Private benefits of control and dual-class share unifications*

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Abstract

This paper examines the decision to unify dual-class shares into a single class. Using a sample of firms from seven European countries, we find that measures of lower private benefits of control available to the controlling shareholders, such as low separation between control and cash flow rights, the presence of financial investors, and cross-listings, increase the likelihood of a unification of share classes. Unifications are also more likely in firms with higher growth opportunities that need external financing. Changes in the institutional environment aimed at limiting the powers of controlling shareholders are positively related to unifications. Increases in firm valuation are found for the year following unifications.

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1. Introduction

A dual-class share structure continues to be used frequently in listed firms around the world; one-fourth of the largest European firms (EC, 2007) and between six and ten percent of U.S. listed firms (Gompers *et al*. 2010; Chemmanur and Jiao, 2006; respectively) have dual-class shares.[1] A substantial literature analyzes the asymmetry between cash flow and voting rights created by dual-class ownership that allows the controlling parties to receive a disproportionate amount of corporate benefits, so-called private benefits (e.g. Grossman and Hart, 1988; Harris and Raviv, 1988). Examples of such benefits include 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 resources to private corporate entities. As a result of a dual-class share structure, cost of capital may increase and corporate valuation decrease, and a firm may face investment constraints (La Porta *et al*., 2002; Claessens *et al*., 2002; Cronqvist and Nilsson, 2003). On the other hand, a strand of theoretical and empirical work shows that dual-class shares can be beneficial under certain conditions (DeAngelo and DeAngelo, 1985; Fischel, 1987; Stein, 1988; Burkart *et al*., 1998; Dimitrov and Jain, 2006). Given the pros and cons of a dual-class share structure, what is the explanation for the abandonment of dual-class share structures in many companies in Europe? In particular, what are the incentives for controlling shareholders to give up some control and to agree to a share class unification?

[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 can be more than two share classes, but the analysis can be easily generalized to such cases.

To address these questions, we explore the determinants and consequences of the decision to unify shares with different voting rights into a single share class, using data from seven Western European countries (Denmark, Finland, Germany, Italy, Norway, Sweden, and Switzerland) in which dual class share structures are frequently used. The sample covers 493 firms over the period 1996-2002. The data show that the unification took place in 18% of the sample firms during the studied period. Moreover, the fraction of firms with dual-class shares has dropped considerably in each country; the overall fraction of dual-class firms in the sample countries has dropped from about 43% to 29% during the period.

We present a simple model demonstrating the trade-off controlling shareholders face when deciding on a unification of share classes. In particular, the controlling shareholders can choose to extract higher private benefits and thus give up some valuable growth opportunities that cannot be utilized with the dual-class share structure due to difficulties in raising external capital or in raising it at a low enough cost. Alternatively, the controlling shareholders can commit to limiting their expropriation by abandoning the dual-class share structure and utilizing the valuable growth opportunities. As a result, firms with lower current level of private benefit extraction by the controlling shareholders, as well as firms with valuable growth opportunities that cannot be financed internally or that face high financing costs are the ones that are likely to decide to unify share classes. If a firm does not have a need to access external capital markets to finance growth and if the current level of private benefit extraction is high enough, there is no reason for the controlling shareholders to commit to limiting their expropriation possibilities through a unification.

We find evidence consistent with these predictions. First, we argue that the improving investor protection legislation in the sample countries over 1996-2002 has

limited the level of private benefit extraction available to the controlling shareholders; hence, we observe an increasing tendency to abolish the dual-class shares. Second, the data show that firms with lower levels of private benefit extraction possibilities, i.e. the ones with a lower wedge between the voting rights and equity rights held by the controlling shareholders, the ones with a financial investor, and the ones cross-listed in the U.S., are more likely to unify their share classes. Third, the unifications also coincide with equity issues, which indicates that firms with higher growth opportunities in need of external financing are more likely to unify share classes. Regarding the determinants we have analyzed, the evidence suggests that the decrease in the level of private benefits available for the controlling shareholder appears to be a reason for unifications. As a consequence of share unifications, we find increases in firms' market value in the year after the unification, but no significant improvements in operating performance.

Our analysis departs from existing literature in a number of ways. First, while past studies have focused on share class unifications in a single country (Bigelli *et al*., 2006; Hauser and Lauterbach, 2004; Dittman and Ulbricht, 2008; Smart *et al*., 2008; Kunz, 2002), we use a comprehensive sample of dual-class firms in seven Western European countries, that also covers untraded share classes. Second, unlike studies that have analyzed the relation between the institutional environment and share structure decisions (e.g., Smith and Amoaku-Adu, 1995; Hoffmann-Burchardi, 1999; and Hauser and Lauterbach, 2004), we consider how changes in the institutional environment have affected the attractiveness of dual-class shares by shaping the value of control available to the controlling shareholders; that is, we investigate voluntary unification decisions.

This paper also relates to a broader literature on dual-class shares: the value of control measured by voting premiums (e.g. Bergström and Rydqvist, 1990, 1992; Nenova, 2003), IPO under-pricing in dual-class firms (Smart and Zutter, 2003), dual-class share introductions, switches from a single to a dual-class share structure (e.g. Partch, 1987; Jarrel and Poulsen, 1988; Millon-Cornett and Vetsuypens, 1989), and the effect of policy changes on dual-class firms (Smith and Amoako-Adu, 1995; Robinson *et al*., 1996; Hoffmann-Burchardi, 1999; Bennedsen and Nielsen, 2004; Berglöf and Burkart, 2003).

The paper proceeds as follows. Section 2 discusses theoretical issues on share unifications and introduces testable hypotheses. Section 3 presents the data. Section 4 presents regression results. Section 5 offers further analysis and robustness tests. Section 6 concludes the paper.

