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# LONG TERM CHANGES IN VOTING POWER AND CONTROL STRUCTURE FOLLOWING THE UNIFICATION OF DUAL CLASS SHARES

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## ABSTRACT

# Long Term Changes in Voting Power and Control Structure following the Unification of Dual Class Shares

We follow the evolution of ownership structure in a sample of 80 Israeli companies that unified their dual-class shares in the 1990s, and compare it with a control sample of firms that maintained their dual share structure at least until 2000. Our main findings are as follows. First, controlling shareholders offset the dilution of voting rights they incurred upon unification by: 1) increasing their holdings prior to the unification (ex-ante preparation), and 2) by buying shares afterwards; by the end of the sample period their voting power was only marginally lower than in the control sample. This suggests that marginal voting rights are important to controlling shareholders even beyond the 50% threshold. Second, share unifications were not associated with much change in the identity of controlling shareholders. Third, the proportion of firms affiliated with pyramidal business groups in the sample of unifying firms was lower than in the population of listed firms as a whole and not different from that in the control sample, suggesting that pyramidal ownership structures did not replace dual class shares. Finally, unifying firms did not exhibit a substantial improvement in their performance and valuation in comparison with the control sample. We conclude that the regulatory attempt to enforce one share-one vote yielded, at best, a minor improvement in corporate governance.

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## 1. Introduction

Policies and regulations enforcing one share-one vote structures in listed companies have been debated extensively in the European Union and elsewhere over the last decade (ISS, 2007). In the academic literature, the enormous impact of the Law and Finance paradigm (starting with La Porta et al., 1997) has been accompanied by increased interest in the costs associated with ownership structures where the controlling shareholders enjoy disproportionate influence on corporate decisions either through dual class shares or through pyramidal business groups.

Despite the large number of academic studies on dual shares and their occasional unification in various countries, Israel, where corporate ownership is concentrated and family-owned business groups are quite common (as in many countries in Continental Europe, Asia and Latin America), offers a unique opportunity for some new insights on these issues. This is because of a historical (and nearly natural) experiment in regulatory reform that induced companies to adopt policies of one-share-one-vote. In 1990, a new amendment to the Israeli Securities Law forced Israeli companies seeking to raise equity for the first time on the Tel Aviv Stock Exchange (TASE) to issue only one-share-one-vote common stocks. Other dual class companies, whose shares had already been listed on the TASE, were faced with a choice between unifying their shares to a one share-one vote structure and only then raising equity again on the stock market, or issuing only shares with superior voting rights, so that over time the proportion of shares with inferior voting rights will be minimized. Following this regulatory change, by the year 2000, over 80 of the 109 dual class firms listed on the TASE in 1990 unified their shares. Most of the remaining dual class firms were delisted, merged or unified their shares in recent years, so that by the beginning of 2009 dual class stocks have become almost extinct. (Only seven dual class share firms still trade).

The main goal of the study is to examine the long-term impact of share unifications on the voting power of controlling shareholders and on the firm's control structure. Unlike much of the related literature (described below) which has focused primarily on the immediate effects of the introduction or abolition of dual share structures on corporate performance, we investigate whether the core impact of share unifications, namely the dilution in voting power of controlling shareholders, was long lasting. Controlling shareholders might have prepared *ex ante* for the unification-induced dilution of their vote by increasing their holdings in advance. And, after the unification, they might have reversed the initial erosion in their voting power by acquiring more shares. Alternatively, in the post-unification years, controlling shareholders could also build pyramids as a substitute for dual class shares. Did they?

In this paper we follow the evolution of voting rights and ownership structure starting two years before the unification up to seven years after it. Our data set includes a sample of 80 Israeli firms that unified their dual class shares during the 1990s, and a control sample of 25 firms that maintained their dual class structure at least until the year 2000. We also make some comparisons with the entire population of TASE listed firms. In addition to studying ownership and control, we also test whether the adoption of one share-one vote structures was associated with improved corporate performance.

Our main findings can be summarized as follows. First, on average, controlling shareholders in unifying firms prepared for the unification *ex ante*, and partially offset the expected dilution in their voting power by increasing their shareholdings in the year before the unification. Controlling shareholders continued to buy shares after the unification as well; hence, their eventual change in voting power was relatively modest. In comparison with non-unifying firms, by year +7 after the unification, controlling shareholders in unifying firms lost on average about 5 percentage points of their voting rights. The activity of controlling

shareholders to reverse the dilution of their voting power upon unification suggests that marginal voting rights are valuable for the controlling shareholders even beyond the 50% majority threshold. Second, unifications were not followed by an increased rate of change in the identity of the controlling shareholders: share unifications were not used as a mechanism to facilitate the sale of the firm and the minor reduction in the voting power of controlling shareholders did not induce hostile takeovers. Third, the proportion of firms affiliated with (pyramidal) business groups in the sample of unifying firms is much lower than in the population of listed firms as a whole (as reported in Kosenko, 2008) and slightly lower than that of the control sample. We also do not observe a marked increase in group affiliation over time. Apparently, pyramidal ownership structures did not replace dual class shares.

The above findings suggest, at best, a minor improvement in corporate governance and corporate performance. Consistent with this "minor change" thesis, we can only identify a small and statistically insignificant improvement in the performance and valuation of unifying firms (relative to the control group of non-unifying firms). We conclude that, at least in the case of Israel, the attempt to force one share-one vote through regulatory measures did not bring about much change.

