, make acquisitions, and have lower value of control are more likely to unify their shares.

A rather novel methodology suggested for matching samples in financial studies is the propensity score algorithm. The algorithm has been proposed by Dehejia and Wahba (2002), and has been used in several recent studies (e.g. Villalonga, 2002, Hillion and Vermaelen, 2003). As a robustness check, I implement this method. The method involves the following steps:

1) *Estimating the propensity to unify.* The unification probability is modeled using the probit model on averages (cross-section): $P_i = PROB(D_i=1 \mid X_{i,})$, for $i=1,..N$. $X_i$ is a vector of characteristic observed for firm *i*. The characteristics are average SIZE, average INDUSTRY MTB, average LEVERAGE, CONTROL EXCEEDS OWNERSHIP, HIGH, FINANCIAL INVESTOR DUMMY, US CROSS-LISTING DUMMY, and COUNTRY. Averages are taken over years 1994-2001 for dual-class firms that did not unify, and over two years prior to the unification for firms that unified.

2) *Computing the propensity scores* for event and control group firms as the predicted values from the model of step 1.

3) *Matching each event firm to the control firm with the closest propensity score*. In this way, a sample of "nearest-match" control firms is created.

The idea of this specification is to test whether event firms issue more new equity and have more acquisitions once we control for all the other relevant characteristics – in particular, industry growth opportunities and proxies for private benefits. The beauty of the method is that it allows to reduce the dimensionality of the matching problem.

Table 7 reports the results. It remains the case that the firms that unified their shares are characterized by higher level of new equity issues and acquisitions.

## 5. Ex-post consequences of unification.

In this section two methods are used to estimate the possible consequences of the unification: a fixed-effects regression using dummy variables for the year of unification, and a comparison of variables between the event group and a matching control group. The discussion about changes of ownership after the unification is also presented here.

### *5.1. Fixed-effects.*

The consequences of unification are first estimated using fixed-effects regressions in which the effect of unification is captured by dummy variables for the year of the unification and the three subsequent years (as in Pagano et al., 1998):

$$y_{it}=a+UNI_t+UNI_{t-1}+UNI_{t-2}+UNI_{t-3}+u_i+d_t+e_{it},$$

where $y_{it}$ is the variable of interest in firm $i$ in year $t$, $u_i$ and $d_t$ are respectively a firm-specific and calendar year-specific effect, $UNI_{t-j}$ are dummy variables equal to one if year $t-j$ was the year of the unification. In this model, a firm before the unification is used as a control for itself after the unification. The different variables may obviously be affected not only by the unification decision but by some fundamental changes in the firm. To control for these fundamental effects, we include the most applicable control variables in the list of regressors. The estimates of other variables are not reported, but are discussed where appropriate.

Table 8 presents the results. The INDUSTRY ADJUSTED MTB increases significantly in the year of unification and the two consecutive years. The joint test shows that the sum of coefficients for the two years after the unification is significantly positive (at the 1 percent level). The result remains significant when we control for lagged sales growth and return on equity. The result holds also when we include only firms that issued equity in the same year as the unification. This finding provides evidence that firms actually reach their goal of increasing the share value by switching to one share - one vote system.

LEVERAGE decreases significantly in the first and second year after the unification. CAPEX increases in all years following the unification, but the effect is not significant. SALES GROWTH increases significantly following the unification. The joint test shows that the sum of coefficients for the two and three years after the unification is significantly positive (at the 5 percent level). The effect on operating performance is mixed – there is no change in ROA, while ROE slightly decreases (not significant). CASH FLOW/ ASSETS, CASH BALANCE/ ASSETS, and CASH DIVIDENDS/ ASSETS all increase after the unification, but the result is slightly significant only for cash dividends.

EQUITY ISSUE PROCEEDS/ EQUITY and ACQUISITIONS/ SIZE remain positive on the year of unification. The equity issues decrease in the year following the unification (not significant). It is not surprising since firms rarely issue new equity every year. If there has been an issue in the year of unification it is likely that the firm will not issue in the following year. The result suggests that if a firm has decided to issue new equity it tends to time it together with the unification to mask the negative signal of a SEO. Previous research has shown that the SEOs are followed by lower market valuations (Loughran and Ritter, 1995, Levis, 1995) and performance (Loughran and Ritter, 1997). The unification in turn creates a positive publicity that the firm is improving its corporate governance. INDUSTRY ADJUSTED MTB increases following the unification also in firms that issued equity in the year of unification suggesting that the positive signal of the unification is stronger than the negative signal of a SEO.

*5.2. Matching sample.*

Following the matching on industry, size and market-to-book introduced in Section 4.3, we compare the financial ratios in the event group and the matched control group one to three years after the unification. The results are presented in Panel B of Table 6.

The comparison of means between the event firms and the matched control firms corroborates the result of increased market valuation after the unification. INDUSTRY ADJUSTED MTB in the event firms is higher in all three years after the unification. The difference is the highest (significant at the 5 percent level) in the next year after the unification. Interestingly, the sign of the variable changes – average INDUSTRY ADJUSTED MTB becomes positive for event firms in the first and second year after the unification (in the third year it is slightly negative again), while it remains negative for the control firms. The result confirms that the firms succeed in their aim to increase the market value by unifying shares.

Operating performance (ROA and ROE) in the years following the unification tends to be lower in the event group, but the result is not significant. The results on CAPEX and SALES GROWTH are mixed and not significant. Interestingly, once we keep growth opportunities fixed, the firms that unified their shares are not growing faster and investing more than similar firms that kept dual-class structure. LEVERAGE is lower in the event group following the unification. We may observe that the difference arises because of increased leverage in the control group and slightly decreased leverage in the event group. Given the fact that the control firms are the closest matches by growth opportunities, it can be interpreted that the event firms have chosen to finance the growth with equity, while the control firms – with debt.

*5.3. Ownership changes.*

Table 9 summarizes the changes in ownership structure after the unification in 71 event firm (where the data was available). This summary attempts to shed some light on the hypotheses that the unification is more likely if the controlling shareholder is planning to sell her stake, i.e. is eager to increase the share price before the sell out.

Panel A of Table 9 shows that the controlling shareholder (before the unification) does not have a block of shares (10 percent of total stock) after the unification in 28 percent of cases (20 out of 71 firm). It is a weak support to the hypothesis that the controlling shareholder's willingness to sell out may be one of the reasons for unification. However, in most of the cases (66 percent) the controlling shareholder still keeps some control by holding at least 10 percent of total stock. Therefore, it is hard to argue that the controlling shareholder's willingness to sell out is one of the main drivers for the unification.

In Panel B of Table 9, we may observe that on average the controlling shareholder's voting power after the unification decreases from 39 to 23 percent, while the equity stake stays virtually the same (from 25 to 23 percent). The decrease in voting power is thus mainly the consequence of the unification (the alignment of control and ownership stakes) rather than from selling the shares.

The bottom line is that it is more plausible that the controlling shareholder is ready to accept the unification of shares because of the expected dilution of control arising from the planned new equity issues, and not because she is planning to sell her shares.

**6. Other evidence.**

An obvious question is what are the companies themselves saying about the unification: Why they do it? Table 10 presents a brief summary of statements made by several of the event companies. These statements have been extracted from *Lexis-Nexis* or company home-pages. Explicit statements about the reasons for unification were found in about one-fifth of the event companies. The most common reasons mentioned by company representatives are classified into eight groups. Four of the reasons – increase liquidity, increase share value, pay for acquisitions using stock, and support growth – have already been discussed, and were strongly supported by formal tests in the previous two sections. For two of the reasons – financial flexibility and take-over defense – there is not much to comment. The statement about augmenting financial flexibility seems too general. The unification as a defense for take-over was mentioned only in the case of Nokia, and is not a very standard one since in most of the companies the share structure

does not become dispersed after the unification (see Table 9). Here I would like to focus on the investor recognition argument.

