



Contents lists available at ScienceDirect

## Journal of Corporate Finance

journal homepage: [www.elsevier.com/locate/jcorpfin](http://www.elsevier.com/locate/jcorpfin)

# Long term changes in voting power and control structure following the unification of dual class shares

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## ARTICLE INFO

Available online 25 September 2010

JEL classification:

G30

G32

Keywords:

Dual class shares

Corporate governance

## ABSTRACT

We study the effects of a regulatory change that induced the unification of most dual class shares in Israel in the 1990s. Specifically, we follow the evolution of ownership structure in a sample of 80 companies that unified their dual-class shares, 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 offsetting result suggests that marginal voting rights may be 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.

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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 class 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 an opportunity for some new insights on these issues. This is because of a historical and (as far as we know) unique 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.<sup>1</sup> 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

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<sup>1</sup> We are not aware of any other country with a similar legal change.

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. This is in some contrast with the existing literature, reviewed below, which focuses primarily on the effects of the introduction or abolition of dual class share structures on corporate performance. We argue that the immediate dilution of voting power upon unification cannot be taken for granted, as it may be short-lived or even illusory. Controlling shareholders may prepare *ex ante* for the unification-induced dilution of their voting power by increasing their holdings in advance. And, after the unification, they may reverse the initial erosion in their voting power by acquiring more shares. Alternatively, in the post-unification years, controlling shareholders may also build pyramids as a substitute for dual class shares. Did they use any of these measures in the case of Israel?

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. (Although small, these samples cover virtually the entire universe of dual class share firms in Israel.) We also make some comparisons with the entire population of TASE listed firms. In addition to studying ownership and control, we also examine 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 (in some unifying firms) continued to buy shares after the unification as well; hence, the eventual change in their 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 may be valuable for the controlling shareholders even beyond the 50% majority threshold.

Our second finding is that unifications were not followed by substantial changes 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.

Our third result sheds light on the extent to which dual class shares and pyramids are substitutes. We find that 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 in the control sample. More important, we do not observe an increase in group affiliation over time after the unification. Apparently, pyramidal ownership structures are not a perfect substitute for dual class shares.

Finally, although the abolition of dual class ownership structures constitutes, in and of itself, a potential improvement in corporate governance, the small actual decline in the voting power of controlling shareholders suggests that the observed effects of this change on corporate performance are likely to be small. Consistent with this "minor change" thesis, we identify only a very 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 in corporate ownership and performance.

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 where conflicts between controlling and minority shareholders constitute 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.<sup>2</sup> 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.

<sup>2</sup> 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).

The most recent literature on dual class shares consists of many country-specific studies examining various effects associated with this control structure. In the US, [Amit and Villalonga \(2009\)](#) describe dual class shares as a control enhancing mechanism in American family firms, which adversely affects minority shareholders. [Masulis et al. \(2009\)](#) 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 et al. \(2010\)](#) construct an extensive data base of dual class share companies in the US and document adverse effects of this ownership structure on firm valuation. 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 introducing 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 US studies are negative regarding the impact of dual class shares on firm valuation and performance, the results are far from conclusive.<sup>3</sup>

Outside the US, [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 the expropriation of minority shareholders. (Earlier evidence by [Bergström 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 class 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.

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

Dual class shares are typically devised to help entrepreneurs, founders and other dominant owners 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 shareholder 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) decreases, 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) are typically not intended or utilized by the controlling shareholders as a means to cash out (sell their shares at a favorable price); although unifications naturally dilute the controlling shareholders' voting power, on average, their equity stakes decrease only slightly.<sup>4</sup> Instead, European unifications appear as a public relations 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 maintain control over their firms even after the unification, so that the concept of “cashing out” is unlikely to be central in our study either. Instead, we conjecture (without formal proof) that marginal voting rights beyond the 50% threshold may be important to controlling shareholders under some circumstances. For example, voting rights may be valuable to controlling shareholders even at high levels of vote concentration because they may serve as a “cushion” against possible dilutions of the controlling shareholders' power in future seasoned equity offerings and thus prolong the duration or extent of their control.<sup>5</sup>