2. A simple model of the unification decision

We consider the controlling shareholder's decision whether to unify the firm's dual-class shares or not.[2] The controlling shareholder in dual-class firms often effectively controls the manager (La Porta *et al*., 1999). We assume that the controlling shareholder has the voting power to decide about the unification. From the perspective of the controlling shareholder, share unification typically means giving up some private benefits of control. The private benefits in turn depend on the legal shareholder protection and firm-level quality of corporate governance (e.g. La Porta *et al*., 2000). There are also significant direct costs arising from the unification

[2] Although we focus on the unification decision, the trade-off in our model can also be used to analyze the reverse transaction involving a single-class recapitalization into a dual-class share structure.

transaction.[3] In the absence of a direct compensation for giving up control, one benefit for the controlling shareholder and the firm from unifying the share classes is the lower cost of equity capital available to single-class firms to finance investments (e.g. Rydqvist, 1992; Claessens *et al.*, 2002; Bennedsen and Nielsen, 2010).

If the firm has significant growth opportunities that need external financing, the controlling shareholder faces a trade-off: unify the share classes and take advantage of growth opportunities or consume the private benefits of control and miss the growth opportunities. Doidge *et al*. (2004) model a similar trade-off in the context of obtaining a cross-listing in a country with higher investor protection to finance growth opportunities at a lower cost of capital. Given the similarities between these two mechanisms – cross-listings and share class unifications – available to controlling shareholders to bond themselves to lower consumption of private benefits, we follow the model set-up in Doidge *et al*. (2004).

We assume that the controlling shareholder has an exogenously determined cash flow ownership of k in the firm. The controlling shareholder diverts a share f of the firm's cash flow C to himself before distributing the rest as dividends. The diversion has a deadweight cost increasing in the level of investor protection, p, and increasing in the fraction of cash flow diverted.[4] For simplicity, the cost of diversion has a simple functional form given by $1/2bf^2pC$, where b is a constant. Higher values of p indicate better (firm- and country-level) shareholder protection. As a result, the controlling shareholder chooses f by solving the following maximization problem:

[3] Hauser and Lauterbach (2004) report that the direct costs of the share unification typically amount to 100 000 - 200 000 dollars in Israeli firms.

[4] One of the modifications from the Doidge *et al*. (2004) model is the interpretation of investor protection, p. In Doidge *et al*., p represents only the country-level investor protection, while p in our setting represents the country- and firm-level investor protection.

$$\text{Max}_f \quad k(C - fC - 1/2bf^2pC) + fC. \qquad (1)$$

The first order condition is given by

$$f=(1-k)/bpk. \qquad (2)$$

This is the result documented by, for example, La Porta *et al*. (2002), Doidge *et al*. (2004), and Durnev and Kim (2005) showing that diversion decreases with higher shareholder protection and higher cash-flow rights held by the controlling shareholder.

In this paper, we assume that the controlling shareholders can bond themselves to better shareholder protection, i.e. increase *p*, by abandoning the dual-class share structure. After unification, the degree of investor protection increases to p_{after}.[5]

If we substitute (2) into the original maximization problem (1) and rearrange, we get the total gain to the controlling shareholder

$$kC + ½(1-k)^2C/bpk. \qquad (3)$$

The first term represents the dividends received by the controlling shareholder, while the second term corresponds to the net private benefits of control before the unification, which we denote *v(p)C*, where *v(p)* is a decreasing convex function of *p*. Expression (3) shows that by increasing *p* to p_{after} through a share-class unification, the controlling shareholder is worse off due to lower net private benefits. There must be some gain to offset this negative effect; particularly so if there is no direct

[5] We note, however, that there are a number of other mechanisms that are available to controlling shareholders to bond themselves to lower consumption of private benefits, such as cross-listing of shares in the U.S., better disclosure policy, outsiders on the board, reputation, and use of debt and monitoring from creditors.

compensation for surrendering control.[6]

We assume that by unifying, the firm is able to finance future growth opportunities worth *z*. If the firm does not unify its share classes, it cannot take advantage of these growth opportunities.[7] In particular, these growth opportunities are often too large to be financed internally or they cannot be financed externally at low cost because the dual-class shares structure carries limited liquidity (Kim *et al.*, 2007), low potential investor base (Giannetti and Simonov, 2006), and a high cost for seasoned equity offerings.[8]

The distribution of growth opportunities across firms is given by a uniform distribution over the interval $(0, z^{max})$. Under these assumptions, the controlling shareholder favors unification if the present value of not unifying and extracting private benefits (diverting optimally) with investor protection, p, is less than the present value of unifying, exploiting growth opportunities, and diverting optimally with the level of investor protection, p_{after}.

If the firm chooses to unify its share classes, the total gain to the controlling shareholder is obtained by substituting C by $C + z$ and p by p_{after} in (3), and the controlling shareholder prefers unification if

$$kz + v(p_{after})z > [v(p) - v(p_{after})]C. \quad (4)$$

[6] Unlike unification cases in Israel (Hauser and Lauterbach, 2004), all, except nine, unification cases in our sample do not compensate the loss of voting rights with additional stocks or cash.

[7] The interpretation of growth opportunities, *z*, is another modification of the model in Doidge *et al.* (2004). In our setting, *z* represents the growth (or any other *missed*) opportunities that are lost due to the dual-class share structure.

[8] Shares with low voting rights in many countries (e.g. Germany and Italy) carry preferential dividend rights. With decreasing bank loan interest rates, continuing to pay a minimum dividend of e.g. 5% of the par value of newly issued low voting shares may become too expensive.