The arguments for increasing investor recognition can be (subjectively) divided into "rational" and "behavioral" ones. The rational arguments, for example, (16) and (17), state that the dual-class shares may not be available to certain investor groups (in particular, investment funds) due to legal restrictions. In the U.S. certain investment funds are not allowed to invest in dual-class shares. This is clearly a rational argument for why the investor base is lower in the dual-class firms. The arguments summarized under the "behavioral" ones, (18) to (21), suggest that the company believes that the investor base is lower because the dual-class firms are not *familiar* to certain investor groups (mostly, foreign investors), that they "do not understand this division of shares". Statement (21) is very close to the idea that investors tend to invest in certain *categories* of shares (Barberis and Shleifer, 2003). In this case, the company believes that there is a disadvantage of being in the "Not Luxus category with two share classes". Statements (18) and (20) show that there are cases when the majority owner in fact keeps effective control after the unification. In these cases, it is hard to argue that the level of private benefit extraction would change, and that investors would immediately assign a higher valuation on the share. Again it may suggest that the company thinks that it may benefit from simply moving out of the dual-class firm category.

Statement (21) points towards the *competition for capital* story. When there are more single-class shares around, the dual-class firm may find it more difficult to attract investors. This argument is also supported by the fact that we observe much less unifications in Sweden where there are still many dual-class firms (see Table 2). The Swedish investors do not have choice between so many single-class firms; moreover, they are more familiar with such capital structures, hence invest in dual-class firms. As a result, Swedish dual-class firms may find it easier to raise capital without unification as they have less competition from the single-class issuers.

There are other arguments why there are significantly less unifications and higher incidence of dual-class firm takeovers in Sweden. This result may arise for the reasons mentioned in Holmen and Hogfeldt (2003), namely that in Sweden strong founding family control may be pivotal for the firm as it brings entrepreneurial knowledge, social

network, and the urge to keep prestige and social recognition for being a good 'father/mother of the firm'. Still this explanation is conditional on the fact that firm's market valuation is dictated by domestic investors (when the investor pool is predominantly Swedish). For a foreign investor, it is presumably harder to distinguish which family cares about prestige and which cares about monetary benefits from diverting profit.

## 7. Conclusions.

This paper argues that the unification of dual-class shares is carried out with an aim to increase the firm's share value. The data show that firms that unify their dual-class shares are more active in issuing new equity, make more acquisitions, and have higher industry growth opportunities – the firm characteristics that are associated with substantial gains from higher share value. The results hold after including various controls and they are robust to different methodologies. Further, the ex post analysis of the unification show that the firms reach their goal. The average market-to-book ratios that are constantly lower in dual-class firms jump to the average level of single-class firms in the same industry right after the unification.

An important precondition for the unification to happen is approval by the controlling shareholders. I find that higher value of control rights significantly reduces the probability of unification. In particular, the event firms have weaker separation between voting rights and cash flow rights, lower voting premium on high voting shares, stronger presence of a large financial investor, higher frequency of preferential dividends on low voting shares, and higher frequency of cross-listing in the U.S.

A survey of press releases and newspaper articles shows that many firms find it important to appeal to certain investor groups (particularly, foreign investors and investment funds), and perceive the unification as a tool to boost investor recognition. By timing the unification with a seasoned offering, the firms also seem to exploit the marketing benefits of greater media attention. The positive publicity related to the switch to one share - one vote arguably is a good advertisement that raises investor recognition.

The findings of this paper have some implications for policymakers. In particular, they add insight to the popular debate over whether dual shares structures are desirable.

This paper advocates that there exists a dual-class "equilibrium" with the controlling shareholders enjoying the control benefits and the minority shareholders paying a fair price taking into account that some profits can be diverted. The evidence from Denmark and Sweden shows that takeovers of dual-class firms are quite common, hence the typical argument that dual-class shares are used as a takeover defense is not very strong. Consistent with Amoako-Adu and Smith (2001), I argue that the dual-class shares are temporary structures until the point when the firm needs new equity capital for further expansion and growth. For some firms it may take few years, for others it may never happen. The results show that, comparing the dual-class firms with ex ante high growth opportunities, there is no difference in ex post sales growth and capital expenditure between firms that unified shares and those that stayed dual-class. There is a difference in how the two groups finance growth. The ones that unify are more equity capital dependent, and find it optimal to boost the stock price. The ones that stay dual-class finance growth with retained earnings or debt, and do not worry that the share price is lower than that of single-class firms in the industry. In sum, the paper suggests that all dual-class firms should *not* be forced by law to switch to one share - one vote. The firms that need to approach equity markets for capital will sooner or later be forced by the market to unify their shares.

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Table 1.

## Sample Characteristics

Panel A describes the procedure of constructing the main sample of 493 companies used in this paper. In Panel B, sample construction is subdivided by country. Panel C shows the distribution of number of companies that switched from dual-class to single-class shares in the period from 1996 to 2002, by years and countries.

**Panel A: Sample Construction**

| | | |
|---|---|---|
| **601** | 100% | Dual class firms (excluding banks and credit institutions, SIC2 60 and 61) available in Moody's/ Mergent manuals (1996-2002). The firms were listed on the stock exchange at the end of 1995. |
| - 63 | 10% | Merged or taken over during 1996-2002. |
| - 22 | 4% | Delisted by stock exchange order or voluntarily (because of too little free float) during 1996-2002. |
| - 7 | 1% | Delisted, not clear why. |
| - 8 | 1% | Not traceable. |
| - 8 | 1% | Data not available in *Worldscope*. |
| **493** | 82% | Main sample. The firms that were still listed on the stock exchange at the end of 2002. |
| out of which: | | |
| 108 | 18% | Firms that unified their shares in 1996-2002 (event group). |
| 385 | 64% | Firms that stayed dual-class throughout 1996-2002 (control group). |

**Panel B: Sample Construction by Country**

| | Event | Control | Merged or T/O | Delisted | Other | Total |
|---|---|---|---|---|---|---|
| Denmark | 10 | 55 | 14 | 6 | 3 | 88 |
| Finland | 6 | 30 | 4 | 1 | 1 | 42 |
| Germany | 41 | 88 | 9 | 2 | 1 | 141 |
| Italy | 12 | 45 | 3 | 8 | 1 | 69 |
| Norway | 6 | 9 | 2 | 3 | | 20 |
| Sweden | 7 | 99 | 25 | 3 | 2 | 136 |
| Switzerland | 26 | 59 | 6 | 6 | 8 | 105 |
| Total | 108 | 385 | 63 | 29 | 16 | 601 |

**Panel C: Unifications by Country and Year**

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | Total |
|---|---|---|---|---|---|---|---|---|
| Denmark | | 1 | 1 | 1 | 1 | 2 | 4 | 10 |
| Finland | | 1 | 1 | 3 | | 1 | | 6 |
| Germany | 6 | 1 | 7 | 7 | 9 | 8 | 3 | 41 |
| Italy | | 1 | 1 | 2 | 3 | 2 | 3 | 12 |
| Norway | | | | 1 | 1 | 4 | | 6 |
| Sweden | | | 1 | | 3 | 2 | 1 | 7 |
| Switzerland | 2 | 3 | 6 | 3 | 6 | 4 | 2 | 26 |
| Total | 8 | 7 | 17 | 17 | 23 | 23 | 13 | 108 |

Table 2.