If the conjecture that votes beyond the 50% threshold matter is correct, then one might expect that some controlling shareholders would attempt to undo the unification-induced dilution of their voting power. In order to empirically address the possibility 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 motivations for share unifications in Israel in the early 1990s was the opportunity to orchestrate an SPO at the peak prices present at the time of the unification. Hence, in the short term (early post-unification years) controlling shareholders may have lost some of their voting power (due to the dilution effect of an equity SPO), a loss that they could have recovered in subsequent years.

One other conceivable technique for regaining the voting power lost through share unification and for reestablishing the desired gap between control and cash flow rights is to incorporate the unified firm within a pyramidal business group. We are not aware of any empirical study on this issue. Our conjecture is that, despite their alleged theoretical equivalence ([Bebchuk et al., 2000](#)), business groups and dual class shares are not perfect substitutes ([Bennedsen and Nielsen, 2010](#)), perhaps because the two

<sup>3</sup> See [Adams and Ferreira \(2008\)](#) and [Burkart and Lee \(2008\)](#) for a discussion of earlier studies from the 1980s and early 1990s.

<sup>4</sup> 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, [Bauguess et al. \(2007\)](#) and [Dittmann and Ulbricht \(2008\)](#), 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 at their mature steady state.

<sup>5</sup> The optimal level of voting rights is reached when the benefit of a marginal vote to the controlling shareholders is balanced by its costs (e.g. lack of diversification and other costs). However, a formal analysis of the optimal level of the controlling shareholders' voting rights is beyond the scope of this study. We also do not study the decision of controlling shareholders on how much of their investment to hold in superior voting shares relative to “regular” shares.

mechanisms entail different costs for firms with different attributes (e.g. small vs. large firms). We therefore expect post-unification reorganization into business groups to be rare.

### 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.

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.) We discuss and test the appropriateness of the control sample below.

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. 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).<sup>6</sup> It is noteworthy that we measure the controlling shareholders' voting power as a percent out of total “eligible” votes, i.e., we deduct treasury shares and shares held by subsidiaries (which 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 in 1995.

We also collect standard financial data such as firm size, market value and profitability.<sup>7</sup> 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

We choose non-unifying dual class firms as the control sample for our main sample of unifying firms. Unifying and non-unifying firms share a common background as firms with dual class shares, making non-unifying firms a natural control. However, if non-unifying firms are different from unifying firms in some key fundamental (and observable) attributes such as size, profitability and industry, then using non-unifying firms as a comparison group is problematic.

Panel A of Table 1 presents some descriptive statistics for unifying and non-unifying firms. 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 very 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). There is also no big difference in leverage across the two sub-samples (not shown), suggesting that unifying firms were not more constrained than their non-unifying peers in their ability to raise debt finance (in fact, leverage is slightly higher among non-unifying firms).

Furthermore, simple Probit regressions, where the dependent variable is a dummy variable that 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 and statistically significant differences between the two samples (not shown). Thus, our control sample appears legitimate, at least according to some key observable characteristics.<sup>8</sup>

In order to gauge the effects of share unifications, we compare the evolution of 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, should probably manifest itself by an increase in the controlling shareholders' equity stakes prior to the

<sup>6</sup> 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 discloses the identity of the ultimate owners.

<sup>7</sup> 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.

<sup>8</sup> We acknowledge the endogeneity of the decision to unify and the fact that the experiment we study is not random, that is, unifying firms are not drawn by chance. However, we argue that the control used is reasonable and expect that any large and unique vote and control structure changes in unifying firms would manifest themselves even when we use an imperfect control sample. In addition, we also present, when possible, comparisons with average statistics for all listed firms.