Equation (4) illustrates the key trade-off faced by the controlling shareholder: the left-hand side of this equation is the net benefit to the controlling shareholder from the growth opportunities the firm can exploit after the unification and the right-hand side is the loss of private benefits of control from unifying.[9] From equation (4) we can now derive z^* as follows

$$z^* = [v(p) - v(p_{after})]C / [k + v(p_{after})]. \quad (5)$$

As shown in expression (5), z^* is such that, for given p *and* p_{after}, the firm unifies if its growth opportunities exceed z^* and does not unify if $z < z^*$. Finally, if we differentiate z^* with respect to p and p_{after}, we get that

$$\frac{\partial z^*}{\partial p} = \frac{-(1-k)^2 C}{2bpp_{after}k^2 + p(1-k)^2} - \frac{2bp_{after}k^2 + (1-k)^2(\bar{p}_{after} - p)(1-k)^2 C}{2bpp_{after}k^2 + p(1-k)^2} < 0 \quad (6)$$

This result leads us to the main hypotheses about the likelihood of unification that we will investigate in our empirical analysis.

Hypothesis 1: Firms with higher level of investor protection (lower private benefits of control) are more likely to unify their share classes.

Hypothesis 2: Firms with higher growth opportunities are more likely to unify their share classes.

[9] The respective trade-off for recapitalizations (switch from single-class to dual-class structure) is between the lost growth opportunities (e.g. due to higher cost of capital) and increased private benefits of control (e.g. control may become more valuable when there is a takeover threat and there is a need to provide long-term commitment from the management/ founder team). Generally, the dual-class recapitalization cases appear to be very few during our sample period.

3. Data and variables

3.1. Sample

To obtain a sample of firms that unify their share classes, we first consider those Western European countries in which dual class shares are common – they represent more than 20% of the listed firms (see, Nenova, 2003). This selection yields seven countries: Denmark, Finland, Germany, Italy, Norway, Sweden, and Switzerland. We include in our initial sample non-financial dual-class share firms covered by Moody's International manuals (1996-1998) that have at least one of their share classes listed on a stock exchange *at the end of 1995*. This selection yields a sample of 601 nonfinancial dual-class firms.

For these 601 firms, we collect financial data from WorldScope for the period 1996-2002. We exclude firms not covered in WorldScope (8 firms), firms that were merged with or acquired by other firms (63 firms), firms that were delisted (29 firms), and firms that could not be traced with respect to changes in share classes (8 firms). Our sample construction yields 493 firms of which 108 (21.9%) underwent a unification of share classes during the period 1996-2002. We label these 108 firms *event* firms and the remaining 385 firms *control* firms. The sample used in the regression analyses for which we have all governance and financial data consists of a total of 382 firms in which there are 79 share unifications.

Our sample has four important characteristics. First, unlike previous single-country studies, we identify both unifications of listed and unlisted share-classes. Second, although the multiple share classes may have different names (see Table 1) in different countries, the fundamental common characteristic is the voting right difference that enables a separation between ownership and control. Third, the

different share classes are treated equally for tax purposes. Finally, the unifications in our sample typically are conducted without compensation to the holders of high voting shares.

3.2. Variables

3.2.1. Corporate governance and institutional variables

We collect information on several characteristics of the ownership structure of a firm at the beginning of the sample period 1996.[10] This ownership information is used for the control firms throughout the sample period. The ownership information on the largest ultimate shareholder as of end 1996 comes from the Faccio and Lang (2002) data set for Germany, Italy, and Switzerland. Ownership information for the Nordic countries comes from several sources. For Sweden, we use immediate ownership data in Sundqvist and Sundin (1997) to calculate the holdings of the ultimate controlling shareholder. For Finland, we trace the holdings of the ultimate controlling shareholder using information in Kock (1997). For Norway, we use Faccio and Lang's (2002) data set with Norwegian ownership data for 1998. The fact that the data for the Norwegian control group do not come from 1996 is not a major problem since the first share-class unification does not occur before 1999 in the Norwegian sample. Finally, the Danish ownership data from the beginning of the sample period covering the control group come from annual reports and WorldScope.

[10] Prior studies have shown that the holdings by the controlling shareholders are rather stable over time (e.g. La Porta *et al*., 1999), which motivates our use of ownership information from the beginning of the period for firms in the control sample.

We follow the methodology in Faccio and Lang (2002) to determine the ultimate controlling shareholder. Holdings by family members with the same surname are aggregated. Unless the firm unifies its share classes, we assume that the ownership structure remains the same during the studied period. As Denis *et al*. (1997) note in a related setting, one advantage with using ownership data from the beginning of the period is the reduction of the potential problem of endogeneity.

For the event firms, we also collect ownership data for the year prior to the event year since we are interested in the ownership structure that authorizes the unification decision. These ownership data reflecting the situation one year before the unification come from firms' annual reports, WorldScope, and Lexis-Nexis.

To measure private benefits of control, we use several measures used in the previous literature. Following Claessens *et al*. (2002), we use the variable *control minus ownership* measured as the control rights minus the ownership rights held by the largest shareholder. This variable not only measures the differences in the voting rights between high voting and low voting share classes, but also pyramiding that can be arranged by controlling the sample firms through one or more firms (see, Faccio and Lang (2002) for pyramiding in Western Europe). Since the level of control rights and cash flow rights may matter as well as the excess control rights, we use the fraction of *control rights* and *ownership* (cash flow) *rights* held by the largest shareholder separately. We expect that higher excess control and the fraction of control rights to be associated with higher private benefits of control and consequently lower likelihood of unification.

As an alternative variable measuring private benefits of control, we use the *voting premium* measured as the price of the high voting share minus the price of the low voting share divided by the price of the low voting share as reported by

Datastream.[11] To construct the variable, we take the average of the monthly voting premiums to obtain annual values of voting premiums. Since not all firms have multiple share classes traded, voting premiums can only be calculated for a subset of firms.