**Fraction of Dual-class Firms, 1995 vs. 2001**

The table shows the number of total firms (excluding banks and credit institutions, SIC2 60 and 61) and firms with dual-class shares available in *Moody's/ Mergent International Companies* 1996 (for end of 1995 data) and 2002 (for end of 2001 data) Manuals.

| | Total firms, end 1995 | Dual firms, end 1995 | Fraction of dual firms, end 1995 | Total firms, end 2001 | Dual firms, end 2001 | Fraction of dual firms, end 2001 | Percentage change in fraction (2001 vs. 1995) |
|---|---|---|---|---|---|---|---|
| Denmark | 124 | 74 | *59.7%* | 123 | 45 | *36.6%* | -39% |
| Finland | 66 | 30 | *45.5%* | 92 | 22 | *23.9%* | -47% |
| Germany | 345 | 84 | *24.3%* | 740 | 85 | *11.5%* | -53% |
| Italy | 156 | 64 | *41.0%* | 81 | 28 | *34.6%* | -16% |
| Norway | 71 | 17 | *23.9%* | 121 | 9 | *7.4%* | -69% |
| Sweden | 142 | 87 | *61.3%* | 203 | 94 | *46.3%* | -24% |
| Switzerland | 197 | 92 | *46.7%* | 235 | 62 | *26.4%* | -44% |
| Total | 1101 | 452 | *41.1%* | 1595 | 345 | *21.6%* | -47% |

Table 3.

## Summary Statistics

In Panel A, the summary statistics refer to the firm-years of the whole sample of 493 companies, in Panel B – to the firm-years of companies that unified their shares in 1996-2002, and in Panel C – to the firm-years of companies that stayed dual-class throughout 1996-2002. T-Statistics and (two-sided) significance levels of testing the equality of means between the event group and the control group are presented. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. Appendix B provides definitions for the variables.

| Variable | Mean | Median | Std. Dev. | Min | Max | Obs. | t-Statistic | Sig. |
|---|---|---|---|---|---|---|---|---|
| Panel A: The Whole Sample | | | | | | | | |
| Industry MTB | 2.93 | 2.80 | 1.33 | 0.74 | 13.86 | 3438 | | |
| MTB | 2.43 | 1.53 | 2.91 | 0.27 | 28.26 | 3020 | | |
| Industry adjusted MTB | -0.57 | -0.98 | 2.76 | -12.49 | 25.10 | 3007 | | |
| Size | 5.50 | 5.54 | 0.95 | 0.48 | 7.96 | 3145 | | |
| ROA | 0.05 | 0.05 | 0.10 | -0.61 | 0.50 | 3070 | | |
| ROE | 0.09 | 0.10 | 0.28 | -1.93 | 1.87 | 3039 | | |
| Leverage | 0.25 | 0.24 | 0.18 | 0.00 | 0.82 | 3146 | | |
| CAPEX | 0.33 | 0.19 | 0.54 | 0.00 | 4.39 | 2964 | | |
| Cash flow/ Assets | 0.07 | 0.07 | 0.09 | -0.59 | 0.39 | 2686 | | |
| Cash balance/ Assets | 0.12 | 0.08 | 0.13 | 0.00 | 0.84 | 3149 | | |
| Cash dividends/ Assets | 0.02 | 0.01 | 0.02 | 0.00 | 0.20 | 3078 | | |
| Sales growth | 0.10 | 0.06 | 0.28 | -0.50 | 1.32 | 3065 | | |
| Voting premium | 0.16 | 0.05 | 0.33 | -0.88 | 1.60 | 1186 | | |
| Relative turnover | 6.41 | 2.28 | 13.53 | 0.03 | 130.45 | 1012 | | |
| Relative trading days | 2.43 | 1.00 | 6.16 | 0.05 | 72.00 | 1027 | | |
| Equity issue dummy | 0.23 | 0.00 | 0.42 | 0.00 | 1.00 | 2554 | | |
| Equity issue (adjusted) dummy | 0.17 | 0.00 | 0.37 | 0.00 | 1.00 | 3451 | | |
| Equity issue proceeds/ Equity | 0.06 | 0.00 | 0.25 | 0.00 | 1.84 | 2535 | | |
| Acquisitions/ Size | 0.11 | 0.00 | 0.21 | 0.00 | 1.10 | 3145 | | |
| US cross-listing dummy | 0.11 | 0.00 | 0.31 | 0.00 | 1.00 | 493 | | |
| Both shares listed dummy | 0.60 | 1.00 | 0.49 | 0.00 | 1.00 | 467 | | |
| Dividend dummy | 0.42 | 0.00 | 0.48 | 0.00 | 1.00 | 354 | | |
| Control | 0.42 | 0.40 | 0.24 | 0.00 | 1.00 | 378 | | |
| Ownership | 0.28 | 0.24 | 0.22 | 0.00 | 1.00 | 364 | | |
| Control minus Ownership | 0.13 | 0.09 | 0.14 | -0.40 | 0.67 | 363 | | |
| Control exceeds Ownership, high | 0.39 | 0.00 | 0.49 | 0.00 | 1.00 | 363 | | |
| Family owner dummy | 0.41 | 0.00 | 0.49 | 0.00 | 1.00 | 379 | | |
| Financial investor dummy | 0.11 | 0.00 | 0.31 | 0.00 | 1.00 | 379 | | |
| Multiple blockholder dummy | 0.42 | 0.00 | 0.49 | 0.00 | 1.00 | 363 | | |
| Panel B: Event group | | | | | | | | |
| Industry MTB | 3.03 | 2.83 | 1.35 | 0.74 | 9.76 | 744 | 2.400 | ** |
| MTB | 2.97 | 1.87 | 3.43 | 0.33 | 28.26 | 680 | 5.524 | *** |
| Industry adjusted MTB | -0.25 | -0.82 | 2.99 | -8.31 | 23.82 | 668 | 3.408 | *** |
| Size | 5.63 | 5.70 | 0.92 | 2.29 | 7.50 | 700 | 3.899 | *** |
| ROA | 0.05 | 0.05 | 0.10 | -0.61 | 0.50 | 688 | 1.159 | |
| ROE | 0.09 | 0.12 | 0.33 | -1.93 | 1.87 | 680 | 0.403 | |
| Leverage | 0.25 | 0.24 | 0.18 | 0.00 | 0.82 | 701 | 0.107 | |
| CAPEX | 0.34 | 0.20 | 0.54 | 0.00 | 4.39 | 668 | 0.567 | |
| Cash flow/ Assets | 0.07 | 0.07 | 0.09 | -0.38 | 0.39 | 615 | 1.669 | * |
| Cash balance/ Assets | 0.13 | 0.08 | 0.13 | 0.00 | 0.84 | 701 | 0.208 | |
| Cash dividends/ Assets | 0.02 | 0.01 | 0.02 | 0.00 | 0.17 | 685 | 0.402 | |
| Sales growth | 0.12 | 0.07 | 0.30 | -0.50 | 1.32 | 687 | 1.321 | |