**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 <i>Q</i> 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 ( <i>n</i> = 80)		Non-unifying firms ( <i>n</i> = 25)	
	Median	Mean	Median	Mean
<i>Firm characteristics</i>				
Total assets (in million NIS)	845	65	628	133
% Return on assets (ROA)	−0.1	0.6	1.9	2.1
Tobin's <i>Q</i> before unification	1.24	1.04	1.23	1.12
Tobin's <i>Q</i> after unification	1.46	1.13	1.30	1.17
<i>Controlling shareholders</i>				
% 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%	
Panel B: Share unifications by year				
Number of unifications	Calendar year			
14	1990			
15	1991			
13	1992			
14	1993			
7	1994			
1	1995			
2	1996			
5	1997			
3	1998			
4	1999			
2	2000			

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 costs and possible market criticism), and 2) a considerable proportion of the unifying firms is associated with 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 declined. Thus, a period of two or three years after the unification is too short for gauging the true long term effects, and our choice of a seven year 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 0, 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 B of Table 1 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.<sup>9</sup>

## 4. Results

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

Fig. 1 and Table 2 present the evolution of 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

<sup>9</sup> The high proportion of SPOs in the sample of unifying firms raises the question: Why did firms that did not plan a SPO unify their shares? Perhaps some of these firms wanted to make sure that an SPO in the future would be easily feasible. Other non-SPO unifying firms may have considered share unification as a way to signal their positive attitudes towards minority shareholders and corporate governance.

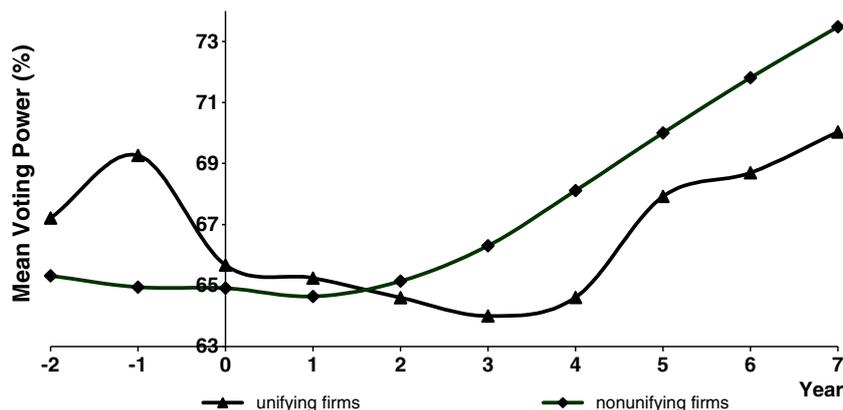


Fig. 1. The mean voting power of controlling shareholders around the unification year (year 0).

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 0; 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 of the control firms' percentage vote in 1990, etc.

	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	65.0	64.9	64.6	65.1	66.3	68.1	70.0	71.8	73.5

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 the unification, while their peers in non-unifying firms did not change their voting power much. Table 2 reports an absolute increase of about two percentage points in the voting power of controlling shareholders in unifying firms between year –2 and year –1.

When compared to non-unifying firms (our control group), the pre-unification increase in voting power appears even larger: the mean pre-unification vote increase in unifying firms is nearly 3 percentage points higher than in non-unifying firms, a statistically significant difference (see Table 3). Further examination reveals that much of the pre-unification increase in voting power was achieved by buying inferior-vote shares – the controlling shareholders' cash flow rights increased by about 4 percentage points in this time period – indicating “strategic behavior:” controlling shareholders apparently tried *ex-ante* to minimize the “costs” they would incur upon unification.<sup>10</sup>

#### 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 Fig. 1 and Table 2). Starting around year +3, however, there is an upward trend in voting power. Interestingly, controlling shareholders held about two thirds of the votes 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 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 1% 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), perhaps as a protection mechanism against future dilutions of the controlling shareholders' holdings in possible future SPOs.

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 (see Fig. 1). A plausible explanation for this market-wide increase is that most of the share unifications took place during the stock market boom years of 1990–1994. In the following years (1995 onwards) stock returns

<sup>10</sup> The voting power statistics in Table 3 do not match exactly the full sample averages presented in Table 2 because they are calculated for firms with complete data for years –2, –1 and +7 only. 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.