The rest of the paper is organized as follows. Section 2 reviews the literature. Section 3 describes the sample and empirical approach. Section 4 reports and discusses the main results, and Section 5 concludes.

## 2. Related Literature

### *2.1. Dual class shares and unifications*

The present study is part of the large and growing literature on corporate governance in countries where ownership is concentrated, and conflicts between controlling and minority

shareholders are the main agency problem. (For a recent survey, see Morck et al., 2005). Within the literature on controlling shareholders and corporate governance, our paper is part of the vast literature on deviations from proportional shareholder representation. The theoretical literature on this issue is surveyed in Burkart and Lee (2008) who conclude that the welfare implications of non-proportional shareholder representation arrangements are not always detrimental to (minority) shareholders as observers tend to think (although they may very well be welfare reducing in many contexts). Adams and Ferreira (2008) survey the empirical evidence on deviations from one share-one vote. Although there are many studies that claim to provide empirical support for the argument that deviations from one share-one vote are detrimental to minority shareholders, Adams and Ferreira (2008) question the econometric validity of some of these conclusions, especially because ownership structures and corporate governance are endogenous.[1] Both Burkart and Lee (2008) and Adams and Ferreira (2008) conclude that the theoretical and empirical justifications for regulations imposing one share-one vote are weak.

The most recent literature on dual class shares consists of many country-specific studies examining various effects of dual class shares. In the US, Amit and Villalonga (2007) describe dual shares as a control enhancing mechanism in American family firms, which adversely affects minority shareholders. Masulis, Wang and Xie (2006) document a disproportionate frequency of poor acquisitions in dual class share firms, and conclude that this control mechanism is associated with a waste of corporate resources. Gompers, Ishii and Metrick (2004) construct an extensive data base of dual share companies in the US and document detrimental effects of this ownership structure on various measures of firm performance. In contrast with these studies, others suggest that dual class shares may have positive effects on performance. Dimitrov and Jain (2006), for example, find that, firms that

[1] In addition, the vast literature on deviations from proportional representation through pyramidal business groups is discussed in Morck et al. (2005) and in Khanna and Yafeh (2007).

introduce a dual class share structure exhibit faster growth rates and higher stock returns than other firms. Bauguess et al. (2007) also report improved performance following the introduction of dual class shares. In sum, although it appears that most U.S. studies are negative regarding the impact of dual shares on firm valuation and performance, the results are far from conclusive.[2]

Outside the US, Amoako-Adu and Smith (2001) characterize dual share companies on the Toronto Stock Exchange and describe disputes between different types of shareholders. King and Santor (2008) argue that control enhancing mechanisms such as dual class shares negatively affect the performance of Canadian firms. In Sweden, Cronqvist and Nilsson (2003) conclude that the dual class mechanism leads to expropriation of minority shareholders. (Earlier evidence by Bergstrom and Rydqvist, 1990, supports an opposite view.) Even closer to the focus of the present study, Dittmann and Ulbricht (2008) examine unifications of dual class shares in Germany and find a favorable market response to this change (see also Ehrhardt et al. 2006). Pajuste (2005) presents cross-European evidence on the likelihood of share unification, describes the declining popularity of dual shares in Europe in recent years, and documents improved corporate performance following the unification. In sum, much like US-based studies, the general impression is that in most cases dual class shares reduce public welfare, but the results are not clear-cut.

Finally, the present study is closest to Hauser and Lauterbach's (2004) who also study dual class share unifications in Israel. However, Hauser and Lauterbach (2004) focus on the compensation offered to controlling shareholders upon unification and on the implied price of voting rights, whereas the present study examines the long-term effects of unifications on firm control and ownership structures.

[2] See Adams and Ferreira (2008) and Burkart and Lee (2008) for a discussion of earlier studies from the 1980s and early 1990s.

*2.2. The effect of unification on firm ownership and control structure*

Dual share recapitalizations are typically devised to help entrepreneurs, founders and other dominant owners to cash out some funds or to expand the firm without losing much control. The dominant owners typically concentrate their holdings in superior-vote shares, while the general public (small investors) holds primarily inferior-vote shares. In some cases the inferior-vote shares promise higher dividends in return for their vote concession.

The effect of share unifications on corporate control and ownership is only briefly discussed in the existing literature. Amoako-Adu and Smith (2001), document some extraordinary shareholders disputes within dual class Canadian firms, and describe how these disputes lead to dual class share unifications. Pajuste (2005) reports that, in the 71 European unifications in her sample, the largest shareholder's voting rights (equity stake) decreased, on average, from 38.7% (25%) before the unification to 22.8% (22.8%) after it. Pajuste (2005) concludes that unifications (and the favorable market response accompanying them) were not intended or utilized by the controlling shareholders to cash out (sell their shares at a favorable price); although unifications naturally diluted the controlling shareholders' voting power, their equity stakes decreased only slightly.[3] Rather, European unifications appear as a public relation exercise or a promotion for an imminent Seasoned Public Offering (SPO) of equity.