We use two additional variables that are likely to be related to the likelihood of unification. The first is a dummy variable called *financial institution* equal to one if the largest shareholder in the firm is a widely held bank or financial institution as defined by Faccio and Lang (2002), and zero otherwise. A financial investor is more likely to gain more from security benefits than from private benefits of control (see, e.g. McConnel and Servaes, 1990, on institutional ownership). We also construct a dummy variable labelled *cross-listing* that is equal to one if the firm has cross-listed its shares in the U.S. by issuing ADRs, and zero otherwise. We include all levels of ADRs in our definition of cross-listing, such as Reg S, 144A, and Levels 1-3 (see, e.g. Doidge *et al*., 2004). Cross-listings in the U.S. are typically associated with improved disclosure and shareholder protection to the extent that the U.S. listing requirements exceed the requirements in the country of the issuer (e.g., Coffee, 1999). We expect cross-listings and the presence of financial investors to be negatively related to private benefits of control and therefore increase the likelihood of a unification.

To measure the impact of changes in the institutional environment on the attractiveness of existing dual-class shares, we construct a variable labelled *institutional pressure,* which equals one if a new more restrictive policy is in place in the beginning of the year, and zero for the years preceding the change. Legal and

[11] Price differences between share classes may, however, also arise also due to tender offer regulations in the absence of private benefits of control (Bergström and Rydqvist, 1992) or due to market segmentation as discussed in Eun and Jaanakiramanan (1986) and Bigelli *et al*. (2006).

institutional changes concerning the sample countries are overviewed in Table 1. In brief, the changes with relevance to the dual-class shares include legal changes, stock index restrictions and listing requirements, as well as corporate governance codes and recommendations that have implications for share structures and that can be linked to a specific year.[12] The institutional pressure variable reflects the changes starting in year 1997 in Finland and Sweden, year 1998 in Italy, year 2000 in Denmark, and in year 2002 in Germany. Norway and Switzerland did not impose more restrictive policies on dual-class shares during this time period. The institutional pressure dummy variable is set equal to one if changes were in effect on January 1 for the respective year and country as well as equal to one for subsequent years it has been in effect, and zero otherwise. Appendix 1 and Table 1 show that share unifications occur more frequently after institutional changes that restrict dual-class shares have been put in place.

3.2.2. Other variables

We hypothesized that the likelihood of a unification would be positively related to a firm's growth opportunities. First, we use the variable *growth opportunities* defined as the average market-to-book ratio of single-share class firms in the respective two-digit SIC industry class included in WorldScope for a particular year. Second, we use a variable labeled *equity issue proceeds*, defined as net equity proceeds obtained from cash flow statements scaled by shareholders' equity, as a measure for the need to issue new equity to finance growth.

[12] See Coombes and Wong (2004) for a discussion of why codes may matter although they are not binding.

To measure consequences of the unification, we use a valuation measure labeled *industry-adjusted MTB* defined as the firm's market-to-book ratio minus industry market-to-book ratio. When a firm has unlisted shares, we compute the market value of equity as the product of all outstanding shares times the price of the traded share.[13] The industry market-to-book ratio is defined as the average market-to-book ratio of single-class firms in the respective industry classified by two-digit SIC codes. Valuation data come from WorldScope.

We also use variables to control for firm and time characteristics in the regression analysis. To measure effects related to firm size, we use the natural logarithm of sales. Year dummies are included in the regression models where applicable to control for year-specific effects. Variable definitions are summarized in Table 3.

3.3. Descriptive statistics

In this section, we present and discuss the (1) proportions of dual-class share firms for our sample countries, (2) frequency of dual-class firms that unify their shares, as well as provide (3) summary statistics on other variables.

Table 2 reports the proportion of dual-class shares for our seven sample countries. Among the sample countries, we find that dual-class shares are most common in Sweden, Denmark, Finland, and Switzerland. The sample countries with the lowest proportions are Norway and Germany. In addition, some interesting patterns emerge when we compare the proportions of dual-class firms around year 2005 with those reported for the mid-1990's (Panels A and B of Table 2). Most

[13] Following Villalonga and Amit (2006), this approach implies that the value of control and the liquidity discount for untraded shares cancel each other out.

countries exhibit a significant decrease in the fraction of dual-class firms over the period 1995 to 2005. Large declines in the proportions of dual-class shares occur in Denmark, Finland, Germany, Norway, and Switzerland. Despite these declines, the fractions are still rather high in these countries. Countries in which the fraction of dual-class firms has stayed rather stable include Italy and Sweden. On average, the proportion of dual-class firms drops from 43% to 29% during the period. In section 4, we relate changes in share structures to regulatory changes.

Appendix 1 shows the number of corporations that unified share classes for a particular year grouped by country.[14] A total of 21.9 % (108/493) of the dual-class firms in the sample abandoned their dual-class share structure during 1996-2002. Panel A shows that 32% (event / (event + control) firms) of the German firms and 31% of the Swiss firms experienced a unification. In contrast, only 6.6% of the Swedish dual-class firms unified their share classes. Generally, in Panel B we observe an increase in share class unifications over time, from 8 unifications in year 1996 to 23 in year 2001, and in year 2002 a drop to 13 unifications.

Table 4 displays summary statistics for the sample firms. Panel A shows that the largest shareholder holds on average 46% of the control rights, and 29% of the cash flow rights. In 7% of the firms the controlling shareholder is a financial institution. On average, 11% of the firms have cross-listed shares in the U.S. Panel B of Table 4 shows that the event firms are larger, have more often cross-listed shares,

[14] Pajuste (2005) presents a list of motivations for a subset of share class unifications used in this paper. Common reasons mentioned were the following: to improve investor recognition (i.e., make the shares more attractive to institutional investors and international capital markets), to improve liquidity of shares, to increase market capitalization, to create a basis for growth, and relatedly to pay for acquisitions with own shares.

have lower excess control rights (control minus ownership) by the controlling shareholder, more often a financial investor in control, and issue more equity than the control group firms (Panel C).