Table 3—Continued

| Variable | Mean | Median | Std. Dev. | Min | Max | Obs. | t-Statistic | Sig. |
|---|---|---|---|---|---|---|---|---|
| Panel B: Event group | | | | | | | | |
| Voting premium | 0.14 | 0.07 | 0.29 | -0.63 | 1.49 | 207 | -0.821 | |
| Relative turnover | 8.06 | 1.72 | 20.34 | 0.03 | 130.45 | 156 | 1.664 | * |
| Relative trading days | 1.29 | 1.00 | 1.07 | 0.06 | 7.65 | 156 | -2.511 | ** |
| Equity issue dummy | 0.29 | 0.00 | 0.45 | 0.00 | 1.00 | 593 | 4.447 | *** |
| Equity issue (adjusted) dummy | 0.23 | 0.00 | 0.42 | 0.00 | 1.00 | 756 | 5.214 | *** |
| Equity issue proceeds/ Equity | 0.10 | 0.00 | 0.33 | 0.00 | 1.84 | 588 | 3.986 | *** |
| Acquisitions/ Size | 0.14 | 0.00 | 0.24 | 0.00 | 1.10 | 700 | 4.181 | *** |
| US cross-listing dummy | 0.18 | 0.00 | 0.38 | 0.00 | 1.00 | 108 | 2.712 | *** |
| Both shares listed dummy | 0.65 | 1.00 | 0.48 | 0.00 | 1.00 | 106 | 1.227 | |
| Dividend dummy | 0.52 | 0.50 | 0.47 | 0.00 | 1.00 | 94 | 2.334 | ** |
| Control | 0.40 | 0.36 | 0.23 | 0.06 | 0.99 | 97 | -0.860 | |
| Ownership | 0.26 | 0.22 | 0.19 | 0.00 | 0.93 | 83 | -1.066 | |
| Control minus Ownership | 0.12 | 0.09 | 0.12 | 0.00 | 0.48 | 82 | -0.917 | |
| Control exceeds Ownership, high | 0.29 | 0.00 | 0.46 | 0.00 | 1.00 | 82 | -1.971 | ** |
| Family owner dummy | 0.39 | 0.00 | 0.49 | 0.00 | 1.00 | 98 | -0.617 | |
| Financial investor dummy | 0.19 | 0.00 | 0.40 | 0.00 | 1.00 | 98 | 3.207 | *** |
| Multiple blockholder dummy | 0.39 | 0.00 | 0.49 | 0.00 | 1.00 | 83 | -0.639 | |
| Panel C: Control group | | | | | | | | |
| Industry MTB | 2.90 | 2.79 | 1.33 | 0.75 | 13.86 | 2694 | | |
| MTB | 2.27 | 1.44 | 2.73 | 0.27 | 28.26 | 2340 | | |
| Industry adjusted MTB | -0.67 | -1.04 | 2.69 | -12.49 | 25.10 | 2339 | | |
| Size | 5.47 | 5.49 | 0.96 | 0.48 | 7.96 | 2445 | | |
| ROA | 0.05 | 0.05 | 0.10 | -0.61 | 0.50 | 2382 | | |
| ROE | 0.09 | 0.10 | 0.27 | -1.93 | 1.87 | 2359 | | |
| Leverage | 0.25 | 0.24 | 0.18 | 0.00 | 0.82 | 2445 | | |
| CAPEX | 0.33 | 0.19 | 0.54 | 0.00 | 4.39 | 2296 | | |
| Cash flow/ Assets | 0.06 | 0.07 | 0.09 | -0.59 | 0.39 | 2071 | | |
| Cash balance/ Assets | 0.12 | 0.08 | 0.13 | 0.00 | 0.84 | 2448 | | |
| Cash dividends/ Assets | 0.02 | 0.01 | 0.02 | 0.00 | 0.20 | 2393 | | |
| Sales growth | 0.10 | 0.06 | 0.27 | -0.50 | 1.32 | 2378 | | |
| Voting premium | 0.16 | 0.04 | 0.34 | -0.88 | 1.60 | 979 | | |
| Relative turnover | 6.10 | 2.33 | 11.87 | 0.03 | 130.45 | 856 | | |
| Relative trading days | 2.63 | 1.01 | 6.65 | 0.05 | 72.00 | 871 | | |
| Equity issue dummy | 0.20 | 0.00 | 0.40 | 0.00 | 1.00 | 1961 | | |
| Equity issue (adjusted) dummy | 0.15 | 0.00 | 0.36 | 0.00 | 1.00 | 2695 | | |
| Equity issue proceeds/ Equity | 0.05 | 0.00 | 0.22 | 0.00 | 1.84 | 1947 | | |
| Acquisitions/ Size | 0.10 | 0.00 | 0.20 | 0.00 | 1.10 | 2445 | | |
| US cross-listing dummy | 0.09 | 0.00 | 0.28 | 0.00 | 1.00 | 385 | | |
| Both shares listed dummy | 0.58 | 1.00 | 0.49 | 0.00 | 1.00 | 361 | | |
| Dividend dummy | 0.38 | 0.00 | 0.48 | 0.00 | 1.00 | 260 | | |
| Control | 0.43 | 0.41 | 0.24 | 0.00 | 1.00 | 281 | | |
| Ownership | 0.29 | 0.25 | 0.23 | 0.00 | 1.00 | 281 | | |
| Control minus Ownership | 0.14 | 0.10 | 0.15 | -0.40 | 0.67 | 281 | | |
| Control exceeds Ownership, high | 0.41 | 0.00 | 0.49 | 0.00 | 1.00 | 281 | | |
| Family owner dummy | 0.42 | 0.00 | 0.49 | 0.00 | 1.00 | 281 | | |
| Financial investor dummy | 0.08 | 0.00 | 0.27 | 0.00 | 1.00 | 281 | | |
| Multiple blockholder dummy | 0.43 | 0.00 | 0.50 | 0.00 | 1.00 | 280 | | |

Table 4.

**Ex-ante Determinants of the Unification (pooled probit)**

The effect of the variables listed on the probability to unify dual-class shares is estimated by a pooled probit model:

$$Prob(\text{Unify}_{it}=1) = F(X_{it}a)$$

where $\text{Unify}_{it}$ is a variable that equals 1 if company *i* switched to a single-class share system in year *t* and 0 if it remained dual-class in this year (a firm is dropped from the sample after it unifies the shares), $F(.)$ is the cumulative distribution function of a standard normal variable, $a$ is a vector of coefficients, and $X_{it}$ is a vector of explanatory variables (listed in the first column) observed for firm *i* in year *t*. The estimation method is maximum likelihood. EQUITY ISSUE DUMMY, EQUITY ISSUE PROCEEDS/ EQUITY, and ACQUISITIONS/ SIZE are contemporaneous. SIZE, and INDUSTRY MTB are lagged one year. CONTROL EXCEEDS OWNERSHIP, HIGH, FINANCIAL INVESTOR DUMMY, and US CROSS-LISTING DUMMY are fixed over years (ownership data for control firms is from 1996-1999, and for event firms – one or few years before unification). Detailed definitions for the variables are provided in Appendix B. The regressions also include a constant term, year dummies, and country dummies (not reported). Robust standard errors are in parentheses. The errors are also corrected for clustering at the firm level: independence of errors between clusters (firms) is assumed, but the independence assumption is relaxed for within-cluster (firm) errors. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

| Variable | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Equity issue dummy | 0.411*** | | | 0.404*** | 0.613** |
| | (0.135) | | | (0.135) | (0.324) |
| Equity issue proceeds/ Equity | | 0.545*** | | | |
| | | (0.188) | | | |
| Acquisitions/ Size | | | 0.543** | 0.495** | |
| | | | (0.233) | (0.252) | |
| Equity issue dummy * Industry MTB | | | | | -0.061 |
| | | | | | (0.087) |
| Size | -0.098 | -0.066 | -0.063 | -0.140* | -0.099 |
| | (0.077) | (0.075) | (0.064) | (0.077) | (0.077) |
| Industry MTB | 0.079* | 0.073 | 0.051 | 0.066 | 0.105* |
| | (0.046) | (0.046) | (0.039) | (0.046) | (0.058) |
| Control exceeds Ownership, high | -0.292** | -0.284** | -0.292** | -0.308** | -0.288** |
| | (0.133) | (0.132) | (0.125) | (0.135) | (0.133) |
| Financial investor dummy | 0.324* | 0.370** | 0.340** | 0.321* | 0.328** |
| | (0.171) | (0.172) | (0.163) | (0.173) | (0.171) |
| US cross-listing dummy | 0.365** | 0.421** | 0.355** | 0.328* | 0.373** |
| | (0.174) | (0.169) | (0.170) | (0.179) | (0.173) |
| No. of observations | 1805 | 1805 | 2123 | 1803 | 1805 |
| Pseudo-$R^2$ | 0.117 | 0.113 | 0.097 | 0.124 | 0.118 |

Table 5.