**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. The figures in this panel regarding years $-1$ and $-2$ are slightly different from the corresponding figures in Table 2 because the calculation here can be performed only for firms that have data available in both year $-2$ and $-1$ .	
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%
<i>p</i> -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%
<i>p</i> -value of the above proportion (null: proportion is 0.5)	0.0002
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. The figures in this panel regarding years $-2$ and $7$ are slightly different from the corresponding figures in Table 2 because the calculation here can be performed only for firms that have data available in both year $-2$ and $+7$ .	
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)	$-5.3\%$
<i>p</i> -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%
<i>p</i> -value of above proportion (null: proportion is 0.5)	0.02

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. We attempt to distinguish between a deliberate effort by controlling shareholders to undo the dilution effect of share unifications and aggregate trends in the next subsection.<sup>11</sup>

Moving from the immediate post-unification years to the longer run, the 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 Fig. 2). The long-term relative decrease in the voting power of controlling shareholders in unifying firms is modest in magnitude (about 5 percentage points), although it is statistically significant.<sup>12</sup>

#### 4.3. The post-unification recovery: cross-sectional variation

The aggregate statistics presented above do not provide a full answer to the question of whether or not controlling shareholders deliberately undid the unification-induced dilution in their voting rights. In absolute terms, Fig. 1 and Table 2 suggest a full recovery – the mean voting power of controlling shareholders at the end of the period (year  $+7$ ) is even higher than that at the beginning of the period (year  $-2$ ). However, in relative terms (in comparison with the control group), the picture is more nuanced (Fig. 2): voting rights of controlling shareholders in unifying firms increase between year  $-2$  and year  $-1$ , decrease until year  $+4$ , and then remain fairly stable. This suggests that much of the increase in the controlling shareholders' voting rights from year  $+4$  onwards can be attributed to market-wide trends: in these later years, changes in voting rights in unifying firms seem to move in tandem with those in non-unifying firms (see Figs. 1 and 2). Fig. 2 also suggests that “active” measures by controlling shareholders to offset the effects of unifications were concentrated in the pre-unification years.

Nevertheless, these aggregate figures mask considerable cross-sectional variation. In particular, the effects of share unifications differed substantially between unifying firms where the unification was followed by an SPO and other firms. In unifying firms where unification was followed by an SPO, the controlling shareholders' voting power declined sharply by almost ten percentage points from an average of 67.4% in year  $-1$  to an average of 57.7% in year  $+2$ . (In non-SPO firms the corresponding figures are 70.2% in year  $-1$  and 68.4% in year  $+2$ .) This is not surprising, as SPOs naturally dilute the controlling shareholders' equity stakes. More interestingly, as Fig. 3 clearly shows, from year  $+3$  onwards, controlling shareholders in unifying firms with an SPO appear to be actively accumulating additional shares. Evidently, unifying firms with a subsequent SPO, exhibited a strong abnormal post-unification buying activity. This impression is corroborated by the statistics presented in Table 4: in comparison with non-SPO unifying firms, in unifying firms with a

<sup>11</sup> There was no change in takeover laws during the 1990s, hence the increase in the equity stakes of controlling shareholders should not be viewed as an anti-takeover mechanism. In general, because of the relatively high ownership concentration in most Israeli companies, takeovers were at the time, and still are, extremely rare.

<sup>12</sup> The “wedge” between cash flow and control rights in unifying firms declines to (roughly) zero after unification (the actual wedge does not always equal exactly zero because of non-voting shares, e.g. shares held by subsidiaries which are non-voting). In the control sample, the average “wedge” remains roughly constant, ranging between 6 and 7%.