As we show below, in our sample, the vast majority of controlling shareholders maintained control over their firms even after the unification, so that the concept of "cashing out" is unlikely to be very relevant for our study either. Instead, we emphasize the importance of marginal voting rights beyond the 50% threshold and hypothesize that voting rights are valuable to controlling shareholders even at high levels of vote concentration because they

[3] Interestingly, and as noted in the previous section, the existing empirical evidence indicates that both the creation of dual class shares and their unification may create value for shareholders – see, for example, Baugess et al. (2007) and Dittmann et al. (2008) respectively. It is possible, as Amoako-Adu and Smith (2001) suggest, that dual class shares fit some firms at their initial stages but harm these firms in their mature steady state.

serve as a “cushion” for future seasoned equity offerings. High voting rights guarantee that the controlling shareholders’ reign over the firm can last longer, and, with a longer, and possibly also larger, flow of private benefits, the present value of these benefits increases and balances the costs of maintaining high control rights.

Our hypothesis is therefore that controlling shareholders would attempt to undo the unification-induced dilution of their voting power. In order to empirically address the question of post-unification “recovery” of the optimal level of control rights, we use data for a relatively long post-unification period (seven years). The use of a long time series is especially important given that one of the central motives for share unifications was to advance an SPO at the peak prices present at the time of the unification. Hence, in the short term (early post-unification years) controlling shareholders might have lost some of their voting power (due to the dilution effect of an equity SPO), a loss that they may have regained in subsequent years.

One other conceivable technique for regaining the lost voting power and for reestablishing the gap between control and cash flow rights is to reorganize the unified firm within pyramidal business groups. We are not aware of any empirical study on this issue. Our conjecture is that, given the increased emphasis on corporate governance by the government and the media in the 1990s, post unification reorganization into business groups was not common.

## 3. Data and Empirical Approach

### *3.1. Sample and variables*

Our main sample includes all Israeli companies traded on the Tel-Aviv Stock Exchange (TASE) that unified their dual class shares in the years 1990-2000. We start the

sample in 1990 because this is the year when the first unifications took place, and we end it in 2000 to allow for a long enough post-unification period. Hauser and Lauterbach (2004) report 84 unifications in this sample period; however, because of incomplete data on the ownership structure of four of these firms, our sample consists of 80 unifying firms only. Of these 80 firms, 12 firms have some missing observations in the sampling window (years -2 to +7 relative to the unification year) due to delisting or mergers and seven firms have outlying observations in some years. This leads to a varying number of observations in some of the empirical exercises reported below and necessitates some robustness tests.

In addition to the main sample of unifying firms, we also collect data for a control sample of 25 companies traded on the TASE that did not unify their dual-class shares by the end of 2000. Seven of these firms still have dual class shares today, six have gone out of business, and the remaining 12 have unified their shares. (Control firms that unify their shares drop out of our control sample on their unification year.)

For each firm in our main and control samples we collect data on ownership and control. The ownership data include the percentage of voting and cash flow (equity) rights held by the controlling shareholders, by "insiders" (e.g. officers and managers), and by other large shareholders (mainly institutional investors). Pre-1991 ownership data is collected from the Meitav Stock Guide (various issues); between 1991 and 2001 these variables are drawn from the "Holdings of Controlling Shareholders," an official publication of the TASE; and post-2001 data, after this TASE publication ceased to exist, are drawn directly from annual reports available electronically from Yifat Online (a database vendor).[4] It is noteworthy that we measure the controlling shareholders' voting power as a percent out of total "eligible"

[4] In the annual reports, we rely on "Article 24 – securities held by large shareholders in the corporation, by its subsidiaries or by a linked corporation" to identify relationships between the major shareholders as well as voting agreements, and identify each firm's control group. Article 24 is quite detailed, and in case of various private firms controlling the company, it reveals the identity of the ultimate owners.

votes, i.e., we deduct treasury shares and shares held by subsidiaries. (These shares do not vote.)

As for control structures, data on affiliation with a pyramidal business group, is retrieved from the database of Kosenko (2008), which, unfortunately, starts only on 1995.

We also collect standard financial data such as firm size, market value and profitability.[5] For 23 firms where one class of shares did not trade, we use an estimate of the valuation of the non-traded shares from Meitav Stock Guide and add it to the market value of the traded shares to obtain the total market value of equity.

*3.2. Empirical approach and sample statistics*

In order to gauge the effects of share unifications, we compare the evolution of control (voting) and cash flow rights in the main and control samples starting two years prior to the unification year and up to seven years after it. We start two years before the unification in order to examine if the controlling shareholders prepared in advance for the unification-induced dilution of their voting rights (where "preparation", if it occurred, probably manifested itself by an increase in the controlling shareholders' equity stakes prior to the unification). We use seven years after the unification in order to observe the long term effects of unification on corporate ownership. We argue that seven years of post-unification data might be necessary because: 1) the "recovery" of voting rights by controlling shareholders is likely to be a gradual process (to minimize possible market criticism), and 2) a considerable proportion of the unifying firms had an equity SPO within a year or two after the unification, so that in the early post-unification years the controlling shareholders' voting rights might have further deteriorated. Thus, two or three years after the unification are too short a period

[5] Starting in 1991, these data are drawn from the Bank of Israel data bases. Pre-1991 accounting data are collected from "Financial Data of Public Firms," an official publication of the TASE and pre-1991 market value is collected from "Listing of Securities and Convertibles," also issued by TASE.

for gauging the true long term effects, and our choice of a seven years post-unification period appears more trustworthy.

The same time window (years -2 through +7 relative to the unification year) is also employed to examine firm valuation (Tobin's Q) and accounting performance (net return on assets, ROA). Finally, we also measure and compare the frequency of full or partial control changes (where some of the controlling shareholders are replaced) and of affiliation with a pyramidal business group in the main and control samples.