4. Regression results

4.1. Determinants of share-class unifications

Our main interest lies in the relation between private benefits of control and the decision to unify share classes. We use a probit model to explore the unification decision that includes fixed country and, where applicable, year effects. The regression equation takes the following form:

$$\Pr(\text{Unify}_{it} = 1) = F(\alpha Z_{it}), \qquad (9)$$

where Unify_{it} is a variable that equals one if the company unified its share classes in year *t*, and zero if it has a dual-class share status in year *t*. Firms that unify are dropped from the sample in the year $t+1$. $F(\cdot)$ denotes the cumulative distribution function of a standard normal variable, and Z_{it} is a vector of explanatory variables. Standard errors are corrected for within cluster (firm) correlation and heteroskedasticity.

Table 5 presents the relationship between the likelihood of a share-class unification and measures of the level of private benefits of control by the largest shareholder. Model (1) shows that the variable measuring excess control (control minus ownership) by the largest shareholder is negatively related to the likelihood of unification (significant at the 5% level).[15] In Model (2), we include the voting rights

[15] As an alternative to the excess control variable, we used a variable called 'control minus ownership, high' similar to the one used in Claessens et al (2002) that takes the value 1 if the excess control rights

and cash flow rights held by the largest shareholders as separate variables in the regressions to measure the impact of the levels of both control and ownership. Whereas the fraction of votes is significantly negatively related to the probability of unification (at the 1% level), the fraction of cash flow rights is positively although insignificantly related to the likelihood of unification. Furthermore, for a reduced sample of firms in which both share classes are publicly traded, Model (3) shows that a higher voting premium, which reflects the value of control, significantly lowers the likelihood of share class unifications (significant at the 1% level). Thus, Table 5 indicates that a large fraction of control rights as well as a larger wedge between the control and ownership rights held by the largest shareholder reduce the likelihood of unifying share classes, which is in line with our theoretical predictions in section 2.

The effect of the presence of a financial investor as the largest shareholder is examined in Table 5. We find that firms controlled by financial investors have significantly higher likelihood of unification (significant at the 10% level). Since institutional owners gain most from security benefits and presumably less from private benefits of control, such owners have more to gain from unifications compared to other types of owners. The findings on financial investors support the idea that lower private benefits of control by the controlling shareholder increase the likelihood of share-class unifications.

Model (4) of Table 5 shows that the equity issue proceeds variable is positively related to the likelihood of share-class unification (significant at the 1% level). This result suggests that the decision to unify share classes coincides with equity issues. Model (4) of Table 5 also relates growth opportunities in the firm's industry (measured by the industry market-to-book ratio in single-class firms) to the

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are above the median level, and zero otherwise. This specification for excess control is significantly negative at the 1% level (not reported in Table 5).

likelihood of unification. We find that growth opportunities are positively related to share unifications, although the variable is not significant at conventional levels (*t*-stat = 1.49). Taken together, the results on equity issues and industry growth give some support to the theoretical prediction stating that firms with higher growth opportunities are more likely to unify their share classes.

Table 5 shows that firms that have cross-listed their shares prior to the unifications are more likely to unify their dual-class shares. To the extent that firms with cross-listings in the U.S. are associated with better quality of corporate governance practices and lower private benefits of control, such cross-listings make the share-class unifications more attractive for the controlling shareholder. The coefficient for the cross-listing dummy is positive and significant at least at the 5% level. Thus, the results show that firms that have opted for a cross-listing are more likely to abandon dual class share structures.

In Model (5) of Table 5, we explore the impact of changes in the institutional environment on the likelihood of unifications.[16] The institutional pressure variable reflects the impact of changes in law, listing requirements, and corporate governance codes that limit the attractiveness of a dual-class share structure (see Section 3.2.1). The coefficient of the institutional pressure variable is positive and significant at the 5% level. Thus, the changes in the institutional environment appear to be linked to share unifications. Furthermore, Model (5) shows that both firm-level variables such as 'control minus ownership' and cross-listing are highly significant when included with the institutional pressure variable, which suggests that both firm-level variables and the regulatory variable jointly affect private benefits of control and therefore the likelihood of a share unification.

[16] We exclude year dummies in Model (5) due to collinearities between the institutional pressure variable and year dummies.

4.2. Consequences of share-class unifications

To address the question of how the event firms perform and change in relation to firms that retain a dual-class share structure, we use the algorithm in Loughran and Ritter (1997) and Barber and Lyon (1997) to match firms by industry, size, and growth opportunities before the unification. To begin, all event and control firms are divided into 108 groups, so that every event firm obtains a matched pair. The matching is based on 12 industry groups following the classification in Campbell (1996), three categories for firm size based on the logarithm of sales, and three groups for firms' growth opportunities measured by market-to-book ratios.[17] If there are several dual-class firms in the same group, the firm with the closest market-to-book ratio is chosen. If there is no matching firm in the same group (3 cases), the firm with the closest market-to-book ratio in the same industry from the next closest size category is chosen.

The results from a sample of 101 pairs of firms consisting of firms that unified shares and firms with dual-class shares for which we have financial data are presented in Table 6. Row 1 shows that the industry-adjusted market-to-book ratios in the event firms are higher than in the control firms in all three years after the unification. The value increase is the highest for the year following the unification (*t*-stat = 2.01). These results on valuation difference are in line with, for example, Gompers *et al*. (2010) and Smart *et al*. (2008) who find a valuation discount for dual-class share firms in the U.S. Row 2 of Table 6 further shows that operating

[17] The three size categories are high (75th percentile and upward), medium (25th to 75th percentile), and low (25th percentile and downward).

performance is largely unaffected by the change in the share structure. In Rows 3 and 4 we see that the event firms issued significantly more equity than dual-class firms in the unification year, suggesting that equity issues coincide with the timing of share-class unifications. Overall, the results in Table 6 indicate that the firms that unify their shares obtain higher market valuations and raise more equity vis-à-vis other dual-class firms.

5. Further analysis and robustness tests

In this section, we discuss and run additional tests on several issues related to dual-class shares including (1) pyramiding as an alternative mechanism to dual-class shares, (2) owner changes, (3) compensation for giving up control, (4) preferential dividends, and (5) additional econometric tests.