## Ex-ante Determinants of the Unification (averages)

The effect of the variables listed on the probability to unify dual-class shares is estimated by a probit model:

$$Prob(\text{Unify}_i=1) = F(X_i a)$$

where $\text{Unify}_i$ is a variable that equals 1 if company $i$ switched to a single-class share system in period 1996-2002 and 0 if it remained dual-class in this period, $F(.)$ is the cumulative distribution function of a standard normal variable, $a$ is a vector of coefficients, and $X_i$ is a vector of explanatory variables (listed in the first column) observed for firm $i$. The estimation method is maximum likelihood. In this specification, the focus is on cross-sectional variation between the main sample of firms. AT LEAST ONE EQUITY ISSUE, DUMMY is a dummy variable that takes a value of 1 if the firm has had at least one new equity issue in period 1996-2002. EQUITY ISSUE (ADJUSTED) DUMMY, EQUITY ISSUE PROCEEDS/ EQUITY, and ACQUISITIONS/ SIZE are averaged over 1996-2002. SIZE and INDUSTRY MTB are averaged over 1994 to 2001 for control group, and over two years prior to the unification for the event group. Detailed definitions for the variables are provided in Appendix B. The regressions also include a constant term, and country dummies (not reported). Robust standard errors are in parentheses *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

| Variable | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| At least one equity issue, dummy | 0.679*** | | | | |
| | (0.175) | | | | |
| Equity issue (adjusted) dummy (average) | | 0.950*** | | | 0.913*** |
| | | (0.322) | | | (0.322) |
| Equity issue proceeds/ Equity (average) | | | 0.527* | | |
| | | | (0.297) | | |
| Acquisitions/ Size (average) | | | | 0.849* | 0.660 |
| | | | | (0.562) | (0.570) |
| Size (average) | -0.026 | -0.001 | 0.035 | 0.006 | -0.037 |
| | (0.096) | (0.098) | (0.106) | (0.103) | (0.104) |
| Industry MTB (average) | 0.293*** | 0.269*** | 0.271*** | 0.262*** | 0.261*** |
| | (0.082) | (0.080) | (0.084) | (0.080) | (0.070) |
| Control exceeds Ownership, high | -0.527*** | -0.525*** | -0.527*** | -0.517*** | -0.529*** |
| | (0.185) | (0.181) | (0.186) | (0.181) | (0.182) |
| Financial investor dummy | 0.391 | 0.455* | 0.556** | 0.492** | 0.466* |
| | (0.244) | (0.249) | (0.258) | (0.247) | (0.247) |
| US cross-listing dummy | 0.346 | 0.292 | 0.452* | 0.365 | 0.241 |
| | (0.247) | (0.256) | (0.249) | (0.251) | (0.258) |
| No. of observations | 357 | 357 | 337 | 357 | 357 |
| Pseudo-$R^2$ | 0.172 | 0.154 | 0.151 | 0.138 | 0.157 |

Table 6.

## Comparison of Variables: Event firms vs. Matching Control firms

The table reports mean ratios for 101 event firms that unified their shares in 1996-2002. Matching control firms are chosen by matching each event firm with a dual-class firm using the following algorithm. All 493 event and control firms are divided into 108 groups—12 industry groups (as defined by Campbell, 1996) times 3 size categories times 3 market-to-book (MTB) categories. Size and MTB categories are *High* (75th percentile and upward), *Medium* (25th to 75th percentile), and *Low* (25th percentile and downward). If there are more than one dual-class firm in the same group, the firm with the closest MTB is chosen. If there is no matching firms in the same group (there are 3 such cases), the firm from the same industry with the closest MTB ratio from the next closest size category is taken. T-Statistics and (two-sided) significance levels of testing the equality of means between the event group and the matched control group are presented. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. Appendix B provides definitions for the variables.

Panel A: Ex-ante effects

| | Event group means | | | Control group means | | | T-Statistic | | |
|---|---|---|---|---|---|---|---|---|---|
| Year relative to unification | -3 | -2 | -1 | -3 | -2 | -1 | -3 | -2 | -1 |
| Industry MTB | 3.17 | 3.43 | 3.34 | 3.19 | 3.28 | 3.21 | -0.11 | 0.76 | 0.63 |
| MTB | 2.80 | 3.11 | 3.03 | 2.45 | 2.54 | 2.41 | 0.97 | 1.39 | 1.41 |
| Industry adjusted MTB | -0.49 | -0.43 | -0.56 | -0.77 | -0.76 | -0.80 | 0.80 | 0.89 | 0.63 |
| Size | 5.58 | 5.58 | 5.62 | 5.56 | 5.48 | 5.47 | 0.13 | 0.78 | 1.17 |
| ROA | 0.05 | 0.06 | 0.07 | 0.06 | 0.07 | 0.06 | -1.30 | -0.82 | 0.62 |
| ROE | 0.10 | 0.09 | 0.13 | 0.13 | 0.14 | 0.14 | -0.79 | -1.13 | -0.21 |
| Leverage | 0.27 | 0.26 | 0.25 | 0.27 | 0.25 | 0.24 | 0.22 | 0.50 | 0.52 |
| CAPEX | 0.32 | 0.35 | 0.31 | 0.34 | 0.34 | 0.30 | -0.17 | 0.13 | 0.05 |
| Cash flow/ Assets | 0.07 | 0.07 | 0.07 | 0.07 | 0.08 | 0.07 | -0.56 | -0.99 | -0.26 |
| Cash balance/ Assets | 0.11 | 0.12 | 0.13 | 0.11 | 0.12 | 0.11 | 0.08 | -0.29 | 1.34 |
| Cash dividends/ Assets | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | -2.35** | -1.53 | -1.93* |
| Sales growth | 0.10 | 0.10 | 0.11 | 0.14 | 0.12 | 0.11 | -0.88 | -0.50 | -0.09 |
| Voting premium | 0.06 | 0.06 | 0.04 | 0.17 | 0.16 | 0.19 | -1.86* | -1.75* | -2.68*** |
| Relative turnover | 7.34 | 9.99 | 8.16 | 5.31 | 3.99 | 4.91 | 0.55 | 1.28 | 0.93 |
| Relative trading days | 1.22 | 1.23 | 1.27 | 2.19 | 1.79 | 1.50 | -1.88* | -1.84* | -0.91 |
| Equity issue dummy | 0.30 | 0.28 | 0.30 | 0.25 | 0.27 | 0.21 | 0.60 | 0.15 | 1.40 |
| Equity issue (adjusted) dummy | 0.21 | 0.22 | 0.26 | 0.17 | 0.22 | 0.18 | 0.72 | 0.00 | 1.36 |
| Equity issue proceeds/ Equity | 0.09 | 0.09 | 0.16 | 0.05 | 0.04 | 0.06 | 0.77 | 1.34 | 1.72* |
| Acquisitions/ Size | 0.14 | 0.11 | 0.13 | 0.07 | 0.09 | 0.11 | 1.82* | 0.50 | 0.64 |
| | | Mean | Obs. | | Mean | Obs. | | T-Statistic | |
| US cross-listing dummy | | 0.18 | *101* | | 0.12 | *101* | | 1.19 | |
| Both shares listed dummy | | 0.63 | *100* | | 0.65 | *99* | | -0.24 | |
| Dividend dummy | | 0.53 | *88* | | 0.31 | *78* | | 3.02*** | |
| Control | | 0.40 | *91* | | 0.36 | *79* | | 1.08 | |
| Ownership | | 0.26 | *78* | | 0.22 | *79* | | 1.31 | |
| Control minus Ownership | | 0.12 | *77* | | 0.14 | *79* | | -1.18 | |
| Control exceeds Ownership, high | | 0.29 | *77* | | 0.52 | *79* | | -3.04*** | |
| Family owner dummy | | 0.39 | *92* | | 0.41 | *79* | | -0.18 | |
| Financial investor dummy | | 0.17 | *92* | | 0.18 | *79* | | -0.06 | |
| Multiple blockholder dummy | | 0.38 | *78* | | 0.51 | *79* | | -1.54 | |