The comparison between the main sample and the control group proceeds as follows. For each unifying firm, we define its calendar unification year as year zero, and match the unifying firm's data with the corresponding data of the control sample for the same calendar year. For example, if for unifying firm *Z* year 0 is 1992, we collect for firm *Z* ownership data and financial statements for the years 1990-1999, and compare them with the *average* corresponding statistics for the control sample in years 1990-1999. In essence, each data point on a unifying firm is paired and compared with the corresponding average of all firms in the control sample.

Panel A of Table 1 presents the sample and some descriptive statistics. The median unifying firm is smaller than the median non-unifying firm (although this is not the case for the sample means); unifying firms are also somewhat less profitable, but none of the differences is large. The distribution across industries is also quite similar in the two samples, although the construction and real estate sector is more represented in the main sample whereas financial and other services are more represented in the control sample (not shown). Simple Probit regressions, where the dependent variable is a dummy variable which takes the value of one if the firm is included in the sample of unifying firms and zero if it is included in the control sample, do not identify systematic differences between the two samples (not shown).

Panel B describes the distribution of share unifications over time. The vast majority of unifications (63 out of 80) took place in 1990-94, immediately after the regulatory change. This wave was probably stimulated by the booming stock market of that period which induced many firms to contemplate an SPO. Indeed, 28 of our 80 unifying firms raised equity immediately after their share unification, and 26 of these SPOs took place between 1990 and 1993, during the early unification wave.

(Insert Table 1 about here)

## 4. Results

### *4.1. Changes in voting power before the unification*

Figure 1 and Table 2 present the evolution of the voting power of controlling shareholders in the main sample of unifying firms, and in the control sample of firms that chose to maintain their dual share structure. Looking at the pre-unification period, it appears that controlling shareholders anticipated the unification and prepared for the dilution of vote *ex ante*. Controlling shareholders in unifying firms increased their voting rights in the years before unification, while their peers in non-unifying firms did not change their voting power much. Table 2 suggests an absolute increase of about two percentage points in the voting power of controlling shareholders in unifying firms in year -1 relative to year -2, which corresponds to an "abnormal" increase of nearly three percentage points in voting power relative to the change in non-unifying firms. The pre-unification increase in the controlling shareholders' voting rights is statistically significant (see Table 3). Notably, much of this increase was achieved by buying inferior-vote shares — the controlling shareholders' cash flow rights increased by about 4 percentage points in this period — suggesting "strategic behavior:" controlling shareholders apparently tried *ex-ante* to minimize the "costs" they would incur upon unification.

(Insert Tables 2 and 3 and Figure 1 about here)

As a robustness test, we calculate the statistics in Table 3 also for a partial sample of 61 unifying firms with a complete set of observations throughout the sample period. The results for this sub-sample (not shown) are consistent with the full sample results, suggesting that our findings are not driven by the idiosyncrasies of firms that were dissolved, merged or disappeared for other reasons. In fact, similar robustness tests are executed for each analysis reported in this paper, and in all cases the results are similar and support the same conclusions.

*4.2. Post-unification changes in voting power*

In the immediate post-unification years we observe a small average decrease in the voting power of controlling shareholders (see Figure 1 and Table 2). However, this small change masks considerable variation among unifying firms. In unifying firms where the unification was followed by an SPO, voting power declined by almost 10 percentage points, from an average of 67.4% in year -1 to an average of 57.7% in year +2, whereas in unifying firms with no SPO, voting power remained roughly constant (around 70.2% in year -1, and 68.4% in year +2).

Starting around year +3, however, there is an upward trend in voting power in unifying firms. Interestingly, controlling shareholders held about two thirds of total vote both before the unification (years -2 and -1) and in the long-run after it (years +5 onwards). One interpretation of this finding is that controlling shareholders sought to regain their exact pre-unification influence. If this is correct, then the more fundamental insight is that marginal voting stakes are valuable to controlling shareholders even beyond the 50% majority point. Apparently, a one percent increase in voting rights has some value to controlling shareholders even if it appears to add very little power, i.e., even when controlling shareholders already

possess 60% or 70% of the voting rights (as is the typical case in our sample). Controlling shareholders may favor a wide "vote cushion" above the 50% (absolute majority) mark to protect themselves against future dilutions of their holdings in possible future SPOs, which, as hypothesized in Section 2.2, shorten the duration of the controlling shareholders' reign over the company, and decrease the present value of their private benefits.[6]

A second possible explanation for the observed eventual increase in the voting power of controlling shareholders is that it was part of a market-wide trend. Consistent with this explanation, in the control sample we also observe a steady increase in voting power starting around year +2. A plausible explanation for this market-wide increase is that most of the unifications took place during the stock market boom years of 1990-1994. In the following years (1995 onwards) stock returns were much lower, hence controlling shareholders accumulated company shares, as they often do during recessions. In line with this interpretation, statistics for all TASE firms, available to us starting in 1995, indicate that the average equity stake of controlling shareholders in all listed companies increased from about 71% at the end of 1995 to nearly 75% at the end of 1999. Thus, at least part of the post-unification increase in voting rights of controlling shareholders is attributable to a market-wide trend.