Besides dual-class shares, pyramiding is another frequently used mechanism allowing the existing blockholders to enhance control by leveraging voting power (see, La Porta *et al.*, 1999; Faccio and Lang, 2002). One possibility is that firms abolishing dual-class shares switch to pyramid structures, in which case the proportionality principle is not achieved by a unification. This scenario would be more likely to happen if the dual-class structure was prohibited by law. Two arguments support the conclusion that pyramids are not fully replacing the dual-class shares mechanism in our sample. First, we do not find cases among the event firms in which a firm would introduce a pyramid structure after the share unification. Instead,

we find that the use of pyramids before the unification is more prevalent among the event firms than in the control group firms .[18]

Regarding owner changes, we do not find evidence that the controlling shareholder typically would leave the company right after the share unification. In a reduced sample of 71 event firms for which we have data, we observe that the controlling shareholder's voting power on average decreases from 39% to 23%, while the equity stake stays largely similar. The decrease in voting power appears to be mainly a consequence of the unification rather than from selling the shares.[19] It is important to note that we only have data on controlling ownership right after the unification, whereas the reduction in the stake or the sell-out by the controlling shareholder could occur in later years for various reasons of which firm growth through new equity issues and mergers seem plausible.

The evidence from the few cases in which high-voting shareholders receive a compensation show that the size of the compensation is equivalent to the prevailing market premium between high- and low-voting shares. For example, in the Rieber & Son ASA case (Norway) the market premium prior to the unification was 12.5% and the A shareholders received additional new shares to keep their relative fraction of the market capitalization; without compensation they would have lost around 3% of the market capitalization, so this 3% was compensated for with new shares. The trade-off model in section 2 assumes the more restrictive case in which no compensation is paid. Clearly a direct compensation makes the controlling shareholder more likely to

[18] To explore this issue further, we add a dummy variable indicating the use of pyramiding to model (1) in Table 5 (the pyramid dummy is available for a sub-sample of 337 firms (75 event firms and 262 control firms), and is taken from Faccio and Lang (2002) dataset (variable Pyramids, 10% cutoff)), and find that pyramids are significantly positively related (at the 1% level) to the likelihood of unifications. This result is consistent with our model in which the controlling owner is more likely to abandon the dual-class share structure if there is another control enhancing mechanism enabling leveraging of control, i.e. the decrease in private benefits from unification is likely to be smaller.

[19] Furthermore, in the majority of cases (66.2%), the controlling shareholder retains a controlling stake amounting to at least 10% of votes after the unification, and in 18.3% of the unification cases, the controlling shareholder retains a simple majority of votes after the unification.

accept a unification. As a robustness check, we re-run regressions excluding the nine cases that involve direct compensation, and find that the results hold for this reduced sample.

One may argue that preferred stock (with preferential dividend) is introduced for different reasons than pure multiple voting stock (with equal dividend rights). We re-run all the regressions (though do not report in a table) including firms that have a preferential dividend for low voting shares and firms without such preferences. The main results remain unchanged suggesting that firms with preferred stock for the purposes of this study (as well as for many previous studies) bear similar characteristics to other dual-class firms: both share types enable leverage of control.

Finally, we find that our results are robust to various alternative specifications. The results are robust to multicollinearity tests, errors-in-variables regressions (for the variables measuring private benefits) up to 15%, and to different methods of winsorizing variables.

6. Conclusion

In this paper, we explore the determinants and consequences of the decision to unify multiple classes of shares into one share class. Dual-class share structures occur frequently in countries where minority shareholder protection is lower and in firms in which control is highly valued (La Porta *et al*., 1999; Nenova, 2003). We present a simple model of a trade-off faced by the controlling shareholder who decides on the unification. The controlling shareholder chooses between unifying the share classes and taking advantage of growth opportunities or consuming the private benefits of control and missing the growth opportunities. We hypothesize that share

class unifications are more likely to occur if the private benefits of control are low and the growth opportunities that need external financing are large. We examine unifications in firms from seven Western European countries where dual-class shares are common.

Empirically, we find that out of the 493 dual-class share firms, 108 unified share classes during the period 1996-2002. The results show that the likelihood of share unifications decreases with the voting rights in excess of ownership rights held by the largest shareholder, with the fraction of voting rights held by the largest shareholder, and with the size of the voting premium. We also find that firms with a financial investor as the largest shareholder and firms that cross-list their shares in the U.S. have higher likelihood of share class unification. Furthermore, we find that changes in the institutional environment that reduce the attractiveness of holding high voting shares increase the likelihood of share unifications. In sum, our evidence indicates that private benefits of control are a determinant of the share unification decision.

The results show that firms with a larger need for external capital are more likely to unify their share classes. The perception of access to cheaper equity capital with a single-class share structure appears to be one of the motivations for the unification. In addition, while we do not find significant differences in the operating performance between the two share structures, we find that those firms that switch to a single-class structure experience an increase in firm valuations in the year following the unification.

The policy debate about legal reform in Europe begins with recognizing the interests of different parties involved in a certain security structure. Our results indicate that controlling shareholders with high private benefits of control are less

likely to abandon a dual-class share structure. Although the dual-class shares may be optimal for those in control, such as founders and their offspring, such control arrangements may be suboptimal for pursuing growth strategies that may require access to capital markets. This suggests that market pressures, rather than strict prohibition of dual-class shares, may be an effective way to limit the excess power of controlling shareholders.The freedom to choose between single- and dual-class share structures still seems to be valuable.

Appendix 1

Sample construction by country and year. This table presents statistics on unifying and dual-class firms. The sample includes 493 dual class firms from Western Europe of which 108 firms experience a unification during the period 1996-2002.