Panel B: Ex-post effects

| | Event group means | | | | Control group means | | | | T-Statistic | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year relative to unification | 0 | +1 | +2 | +3 | 0 | +1 | +2 | +3 | 0 | +1 | +2 | +3 |
| Industry MTB | 3.00 | 2.76 | 2.69 | 2.83 | 3.00 | 2.95 | 2.76 | 2.67 | 0.01 | -0.80 | -0.36 | 0.53 |
| MTB | 3.08 | 3.40 | 2.86 | 2.77 | 2.58 | 2.40 | 2.29 | 1.88 | 0.89 | 1.67* | 1.21 | 2.06** |
| Industry adjusted MTB | -0.04 | 0.42 | 0.05 | -0.07 | -0.45 | -0.64 | -0.61 | -0.79 | 0.79 | 2.01** | 1.35 | 1.48 |
| Size | 5.64 | 5.62 | 5.62 | 5.64 | 5.50 | 5.43 | 5.49 | 5.60 | 1.09 | 1.34 | 0.83 | 0.23 |
| ROA | 0.06 | 0.04 | 0.05 | 0.05 | 0.06 | 0.05 | 0.06 | 0.06 | -0.41 | -0.34 | -0.42 | -0.29 |
| ROE | 0.09 | 0.06 | 0.09 | 0.11 | 0.11 | 0.09 | 0.10 | 0.11 | -0.52 | -0.54 | -0.22 | -0.07 |
| Leverage | 0.26 | 0.24 | 0.24 | 0.23 | 0.25 | 0.29 | 0.29 | 0.28 | 0.17 | -1.78* | -1.73* | -1.11 |
| CAPEX | 0.32 | 0.30 | 0.36 | 0.24 | 0.29 | 0.24 | 0.33 | 0.27 | 0.47 | 0.97 | 0.25 | -0.37 |
| Cash flow/ Assets | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.07 | 0.06 | 0.08 | -0.09 | 0.36 | 0.68 | -0.70 |
| Cash balance/ Assets | 0.13 | 0.14 | 0.14 | 0.13 | 0.11 | 0.12 | 0.11 | 0.10 | 1.55 | 0.77 | 1.35 | 1.05 |
| Cash dividends/ Assets | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | -1.38 | -0.65 | 0.57 | 0.55 |
| Sales growth | 0.09 | 0.11 | 0.14 | 0.11 | 0.08 | 0.09 | 0.15 | 0.18 | 0.37 | 0.51 | -0.15 | -1.00 |
| Equity issue dummy | 0.36 | 0.24 | 0.23 | 0.26 | 0.19 | 0.13 | 0.18 | 0.24 | 2.66*** | 1.74* | 0.62 | 0.20 |
| Equity issue (adjusted) dummy | 0.32 | 0.19 | 0.18 | 0.22 | 0.16 | 0.11 | 0.15 | 0.20 | 2.68*** | 1.46 | 0.46 | 0.26 |
| Equity issue proceeds/ Equity | 0.15 | 0.05 | 0.13 | 0.01 | 0.06 | 0.06 | 0.08 | 0.01 | 2.04** | -0.14 | 0.70 | -0.69 |
| Acquisitions/ Size | 0.23 | 0.25 | 0.17 | 0.15 | 0.11 | 0.12 | 0.14 | 0.14 | 1.53 | 1.21 | 0.57 | 0.13 |

Table 7.

**Equity Issuance and Acquisitions: Event firms vs. Matching Control firms (Matched on Propensity Score)**

The table reports mean and median ratios for 76 event firms that unified their shares in 1996-2002. Matching control firms are chosen by matching each event firm with a dual-class firm using the propensity score algorithm. 1) Estimate the propensity to unify $P_i$, using the probit function $P_i = PROB(D_i=1/ X_i)$, for $i=1,..N$. $X_i$ is a vector of characteristic observed for firm $i$. The characteristics are average SIZE, average INDUSTRY MTB, average LEVERAGE, CONTROL EXCEEDS OWNERSHIP, HIGH, FINANCIAL INVESTOR DUMMY, US CROSS-LISTING DUMMY, and COUNTRY dummy. Averages are taken over years 1994-2001 for dual-class firms that did not unify, and over two years prior to unification for firms that unified. 2) Match each event firm to the dual-class firm with the closest propensity score to form a sample of nearest-match control firms. Column 3 presents t-Statistics and (two-sided) significance levels of testing the equality of means between the event group and the matched control group. Last column presents z-Statistics testing the equality of distributions between the event firms and the "nearest-match" control firms using the Wilcoxon matched-pairs signed-rank test. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. Appendix B provides definitions for the variables.

| | Event mean | "Nearest-match" control mean | t-Statistic | Event median | "Nearest-match" control median | z-Statistic |
|---|---|---|---|---|---|---|
| Acquisitions/ Size (average) | 0.177 | 0.081 | 2.193** | 0.098 | 0.072 | 2.307** |
| Equity issue proceeds/ Equity (average) | 0.130 | 0.056 | 2.376** | 0.012 | 0.000 | 2.882*** |
| Equity issue (adjusted) dummy (average) | 0.263 | 0.197 | 1.469 | 0.286 | 0.000 | 1.961* |

Table 8.

## Ex-post Effects of Unification

For each of the variables listed the following specification is estimated:

$$y_{it}=a+UNI_t+UNI_{t-1}+UNI_{t-2}+UNI_{t-3}+u_i+d_t+e_{it},$$

where $u_i$ and $d_t$ are respectively a firm-specific and calendar year-specific effect, $UNI_{t-j}$ are dummy variables equal to one if year $t-j$ was the year of the unification. By using a fixed effect model each company before the unification is used as a control for itself after the unification. The table only reports the coefficients on the unification and post-unification dummy variables. Standard errors are reported in the parentheses. The second to last column reports the *p*-value of the hypothesis that the sum of the coefficients of Year+1 and Year+2 dummies are equal to zero. The last column reports the *p*-value of the hypothesis that the sum of the coefficients of all the three post-unification dummies is equal to zero. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels. Appendix B provides definitions for the variables.

| | Year 0 | Year +1 | Year +2 | Year +3 | F-test (2 years) | F-test (3 years) |
|---|---|---|---|---|---|---|
| MTB | 0.252 | 0.034 | -0.146 | -0.420 | 0.807 | 0.776 |
| | (0.335) | (0.359) | (0.399) | (0.423) | | |
| Industry adjusted MTB | 0.632** | 0.843** | 0.473 | -0.328 | 0.031 | 0.258 |
| | (0.318) | (0.340) | (0.379) | (0.402) | | |
| Size | 0.015 | 0.028 | -0.016 | 0.031 | 0.977 | 0.909 |
| | (0.026) | (0.028) | (0.032) | (0.033) | | |
| ROA | 0.010 | -0.006 | 0.005 | -0.010 | 0.901 | 0.669 |
| | (0.014) | (0.015) | (0.017) | (0.018) | | |
| ROE | -0.010 | -0.049 | -0.024 | -0.008 | 0.295 | 0.513 |
| | (0.038) | (0.039) | (0.044) | (0.046) | | |
| Leverage | 0.000 | -0.031** | -0.034** | 0.011 | 0.009 | 0.033 |
| | (0.013) | (0.014) | (0.015) | (0.016) | | |
| CAPEX | 0.053 | 0.019 | 0.115 | 0.000 | 0.265 | 0.438 |
| | (0.062) | (0.067) | (0.074) | (0.079) | | |
| Cash flow/ Assets | 0.001 | 0.008 | 0.006 | 0.002 | 0.472 | 0.566 |
| | (0.011) | (0.011) | (0.013) | (0.013) | | |
| Cash balance/ Assets | 0.009 | 0.011 | 0.003 | -0.005 | 0.485 | 0.742 |
| | (0.010) | (0.011) | (0.012) | (0.013) | | |
| Cash dividends/ Assets | -0.004 | 0.003 | 0.006* | 0.001 | 0.108 | 0.182 |
| | (0.003) | (0.003) | (0.003) | (0.003) | | |
| Sales growth | 0.046 | 0.082* | 0.079 | 0.085* | 0.040 | 0.027 |
| | (0.041) | (0.044) | (0.050) | (0.052) | | |
| Equity issue proceeds/ Equity | 0.017 | -0.067 | 0.035 | -0.095 | 0.619 | 0.211 |
| | (0.039) | (0.042) | (0.046) | (0.048) | | |
| Acquisitions/ Size | 0.069** | 0.043 | 0.026 | -0.003 | 0.212 | 0.399 |
| | (0.029) | (0.031) | (0.035) | (0.036) | | |

Table 9.