To abstract from the obscuring market-wide trend, in what follows we rely primarily on comparisons between unifying firms and non-unifying dual share firms. We believe that the non-unifying firms constitute a good control or match for our sample of unifying firms both because of their "common background" (dual shares) and because, as previously reported (in Section 4.1) there are only insignificant differences between the main attributes of these samples.

[6] An examination of how the "optimal" percentage of control is determined is beyond the scope of this study.

The long term picture that emerges from the comparison of unifying and non-unifying firms (Table 3, Panel B) is that controlling shareholders in unifying firms started (in year -2) with (slightly) more voting power than their counterparts in non-unifying firms, and ended up (in year +7) with less voting power (see also Figure 2). The long-term relative decrease in the voting power of controlling shareholders in unifying firms is modest in magnitude (about 5 percentage points), yet it is statistically significant. This mild relative decrease in the voting rights of controlling shareholders in unifying firms may imply a slight (relative) improvement in corporate governance if their power can more easily be contested by other shareholders. We examine actual turnover frequency statistics in Section 4.3.

(Insert Figure 2 about here)

In Table 4 we divide the sample of unifying firms into two roughly equal sub-samples according to the unification year. Panels A and B present short-term (pre-unification) and long-term changes for the sub-samples of early unifying firms (unifications in 1990-1992) and for firms that unified their shares later (during 1993-2000). Interestingly, in early unifying firms, controlling shareholders increased their voting power *ex ante* by more than in late unifying firms, and, in the long-term, experienced a small (0.3 percentage points) and statistically insignificant decline in voting power relative to the control sample. By contrast, in firms that unified their shares later, controlling shareholders did not increase their voting rights as much prior to unification and, and in the long run, experienced a much larger (10.7 percentage points) and statistically significant relative decline in their control rights.

(Insert Table 4 about here)

The early-unifiers response reinforces our contention that the basic instinct of controlling shareholders is to preserve the precise proportion of their voting power. Early unifiers viewed the unification as a government decree, and, on average, totally reversed the

dilution they incurred, in line with our hypothesis that each marginal vote matters. Late-unifying firms allowed for a voting power dilution, perhaps because, with time, unifications became a mechanism to win public trust. As time progressed, public attention to corporate governance intensified and perhaps there were new advantages for unifications that resulted in a new and lower level of voting power to controlling shareholders.

*4.3 The evolution of corporate control and business group affiliation after the unification*

Bebchuk et al. (2000) illustrate some equivalence between dual class shares and pyramidal business groups. In both these forms, controlling shareholders enjoy controlling power (vote) way beyond their cash flow rights. We now examine to what extent business groups have replaced dual shares as a mechanism of control after the unification. Unfortunately, the data on business groups in Israel are preliminary, and group affiliation is not always as stable and as clearly defined as in some other countries such as Korea (which has served as a testing ground for many theories on business groups and their economic impact — see, Khanna and Yafeh, 2007). Nevertheless, we use available data on groups in Israel (Kosenko, 2008, and Kosenko and Yafeh, 2009) to examine the prevalence of group affiliation among unifying firms and in the control sample.

Because data on business groups in Israel begin in 1995, we cannot investigate the change in group affiliation before and after unification. In 1995, only two of the unifying firms were group affiliated; in 1997, we observe the same two firms plus three partially affiliated firms (whose affiliation is unstable). These proportions of group affiliation are low in comparison with the control sample, where three out of 25 firms were group affiliated and two were partially affiliated in both 1995 and 1997. These proportions are also extremely low relative to the proportion of group affiliated firms on the TASE as whole, where some 160 firms (about a quarter of all listed firms) are characterized as group affiliated (Kosenko and

Yafeh, 2009). We conclude that, despite the evidence on a slight increase in the number of affiliated companies among unifying firms, in general, pyramidal business groups did not replace the dual class structure.

We also examine control-change statistics following unifications. Did the decrease in the voting power of controlling shareholders trigger takeovers in unifying firms? To address these question, we code control changes as follows: zero corresponds to no control change relative to the previous year; 0.5 corresponds to a partial change where at least one new controlling shareholder is introduced (in addition to some of the existing ones); and 1 corresponds to a complete control change where all the existing controlling shareholders are replaced by completely new ones. Using this coding system, each firm can score 0, 0.5, or 1, in each year, and the maximal cumulative control change score for each firm is 9 (representing a full control change in each year starting in year -1 all the way to year +7).

We find that in unifying firms, the mean cumulative change is 0.79, whereas in the control sample of non-unifying firms the mean cumulative change is 0.72, a difference that is statistically insignificant. Apparently, the large equity stakes maintained by the controlling shareholders even after the unification blocked any significant increase in the probability of a control change.

*4.4 Post-unification corporate performance*

Section 4.2 above documents that, in the long run, share unifications led only to minor reductions in control rights. Thus, we do not expect sizable improvements in the performance and valuation of unifying firms (relative to non-unifying firms). This prediction is borne out by the data. Table 5 and Figure 3 present the evolution of the mean Tobin's Q for unifying and non-unifying firms. Although much inter-temporal variation is observed, the bottom line is that the mean Q of unifying firms increased from 1.08 in year -2 to 1.17 in year +7,

whereas the corresponding mean Q of non-unifying firms decreased slightly from 1.12 to 1.08. However, this limited evidence for improved performance in unifying firms is statistically insignificant and it largely disappears when examining other statistics. For example, the median Q of unifying and non-unifying firms is almost identical (1.01 and 1.04, respectively, in year -2, and 1.02 and 1.03, respectively, in year +7).