	Denmark	Finland	Germany	Italy	Norway	Sweden	Switzer-land	All countries
Panel A. Event and control firms by country								
Event firms	10	6	41	12	6	7	26	108
Control firms	55	30	88	45	9	99	59	385
Panel B. Share-class unifications by country and year								
1996	-	-	6	-	-	-	2	8
1997	1	1	1	1	-	-	3	7
1998	1	1	7	1	-	1	6	17
1999	1	3	7	2	1	-	3	17
2000	1	-	9	3	1	3	6	23
2001	2	1	8	2	4	2	4	23
2002	4	-	3	3	-	1	2	13
1996-2002	10	6	41	12	6	7	26	108

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Table 1

Voting arrangements in the sample countries.

Country	Typical voting arrangement in dual-class share firms	Most characteristic switch to single share class	Regulatory changes and recommendations related to dual-class shares that are not common for all countries 1996-2002
Denmark	High voting shares have 10 times the voting rights of low voting shares.	Abandoning multiple voting right shares.	The Association of Danish Shareholders (February 2000) recommends firms to abolish dual-class shares. The Nørby Committee's (set up in March 2001) report states "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. Sources: European Commission report (2002).
Finland	High voting shares typically have 5-20 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. Source: Companies Act and European Commission report (2002).
Germany	Ordinary shares have one 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). Preference shares are not allowed to be listed on Neuer Markt (established in 1997). European Commission report (2002) and stock exchanges.
Italy	Ordinary shares have one 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 %. The loopholes in the takeover law were corrected. Minority shareholders were given more rights to voice their opinions. See Aganin and Volpin (2005). Only ordinary shares are allowed to be listed on Nuovo Mercato (established in 1999). Source: European Commission report (2002).
Norway	A shares have one 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." No specific regulatory changes related to dual-class shares 1996-2002. Source: Olso Bors.

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). Sources: Companies Act and European Commission report (2002).
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. No specific regulatory changes related to dual-class shares have been issued 1996-2002. Source: Swiss code of best practice for corporate governance.

Table 2.

Fractions of non-financial dual-class firms. Fraction of firms with more than one share class outstanding including both listed and unlisted share classes that create a deviation from one share-one vote, excluding banks and credit institutions. Panel A reports the fraction of dual-class firms of total firms for each country included in the *1996 edition* of Moody's International Manual. Panel B reports the fractions of dual-class firms around 2005, estimated from Mergent International Manuals 2004-2006, or stock market yearbooks 2005-2006. The fractions are indicative in a sense that the companies from which these fractions are calculated in Panels A and B may differ.

Country	Panel A: end of 1995		Panel B: around 2005	
	Proportion of dual-class firms	Total number of firms	Proportion of dual-class firms	Total number of firms
Sample countries				
Denmark	0.60	124	0.30	43
Finland	0.45	66	0.31	137
Germany	0.24	345	0.11	561
Italy	0.41	156	0.39	54
Norway	0.24	71	0.16	69
Sweden	0.61	142	0.50	366
Switzerland	0.47	197	0.26	159
Average	0.43		0.29	

Table 3
Definitions of the main variables used in the analysis.

1	Control minus ownership	=	The control rights minus the ownership rights held by the largest shareholder. Sources: annual reports, Faccio and Lang (2002), Lexis-Nexis, and WorldScope.
2	Control rights	=	The fraction of voting rights held by the largest shareholder. Sources: annual reports, Faccio and Lang (2002), Lexis-Nexis, and WorldScope.
3	Ownership rights	=	The fraction of cash flow rights by the largest shareholder. Sources: annual reports, Faccio and Lang (2002), Lexis-Nexis, and WorldScope.
4	Cross-listing	=	Equals one if the firm has ADRs, and zero otherwise. Sources: Datastream, and Moody's / Mergent Manuals.
5	Financial investor	=	Equals one if the largest shareholder is a widely held financial institution, and zero otherwise. Sources: annual reports, Faccio and Lang (2002), Lexis-Nexis, and WorldScope.
6	Voting premium	=	The price of high voting shares minus price of low voting shares divided by the price of low voting shares. Source: Datastream.
7	Institutional pressure	=	Equals one if there are regulatory or other pressure that affect dual-class shares in place in the beginning of a sample year, and zero otherwise. Institutional changes are summarized in Table 1.
8	Equity issue proceeds	=	Net equity proceeds obtained from cash flow statements divided by shareholders' equity. Source: WorldScope.
9	Growth opportunities	=	Measure of growth opportunities defined as the average market-to-book ratio of single-class firms in the respective industry classified by two-digit SIC codes. Source: the pool of single-class firms comes from the WorldScope 2003 disk.
10	Industry-adjusted MTB	=	Measure of valuation defined as the firm's market-to-book ratio minus industry market-to-book ratio. Industry market-to-book ratio is defined as the average market-to-book ratio of single-class firms in the respective industry classified by two-digit SIC codes. Source: WorldScope.
11	ROA	=	Earnings before interest, taxes and depreciation (EBITDA) to total assets. Source: WorldScope.
12	Firm size	=	The natural logarithm of sales. Source: WorldScope.
13	Industry dummies	=	Dummy variables for 12 industry groups based on Campbell (1996). Source: WorldScope.
14	Country dummies	=	Dummy variables indicating country.

Table 4

This table presents summary statistics of variables. The sample includes 382 different dual class firms from Western Europe over the period 1996-2002 (2285 firm years). 79 firms unified their share classes and 303 kept the dual class structure during the study period. Corporate governance variables are reported as of the beginning of the sample period. Equity dependence and financial variables are reported for the period 1996-2002. The variables are control minus ownership, the control rights minus the ownership rights held by the largest shareholder; control rights, the fraction of voting rights held by the largest shareholder; ownership, the fraction of cash flow rights by the largest shareholder; cross-listing, equals one if the firm has ADRs, and zero otherwise; financial investor, equals one if the largest shareholder is a financial investor, and zero otherwise; voting premium*, the price of high voting shares minus price of low voting shares divided by price of low voting shares; institutional pressure, equals one if regulatory or other pressure are in place that affect dual-class shares for a sample year, and zero otherwise; equity proceeds*, net equity proceeds obtained from cash flow statements divided by shareholders' equity; equity issue dummy*, equals one if the firm reports equity issues in a given year, and zero otherwise; growth opportunities, the average market-to-book ratio of single-class firms in the respective two-digit SIC industry; market-to-book ratio, ROA, EBITDA divided by total assets; firm size, and the natural logarithm of assets.* denotes reduced sample due to limited data availability as indicated in Table 5.