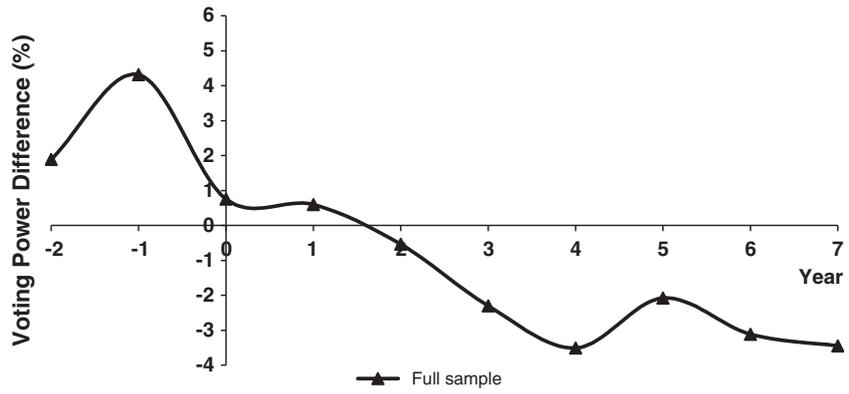


Fig. 2. Difference in the controlling shareholders' mean voting power: Unifying minus non-unifying firms.

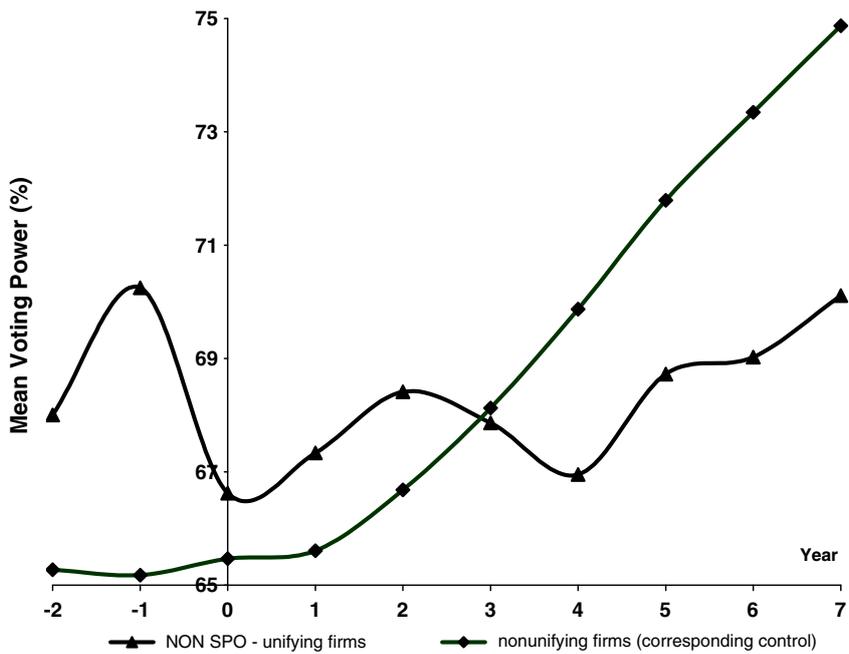
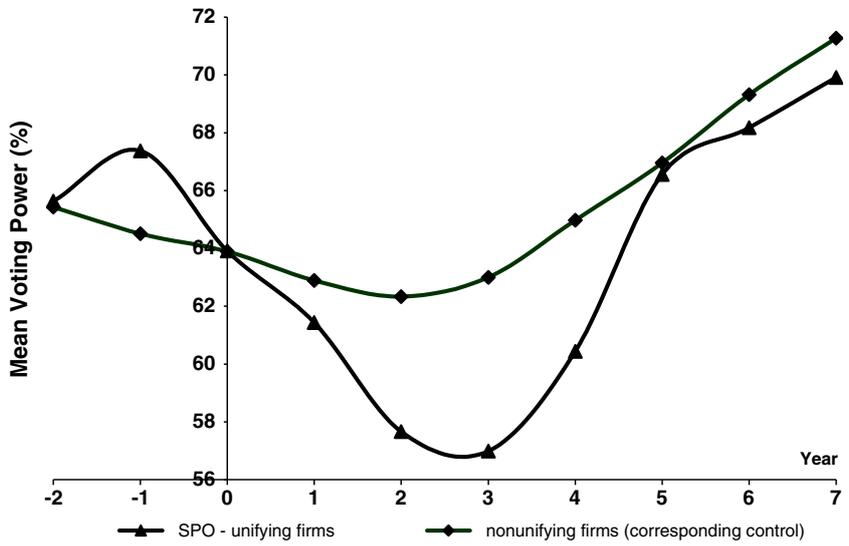