(Insert Table 5 and Figure 3 about here)

Moving from Q to net return on assets (ROA) as a measure of performance, we find that non-unifying firms exhibit consistently higher average and median profitability in all years, and observe no clear evidence that this profitability gap tends to shrink following unification.

Despite the absence of clear evidence on improvement in the performance of the population of unifying firms as a whole, there is some (albeit very limited) evidence to suggest that, among late unifying firms, the improvement in corporate performance may have been somewhat larger, in line with the bigger decrease in voting power of the controlling shareholders in this sub-sample (see Section 4.2). The average Q among firms that unified their shares on or after 1993 increased from 1.18 in year -2 to 1.34 in year +7, a much larger increase than that experienced by firms that unified their shares earlier, and also larger than in the control sample firms. (In both of these comparison groups, the average Q remained roughly constant.) However, consistent evidence is not found when examining the median Q's (that remained roughly constant for both early and late unifiers) and the net return on assets (ROA) statistics (that did not improve much either).

Finally, we also examine several regression specifications where the dependent variable is the difference between the firm-specific average pre-unification Q (calculated in years -1 and -2) and the firm-specific average post-unification Q. In all regression

specifications we control for firm size, industry, and the unification year (to control for aggregate inter-temporal changes in firm valuation). The results (not tabulated) indicate a small improvement in Q following a decline in the controlling shareholders' power - a 10% decline in either voting or cash flow rights is associated with a small increase in Q of about 0.06 (with *t-values*, corrected for heteroscedasticity, of 1.4 and 1.7 for the change in voting rights and the change in cash flow rights, respectively).[7] When the change in the "wedge" between voting and cash flow rights is used as an explanatory variable in the regression (instead of the change in voting or cash flow rights), its coefficient is economically and statistically insignificant (*t-value* of about 1). It appears that at the prevailing high levels of influence by controlling shareholders, the decline in excess control rights ("wedge") did not have much of an effect on firm performance.

## 5. Concluding Comments

This study examines a quasi-natural experiment in which a new regulation induced 80-some Israeli firms to unify their dual shares during the 1990s. Perhaps the most striking conclusion we can draw is that not much has happened as a result of the revised regulatory rules. Although the controlling shareholders lost some voting rights in the immediate years following the unification, especially if they chose to raise additional equity through an SPO on the stock market, this change was only temporary; in the longer run, the controlling shareholders regained much of the influence they had lost in the early post-unification years. Moreover, control has remained concentrated at very high levels, and, not surprisingly, changes in ownership have been as rare in the sample of unifying firms as they have been in the control sample. Business groups, a common feature in Israel's economic landscape, have

[7] Because of colinearity between the changes in the controlling shareholders' voting rights and cash flow rights, the reported results are of two separate regressions, one with the change in voting rights as an explanatory variable and the other with the change in equity stake (cash flow rights) as an explanatory variable.

not been used to replace dual shares – there was simply no need, since the share unification did not bring about much change. In line with the mild improvement in corporate control (the slight decrease in voting power and the almost complete annulment of the difference between control and cash flow rights), it is not surprising that we can identify only very weak (statistically insignificant) evidence of subsequent improvements in firm valuation and performance.

The results of the Israeli experiment should be extrapolated with care. We conjecture that regulation inducing one share-one vote, in the absence of additional measures, is unlikely to bring about a substantial change in an environment where controlling shareholders are relatively powerful. Nevertheless, one share-one vote regulation may be considered as a component of corporate governance reforms, especially in relatively weak corporate governance environments, even though, as recent theoretical and empirical studies have shown (Burkart and Lee, 2008, and Adams and Ferreira, 2008), this could involve some costs and may not fit all.

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**Table 1**

**Sample and descriptive statistics**

Panel A: Descriptive statistics

Sample statistics for unifying firms are calculated at the end of the calendar year preceding the unification, except for post-unification Q and voting power, which are calculated at the end of the unification year. For the control sample of non-unifying firms, we first compute yearly means and medians, and then derive weighted statistics, where the weights correspond to the percent of unifications in each year.

| | Unifying firms (n=80) | | Non-unifying firms (n=25) | |
|---|---|---|---|---|
| | Mean | Median | Mean | Median |
| Firm characteristics | | | | |
| Total assets (in million NIS) | 845 | 65 | 628 | 133 |
| % Return on assets (ROA) | -0.1 | 0.6 | 1.9 | 2.06 |
| Tobin's Q before unification | 1.24 | 1.04 | 1.23 | 1.12 |
| Tobin's Q after unification | 1.46 | 1.13 | 1.30 | 1.17 |
| Controlling shareholders | | | | |
| % in total vote before unification | 69.3% | 69.6% | 65.0% | 68.0% |
| % in total vote after unification | 65.7% | 67.5% | 64.9% | 67.8% |
| Loss of voting power | 3.6% | 2.1% | | |

**Tab1e 1 (Continued)**

Panel B: Share unifications by year

| Calendar year | Number of unifications |
|---|---|
| 1990 | 14 |
| 1991 | 15 |
| 1992 | 13 |
| 1993 | 14 |
| 1994 | 7 |
| 1995 | 1 |
| 1996 | 2 |
| 1997 | 5 |
| 1998 | 3 |
| 1999 | 4 |
| 2000 | 2 |