		Panel A. Full sample			Panel B. Event firms			Panel C. Dual class firms		
		Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.
	Corporate governance variables									
1	Control minus ownership	0.16	0.15	0.16	0.12	0.09	0.12	0.17	0.15	0.16
2	Control rights	0.46	0.46	0.24	0.38	0.30	0.23	0.46	0.47	0.24
3	Ownership rights	0.29	0.25	0.24	0.26	0.22	0.20	0.29	0.25	0.24
4	Financial investor	0.07	0.00	0.26	0.15	0.00	0.36	0.07	0.00	0.26
5	Voting premium*	0.18	0.06	0.34	0.01	0.01	0.25	0.18	0.06	0.35
6	Cross-listing	0.11	0.00	0.32	0.22	0.00	0.41	0.11	0.00	0.31
7	Institutional pressure	0.25	0.00	0.43	0.08	0.00	0.28	0.28	0.00	0.45
	Equity dependence variables									
8	Equity issue proceeds*	0.05	0.00	0.22	0.10	0.00	0.32	0.04	0.00	0.20
9	Equity issue dummy*	0.23	0.00	0.42	0.41	0.00	0.49	0.22	0.00	0.42
	Other variables									
10	Growth opportunities	2.99	2.82	1.26	3.42	3.15	1.68	2.97	2.82	1.24
11	Firm size	5.61	5.64	0.90	5.71	5.76	0.92	5.61	5.63	0.90
12	ROA	0.06	0.05	0.07	0.06	0.06	0.07	0.06	0.05	0.07

Table 5

The determinants of share class unifications. This table presents results of probit models relating the probability of share class unifications to measures of private benefits of control, firm characteristics, year, and country variables. The full sample includes 2285 firm-years with 382 different dual class firms from Western Europe of which 79 firms experience unification over the period 1996-2002. Firms drop out of the sample after the unification. The dependent variable equals one if the firm unifies its shares in a given year, and zero otherwise. The independent variables are control minus ownership, the control rights minus the ownership rights held by the largest shareholder; control rights, the fraction of voting rights held by the largest shareholder; ownership, the fraction of cash flow rights by the largest shareholder; cross-listing, equals one if the firm has ADRs, and zero otherwise; financial investor, equals one if the largest shareholder is a financial investor, and zero otherwise; voting premium, the price of high voting shares minus price of low voting shares divided by price of low voting shares; institutional pressure, equals one if regulatory or other pressure are in place that affect dual-class shares for a sample year, and zero otherwise; equity proceeds, net equity proceeds obtained from cash flow statements divided by shareholders' equity; growth opportunities, the average market-to-book ratio of single-class firms in the respective two-digit SIC industry; firm size, the natural logarithm of assets; dummy variables for year; and dummy variables for country. The number of observations varies due to missing values. Financial variables are winsorized at the 1st and 99th percentiles. t-values, calculated from standard errors that correct for clustering at the firm level, are reported in parentheses below the coefficient estimates. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

	(1)	(2)	(3)	(4)	(5)
Constant	-2.134	-1.894	-2.225	-1.955	-1.755
	(-5.00)***	(-4.35)***	(-4.45)***	(-3.91)***	(-4.60)***
Control minus ownership	-0.747			-0.811	-0.699
	(-2.23)**			(-2.22)**	(-2.17)**
Control rights		-1.075			
		(-2.75)***			
Ownership rights		0.490			
		(1.34)			
Cross-listing	0.444	0.406		0.455	0.429
	(2.66)***	(2.46)**		(2.58)**	(2.65)***
Financial investor	0.349	0.261		0.443	0.333
	(1.80)*	(1.28)		(2.08)**	(1.73)*
Voting premium			-1.058		
			(-3.20)***		
Equity issue proceeds				0.631	
				(3.47)***	
Growth opportunities				0.067	
				(1.49)	
Institutional pressure					0.523
					(2.41)**
Firm size	-0.019	-0.028	0.112	-0.070	-0.012
	(-0.29)	(-0.44)	(1.47)	(-0.91)	(-0.20)
Year dummies	Included	Included	Included	Included	Not included
Country dummies	Included	Included	Included	Included	Included
Observations	2285	2285	1175	1826	2285
R^2	0.09	0.10	0.12	0.12	0.07

Table 6

Matched sample: unified firms versus dual-class firms. The table reports mean ratios for 101 event firms (Panel A) that unified their shares in 1996-2002. Matching control firms (Panel B) are chosen by matching each event firm with a dual-class firm using the following algorithm. All 493 firms (event and control) 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. The variables are industry-adjusted MTB, the firm's market-to-book ratio minus industry market-to-book ratio for single share class firms; ROA, EBITDA divided by total assets; equity issue proceeds ,net equity proceeds obtained from cash flow statements divided by shareholders' equity; equity issue dummy, equals one if the firm reports equity issues in a given year, and zero otherwise. *t*-statistics and (two-sided) significance levels of testing the equality of means between the event group and the matched control group are presented. Financial variables are winsorized at the 1st and 99th percentiles. *, **, and *** indicate statistical significance at the 10%, 5%, and 1% levels.

	Panel A. Event group means				Panel B. Control group means				Panel C. *t*-Statistic			
Year relative to unification	0	+1	+2	+3	0	+1	+2	+3	0	+1	+2	+3
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
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
Equity issue proceeds	0.15	0.05	0.13	0.01	0.06	0.06	0.08	0.01	2.04**	-0.14	0.70	-0.69
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