Fig. 3. The mean voting power of controlling shareholders around the unification year (year 0): Firms with a Seasoned Public Offering (SPO) and non-SPO unifying firms.

**Table 4**

Voting power changes: unifying firms with an SPO vs. non-SPO Unifying Firms.

Panel A: Comparison of pre-unification changes		
Data are incomplete for two out of the 28 unifying firms with an SPO.		
	SPO firms	Non-SPO firms
Number of unifying firms	26	52
Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year $-2$	0.2%	2.7%
Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year $-1$	4.2%	5.1%
Change in voting power: difference between years $-2$ and $-1$ (the pre-unification relative change in voting power in unifying firms)	4.0%	2.4%
<i>p</i> -value of the above pre-unification relative change in voting power	0.0042	0.057
Proportion of unifying firms with a positive relative change in voting power	92.3%	59.6%
<i>p</i> -value of the above proportion (null: proportion is 0.5)	<0.0001	0.106
Panel B: Comparison of long-term changes		
	SPO firms	Non-SPO firms
Number of unifying firms	25	43
Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year $-2$	0.3%	2.7%
Mean difference in the controlling shareholders' voting power between unifying and non-unifying firms in year $+7$	$-0.9\%$	$-4.8\%$
Change in the voting power: difference between years $-2$ and $+7$ (the eventual post-unification relative change in voting power in unifying firms)	$-1.3\%$	$-7.5\%$
<i>p</i> -value of the above post-unification relative change in voting power	0.7473	0.0067
Proportion of unifying firms with a negative relative change in voting power	64.0%	62.8%
<i>p</i> -value of above proportion (null: proportion is 0.5)	0.115	0.063

subsequent SPO, controlling shareholders seem “active” both ex-ante (before unification) and ex post (after unification) in what appears to be a deliberate effort to increase their equity stakes and offset the diluting effects of share unification.<sup>13</sup>

In addition to the distinction between unifying firms with and without a subsequent SPO, we also distinguish between early unifying firms, when the Israeli stock market was booming, and later unifying firms. In Table 5 and Fig. 4 we divide the sample of unifying firms into two roughly equal sub-samples, and present separately the changes in voting rights for early unifying firms (unifications in 1990–1992) and for firms that unified their shares later (during 1993–2000). In early unifying firms, the pre-unification increase in the controlling shareholders' voting power is larger than in late unifying firms. Further, in the long-run, controlling shareholders in early unifying firms experience only a small (0.3 percentage points) and statistically insignificant decline in their voting power relative to the control sample. By contrast, in late unifying firms, we do not observe much of an increase in the voting rights of controlling shareholders prior to unification, and in the long run, they experience a much larger (10.7 percentage points) and statistically significant relative decline in their voting power.

To some extent, the early vs. late unifiers results may emanate from the SPO effect, as SPOs were most common among early unifying firms (21 of the 28 unifying firms with an SPO unified their shares between 1990 and 1992). To get a better look at the possible independent (non-SPO related) effect of early unifications, we examine non-SPO early unifying firms and compare them to non-SPO late unifying firms. We find that in the long run (by year  $+7$ ) controlling shareholders in early unifying firms without an SPO (21 firms) lost on average only about 0.5% points of their voting rights, whereas late unifying firms without an SPO (31 firms) lost much more – 12% points. Apparently, non-SPO early unifiers undid the unification-induced dilution of their voting power, whereas non-SPO late unifiers did not. This finding suggests a difference between early- and late-unifiers. One possible explanation (for which we have no direct evidence) is that non-SPO firms in the early period had a different reason for the unification – they planned an SPO in the booming stock market at the time; then, if, for whatever reason, the SPO could not go through, these firms reverted to their original (pre-unification) ownership structure.