**Table 2**

**The controlling shareholders' voting power before and after share unifications**

The numbers in the table are computed as follows. First, we compute for the control sample (25 non-unifying firms) the average voting rights of the controlling shareholders (in percent) in each of the years 1988-2007. Then, each specific unifying firm is compared with the corresponding (same calendar year) average control sample statistic. For example, if company Z unified its dual class shares in 1992, then: 1) 1992 is defined as year zero; 2) data on firm *Z*'s controlling shareholders' voting rights are collected from 1990 (year -2) through 1999 (year 7); and 3) a corresponding control vector of 10 observations is constructed. In this control vector, against (or for comparison with) firm *Z*'s year -2 percentage vote, we put the average control firms' percentage vote in 1990, et

| | Year relative to the unification | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| The mean % vote of controlling shareholders in 80 unifying firms (full sample) | 67.2 | 69.3 | 65.7 | 65.2 | 64.6 | 64.0 | 64.6 | 67.9 | 68.7 | 70.0 |
| The mean % vote of controlling shareholders in non-unifying firms (control sample) | 65.3 | 64.9 | 64.9 | 64.6 | 65.1 | 66.3 | 68.1 | 70.0 | 71.8 | 73.5 |

**Table 3**

**Voting power changes in unifying firms**

Panel A: Pre-unification changes

Two firms did not trade on the Tel-Aviv Stock Exchange in year -2, reducing the sample size to 78 unifying firms. The matching between unifying and control (non-unifying) firms is as explained in Table 2.

| | |
|---|---|
| Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year -2 | 1.9% |
| Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year -1 | 4.8% |
| Change in the voting power: difference between years -2 and -1 (the pre-unification relative change in voting power in unifying firms) | 2.9% |
| *p-value* of the above pre-unification relative change in voting power | 0.002 |
| Proportion of unifying firms with a positive relative change in voting power | 70.5% |
| *p-value* of the above proportion (null: proportion is 0.5) | 0.0002 |

**Table 3 (Continued)**

Panel B: Long-term changes

Two firms did not trade on the Tel-Aviv Stock Exchange in year -2 and for 10 other firms there is no data for year +7 (due to mergers and delistings in the years after the unification), reducing sample size to 68.

| | |
|---|---|
| Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year -2 | 1.9% |
| Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year +7 | -3.4% |
| Change in voting power: difference between years -2 and 7 (the eventual post-unification relative change in voting power in unifying firms) | -5.3% |
| *p-value* of the above post-unification relative change in voting power | 0.02 |
| Proportion of unifying firms with a negative relative change in voting power | 63.2% |
| *p-value* of above proportion (null: proportion is 0.5) | 0.02 |

**Table 4**

**Voting power changes: Early vs. late unifications**

In this table we split the overall sample results, presented in Table 3, into two sub-samples (of about equal size): “early” unifiers (1990-92), and “late” unifiers (1993-2000).

Panel A: Comparison of pre-unification changes

| | Firms unifying shares early (in 1990-1992) | Firms unifying shares late (in 1993-2000) |
|---|---|---|
| Number of unifying firms | 40 | 38 |
| Mean difference in the controlling shareholders’ voting power between unifying and non-unifying firms in year -2 | 0.8% | 3.1% |
| Mean difference in the controlling shareholders’ voting power between unifying and non-unifying firms in year -1 | 4.7% | 4.9% |
| Change in voting power: difference between years -2 and -1 (the pre-unification relative change in voting power in unifying firms) | 3.9% | 1.8% |
| *p-value* of the above pre-unification relative change in voting power | 0.002 | 0.20 |
| Proportion of unifying firms with a positive relative change in voting power | 82.5% | 57.8% |
| *p-value* of the above proportion (null: proportion is 0.5) | < 0.0001 | 0.21 |

**Table 4 (Continued)**

Panel B: Comparison of long-term changes

| | Firms unifying shares early (in 1990-1992) | Firms unifying shares late (in 1993-2000) |
|---|---|---|
| Number of unifying firms | 36 | 32 |
| Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year -2 | 0.8% | 3.0% |
| Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year +7 | 0.5% | -7.7% |
| Change in the voting power: difference between years -2 and +7 (the eventual post-unification relative change in voting power in unifying firms) | -0.3% | -10.7% |
| *p-value* of the above post-unification relative change in voting power | 0.90 | 0.002 |
| Proportion of unifying firms with a negative relative change in voting power | 55.5% | 71.9% |
| *p-value* of above proportion (null: proportion is 0.5) | 0.31 | 0.01 |

**Table 5**

## Tobin's Q around dual class share unifications

The numbers in this table are computed as follows. First, we compute for the control sample (25 non-unifying firms), the average Q in each of the years 1988-2007. Then, each unifying firm is compared with the corresponding (same calendar year) average Q for the control sample. For example, if company *Z* unified its dual class shares in 1992, then: 1) 1992 is defined as year 0; 2) firm *Z*'s Tobin's Q is collected from 1990 (year -2) through 1999 (year +7); and 3) a corresponding control vector of 10 observations is constructed. In this control vector, against (or for comparison with) firm *Z*'s year -2 Tobin's Q, we use the average Q in the control sample Q in 1990, etc.