**Ownership changes after the unification**

The table shows the ownership dynamics for 71 firm that unified the dual-class shares in 1996-2002. Panel A presents a summary of the changes in largest shareholder's voting power after the unification. Largest shareholder is defined as the shareholder with the highest number of votes before the unification. Panel B shows the average (and median) change in largest shareholder's voting power after the unification.

| Panel A | | |
|---|---|---|
| Largest shareholder's (by votes, before unification) action: | Number of firms | Percent of firms |
| Keep or acquire majority control (more than 50% of votes) | 13 | 18.3% |
| Loose majority control, but keep a block (more than 10% of votes) | 4 | 5.6% |
| Loose majority control completely (less than 10% of votes) | 6 | 8.5% |
| Keep control in 10%-50% range (before and after) | 30 | 42.3% |
| Loose a block from 10%-50% range to less than 10% of votes | 14 | 19.7% |
| Dispersed, less than 10% of votes (before and after) | 4 | 5.6% |
| | 71 | 100.0% |

| Panel B | | |
|---|---|---|
| | Mean | Median |
| Largest shareholder's fraction of votes *before* unification, percent | 38.7 | 34.1 |
| Largest shareholder's fraction of equity *before* unification, percent | 25.0 | 19.1 |
| Largest shareholder's fraction of votes and equity *after* unification, percent | 22.8 | 21.3 |
| Largest shareholder's change in votes (after minus before), percent | -15.9 | -12.8 |
| Largest shareholder's change in votes, relative to votes held before | -41% | -38% |

Table 10.

| WHY UNIFY? | # | Statements by Companies and Analysts (about the unification) |
|---|---|---|
| Increase LIQUIDITY | (1) | - … enhance the liquidity of shares (ABB). |
| | (2) | - … resolve the problem concerning the liquidity of the shares (Amer Group). |
| | (3) | - … the amalgamation of shares has increased the level of trading in the company's shares (Rieber & Son). |
| | (4) | - … improve demand in international capital markets. … we expect increased share liquidity (Sudzucker). |
| | (5) | - … will further increase the liquidity of Company's shares (MLP). |
| | (6) | - … improve liquidity (HERLITZ). |
| | (7) | - … improved stock liquidity (Recordati). |
| Increase SHARE VALUE | (8) | - … positive impact on shareholder value… the share value is expected to increase (HERLITZ). |
| | (9) | - … the company will raise its capital over the next three years. "… we would prefer our share price to look better" [this was said 3 month before the unification] (Fag Kugelfischer Georg Schafer). |
| | (10) | - … improved market capitalization (Recordati). |
| | (11) | - … placement of Company's shares [right after the unification] was considered to be a success given the recent weakness of international markets and considering that during May some 70 initial public offerings were cancelled (Finmeccanica). |
| INVESTOR RECOGNITION ("*rational*") | (12) | - …make it easier for outside investors to invest in the company. …a strong European investor would strengthen the company's position (DSV). |
| | (13) | - …attract a wider spread of domestic and foreign shareholders (PUMA). |
| | (14) | - … will satisfy Italian and foreign institutional investors (COFIDE). |
| | (15) | - … increase interest in Company's shares in the US (Amer Group). |
| | (16) | - … making shares more attractive particularly to institutional investors (MLP). |
| | (17) | - … the group will boost the interest of foreign investors in Company's shares to internationalize the shareholder structure. … also enables investment funds to then invest in Company's shares (Gerry Weber). |
| INVESTOR RECOGNITION ("*behavioral*") | (18) | - …making the stock more attractive to international investors. Yet, while SAP's three founders, including the co- chief executive and supervisory board chairman, dilute their voting rights, effective control stays in their hands. (SAP). |
| | (19) | - In international capital markets one-share-one-vote system dominates. The non-voting preference shares are widely unknown abroad, and are loosing importance also in Germany (Sudzucker). |
| | (20) | - Founder families hold 63 per cent of the votes. After the transaction, they will hold 47 per cent of the votes (MLP). |
| | (21) | - The stock market – particularly, the foreign investors – do not understand this division of shares, and better buy clear and simple value. It is "downright grotesque" that Herlitz remains in this "Not Luxus" category with two share classes, while renowned companies (Fielmann, Metro, and Lufthansa) are abandoning preference shares. When one reads the stock quotes in the newspaper, Herlitz is soon to be the only company with two share classes. (HERLITZ). |
| Pay for ACQUISITIONS using stock | (22) | - It is very difficult to pay for a US acquisition with shares if your management owns a majority of the voting rights. (Merrill Lynch analyst) |
| | (23) | - …could increase its leeway to pay for acquisitions with shares (SAP). |
| | (24) | - … this will allow to handle acquisitions and strategic alliances by using shares in addition to debt financing (ABB). |
| | (25) | - German capital market law restricts preference shares that can be issued in proportion to ordinary shares, making it difficult for a company to increase its capital for an acquisition. |
| Support GROWTH | (26) | - …establishing basis for new, profitable growth (KVAERNER). |
| | (27) | - … will have increased freedom in procuring additional capital. Company is currently in a dynamic emergence phase (ASCOM). |
| | (28) | - … CEO expects the dynamic growth of the Company (Disetronic Holding). |
| | (29) | - … create good basis for the future international growth of the Company (MLP). |
| | (30) | - … to support future growth (Recordati). |
| FINANCIAL FLEXIBILITY | (31) | - … enhance financial flexibility (ABB). |
| | (32) | - … to be able to act flexibly (ASCOM). |
| | (33) | - … augment considerably Company's financial flexibility (Olivetti). |
| DEFEND TAKE-OVER | (34) | - … the move has been seen as a tactical maneuver meant to defend the Company against foreign attempts to take over. With the power shares gone, a 10 per cent vote in Nokia would now cost SEK 73bn (NOKIA). |

*Sources: Lexis-Nexis, company home-pages.*

Appendix A.