.

| | Year relative to the unification | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Mean Q of 80 unifying firms (full sample) | 1.08 | 1.24 | 1.46 | 1.48 | 1.25 | 1.18 | 1.07 | 1.16 | 1.20 | 1.17 |
| Mean Q of non-unifying firms (control sample) | 1.12 | 1.23 | 1.30 | 1.30 | 1.31 | 1.23 | 1.07 | 1.05 | 1.05 | 1.08 |

**Figure 1**

**The mean voting power of controlling shareholders around the unification year**

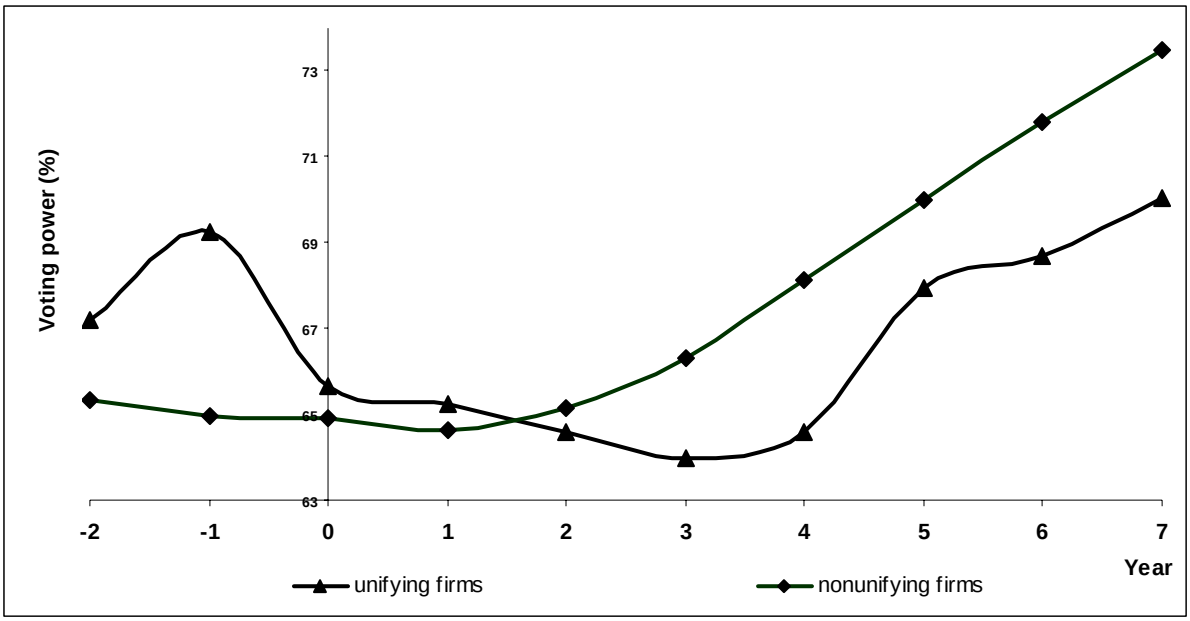

**Figure 2**

**Difference in the controlling shareholders' voting power: Unifying minus non-unifying firms**

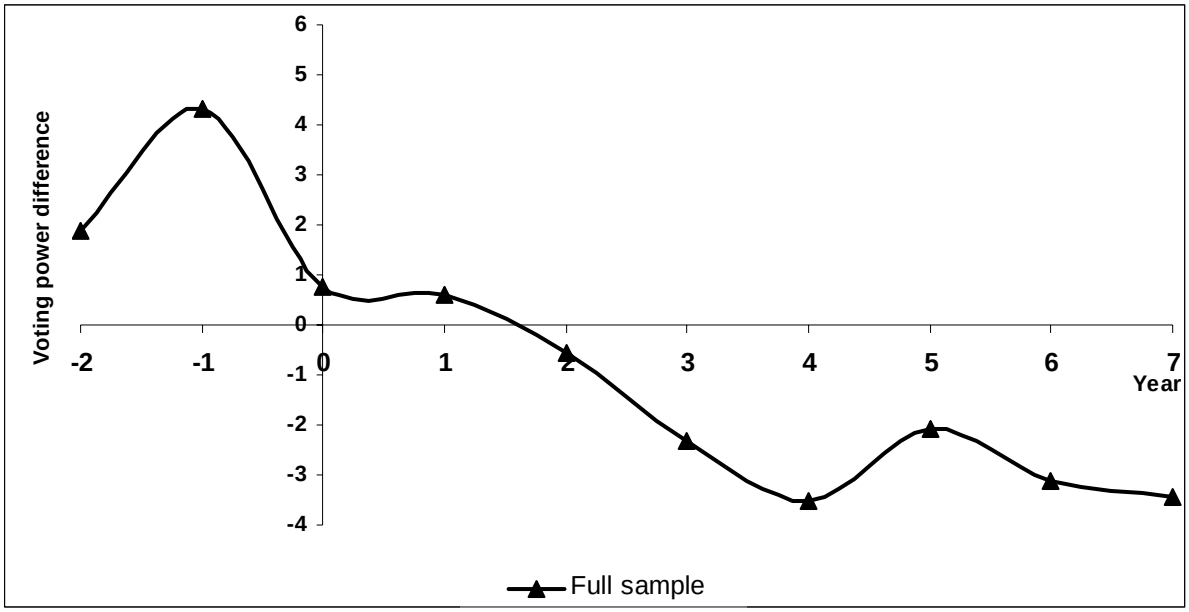

**Figure 3**

**Mean Tobin's Q around the unification year**