**Voting arrangements**

| Country | Most common voting arrangement | Most characteristic switch | Regulatory and other issues related to dual-class shares |
|---|---|---|---|
| Denmark | High voting shares have 10 times the voting rights of low voting shares. | Abandoning multiple voting right shares. | One of the recommendations by the Nørby Committee's (which was set up in March 2001) report on Corporate Governance in Denmark is: "It is recommended that there is proportionality between capital investments and voting rights and that the board refrains from countering takeover bids on its own". The Copenhagen Stock Exchange has recommended the listed companies to relate to the Nørby Committee's recommendations for good corporate governance in their annual reports and accounts. |
| Finland | High voting shares have 10-20 times the voting rights of low voting shares. | Abandoning multiple voting right shares. | The change in the Companies Act (in effect from 1 September 1997) stipulates that a 2/3 majority is required in every share class for certain important corporate decisions to be made. This change effectively increased the capital needed to secure control. |
| Germany | Ordinary shares have 1 vote. Preference shares are nonvoting. Maximum allowable non-voting preference share capital is one half. Law prescribes a priority dividend for preference shares. | Changing preference shares into ordinary shares. | Stock market index compilers have been urging companies to standardize shares through abolishing preference shares in order to make indices more transparent and accurate. Following the re-evaluation of the Dax and M-Dax indices on June, 2002, only one type of share is permitted for inclusion in the index (i.e. either ordinary or preference share of the company). |
| Italy | Ordinary shares have 1 vote. Savings shares are nonvoting. Non voting (and limited voting) capital may not exceed 50% of stock capital. Nonvoting shares (savings shares) are entitled to a minimum dividend equal to 5% of the par value. | Abandoning (non-voting right) savings shares and limited voting right shares. | In 1998, legal protection for investors was improved with the so called Draghi's law. If evaluated in terms of the index of shareholder protection developed by La Porta et al. (1998), the impact of this law was an improvement in shareholder protection from 1 to 5. The threshold to call a shareholder meeting was reduced to 10 percent. The loopholes in the takeover law were corrected. Minority shareholders were given more rights to voice their opinions. See Aganin & Volpin (2003). |
| Norway | A shares have 1 vote. B shares are nonvoting. Special government permission required for issuing dual-class shares. | Abandoning multiple voting right shares. | Eierforum is an informal group that represents the largest institutional investors in Norway. The group has produced guidelines for good shareholder accountability, which suggest that "The board should positively encourage all activities which strengthen liquidity in the company's shares, and should ensure that such activities are based on the principle of one share - one vote." |
| Sweden | High voting shares have 10 times the voting rights of low voting shares. | Abandoning multiple voting right shares. | There have been proposals since long to change the law that allows the differentiation between voting power of A and B shares. Since 1997, shares can be issued only at a maximum ratio of 1:10 votes (previously, up to 1:1000 was allowed). |
| Switzerland | Each share has one vote, but different classes are allowed to have different nominal value, i.e. in principle, different voting power. | Changing bearer shares (inhaber) into registered (namen), single nominal value shares. | The current trend toward converting bearer shares into registered shares has mainly two sources: an increasing awareness of the importance of investor relations and technological developments enabling companies to handle extensive shareholder registers in electronic form. |

Appendix B.

**Variable definitions**

| Variable | Description |
|---|---|
| **Main sample:** | Firms that a) are included in *Moody's/ Mergent International Companies* Manuals 1996-2002, b) are not commercial banks or credit institutions (two-digit SIC code 60 and 61), c) had a dual-class share structure at the end of 1995, d) at least one share class was listed at the end of 1995, e) are still listed on the stock exchange at the end of 2002, and… |
| Event group | … f) have only one share class at the end of 2002 (i.e. that unified share classes in the period 1996-2002). |
| Control group | … f) still have dual-class share structure at the end of 2002. |
| Unification year | The year when firm's shareholders *approved* the switch from dual-class to single-class shares. |
| **Annual data:** | Annual data for 1994-2002 is collected. All variables (unless specified otherwise) are Winsorized at the 1st and 99th percentile. *Source: Worldscope* (unless specified otherwise). |
| Industry MTB | Average market-to-book ratio of single-class firms in the respective industry. Industry is classified by the SIC two-digit code. All market-to-book ratios are Winsorized at the 1st and 99th percentile prior to taking industry averages. The pool of all single share class firms in the sample countries is taken from *Worldscope* August-2003 disk. |
| MTB | Firm's market value of equity over book value of equity. |
| Industry adjusted MTB | MTB minus Industry MTB. |
| Size | Natural logarithm of firm's sales. |
| ROA | Earnings before interest, taxes and depreciation (EBITDA) over total assets. |
| ROE | Net income over book value of shareholder's equity. |
| Leverage | Total debt over total capital (debt plus shareholder's equity). |
| CAPEX | Capital expenditures over one-year lagged net property, plant and equipment. |
| Cash flow/ Assets | Operating cash flow over one-year lagged total assets. |
| Cash balance/ Assets | Cash and cash equivalents (in the balance sheet) over total assets. |
| Cash dividends/ Assets | Total cash dividends distributed to shareholders over one-year lagged total assets. |
| Sales growth | The annual rate of growth of sales. |
| Voting premium | Price of high voting share minus Price of low voting share divided by Price of low voting share. The annual voting premium is obtained by averaging monthly voting premiums. *Source: Datastream.* |
| Relative turnover | The ratio of the turnover of low voting share to the turnover of high voting share. The annual relative turnover is obtained by averaging monthly relative turnover figures. *Source: Datastream.* |
| Relative trading days | The ratio of the number of days low voting class traded per year to the number of days high voting class traded per year. *Source: Datastream.* |
| Equity issue dummy | Equals one if the company issued new equity in that year; and zero if net equity issue proceeds are zero. (When net equity issue proceeds are not reported in the cash flow statement, the dummy variable is coded as *missing*.) |
| Equity issue (adjusted) dummy | Equals one if the company issued new equity in that year; and zero otherwise. (When net equity issue proceeds are not reported in the cash flow statement, the dummy variable is coded as *zero*.) |
| Equity issue proceeds/ Equity | Net equity issue proceeds (from the cash flow statement) over shareholder's equity at the end of previous year. |
| Acquisitions/ Size | Number of new firms acquired in a given year over firm size (log of sales). Repeated purchases, i.e. increasing existing ownership stake are not counted. *Source: SDC Platinum.* |

Appendix B—Continued

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|---|---|
| **Fixed data:** | |
| US cross-listing dummy | Equals one if company's shares (at least one class) is cross-listed in the US through an ADR (American Depository Receipt) program (not differentiating between various types of listing). *Sources: Datastream, Moody's/ Mergent Manuals.* |
| Both shares listed dummy | Equals one if all shares with different voting rights are listed on the stock exchange; and zero otherwise. *Sources: Datastream, Moody's/ Mergent Manuals.* |
| Dividend dummy | Equals one if low voting shares received higher dividend than high voting shares in at least one year during 1990 and 2001. Equals one half if low voting shares have a minimum dividend requirement set in the bylaws, but in practice both shares have received the same dividend since 1990 (e.g. because the dividend was above the minimum required). Equals zero if both shares have equal dividend rights. *Sources: Moody's/ Mergent Manuals, Datastream, annual reports, Lexis-Nexis*. |
| *Ownership data:* | For control group, the ownership data comes from Faccio and Lang (2002), from the annual reports and *Worldscope* (for Denmark, which is not covered in Faccio and Lang). Faccio and Lang data is from 1996 for Germany, Italy, and Switzerland; from 1998 - for Sweden and Norway; and from 1999 - for Finland. For event group, the ownership data comes from the annual reports one year prior to the unification, *Worldscope*, or *Lexis-Nexis*. The ownership data after the unification for event firms come from the annual reports and *Lexis-Nexis*. |
| Control | Fraction of the firm's voting rights owned by the largest shareholder (ranked by votes). |
| Ownership | Fraction of the firm's capital (cash flow) rights owned by the largest shareholder (ranked by votes). |
| Control minus Ownership | The difference between control rights and cash flow rights. |
| Control exceeds Ownership, high | Equals one if control rights (Control) are higher than cash flow rights (Ownership), and if this separation is higher than the median separation in corporations where control and ownership differ, and zero otherwise. |
| Family owner dummy | Equals one if the largest shareholder (ranked by votes) is a family (a private person or individuals with the same surname or a family trust); and zero otherwise. |
| Financial investor dummy | Equals one if the largest shareholder (ranked by votes) is a financial institution; and zero otherwise. |
| Multiple blockholder dummy | Equals one if the fraction of votes controlled by the second largest shareholder (ranked by votes) is more than ten percent; and zero otherwise. |