More generally, the responses of both early-unifying firms and of SPO-firms are consistent with the conjecture that controlling shareholders can undo the dilution effect of share unifications. By contrast, there also exists a group of firms, mainly late unifying firms without a subsequent SPO that accepted some degree of voting power dilution. One possible explanation for this difference is that, with time, unifications became a mechanism to win public trust, and some controlling shareholders no longer wished to reverse its diluting effects. The 1990s witnessed an increase in public awareness of corporate governance, leading to the discussion and eventual implementation of a variety of legal and regulatory reforms.<sup>14</sup> Thus, perhaps late unifying firms and firms not planning a SPO can be

<sup>13</sup> In comparison with unifying firms where the unification is not followed by an SPO, unifying firms with an SPO tend to be early unifiers (see below), to be smaller in size (about 550 million NIS on average vs. 1119 million for unifying firms without an SPO), to have somewhat higher valuations in the unification year (a Tobin's Q of about 1.6 vs. 1.45 for unifying firms without an SPO), slightly higher leverage (0.54 vs. 0.47) and positive profits (median ROA of 2.2% vs. about zero for unifying firms without an SPO). None of these differences is statistically significant except for the difference in ROA, which is the only significant variable also in Probit regressions predicting which firms are likely to have an SPO. The endogeneity of the decision to have an SPO is immaterial to the point we are making here, that in some unifying firms, controlling shareholders are both willing and able to offset the unification-induced dilution in their voting power.

<sup>14</sup> The corporate governance reforms of the 1990s included restrictions on self dealing (requiring the approval of related party transactions by a third of the “disinterested” minority shareholders); a regulation forcing mutual funds and eventually all institutional investors to attend and vote in shareholder meetings; and a completely new Corporate Law (publicly debated throughout the 1990s and eventually legislated in 1999).

**Table 5**

Voting power changes: early vs. late unifications. In this table we split the overall sample results 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%
<i>p</i> -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%
<i>p</i> -value of the above proportion (null: proportion is 0.5)	<0.0001	0.21
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%
<i>p</i> -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%

regarded as “voluntary” unifiers, accommodating new investor “preferences” by willingly accepting a dilution in the ownership stakes of the controlling shareholders.

#### 4.4. The evolution of corporate control and business group affiliation after the unification

Bebchuk et al. (2000) illustrate the equivalence between dual class shares and pyramidal business groups. In both these organizational forms, controlling shareholders enjoy control (voting) power 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; Kosenko and Yafeh, 2010) 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 about a quarter of all listed firms are characterized as group affiliated (Kosenko and Yafeh, 2010). We also check the prevalence of group affiliation among unifying firms in year +7 and find only one group affiliated firm and three firms whose affiliation is unstable. We conclude that, in general, pyramidal business groups did not replace the dual class structure. This conclusion is consistent with Bennedson and Nielsen (2010) who argue that dual class shares and pyramids are not really close substitutes; they report that the two mechanisms are used by different types of European firms and have different effects on firm performance. (Dual class shares are associated with lower valuations than pyramids.)<sup>15</sup>

We also examine control-change statistics following unifications. Did the decrease in voting power of the controlling shareholders trigger takeovers in unifying firms? To address this 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

<sup>15</sup> In passing, it is interesting to note that the existence of five group affiliated firms in our control sample of non-unifying firms illustrates that it is possible to have dual class shares and group affiliation simultaneously, ostensibly to achieve different purposes. Nevertheless, given that there were 109 dual class share firms at the time, the proportion of firms with both dual class shares and affiliation with a business group is small. It appears that, in general, differentiating between ownership and control rights is customarily accomplished either by dual class shares or by pyramids.

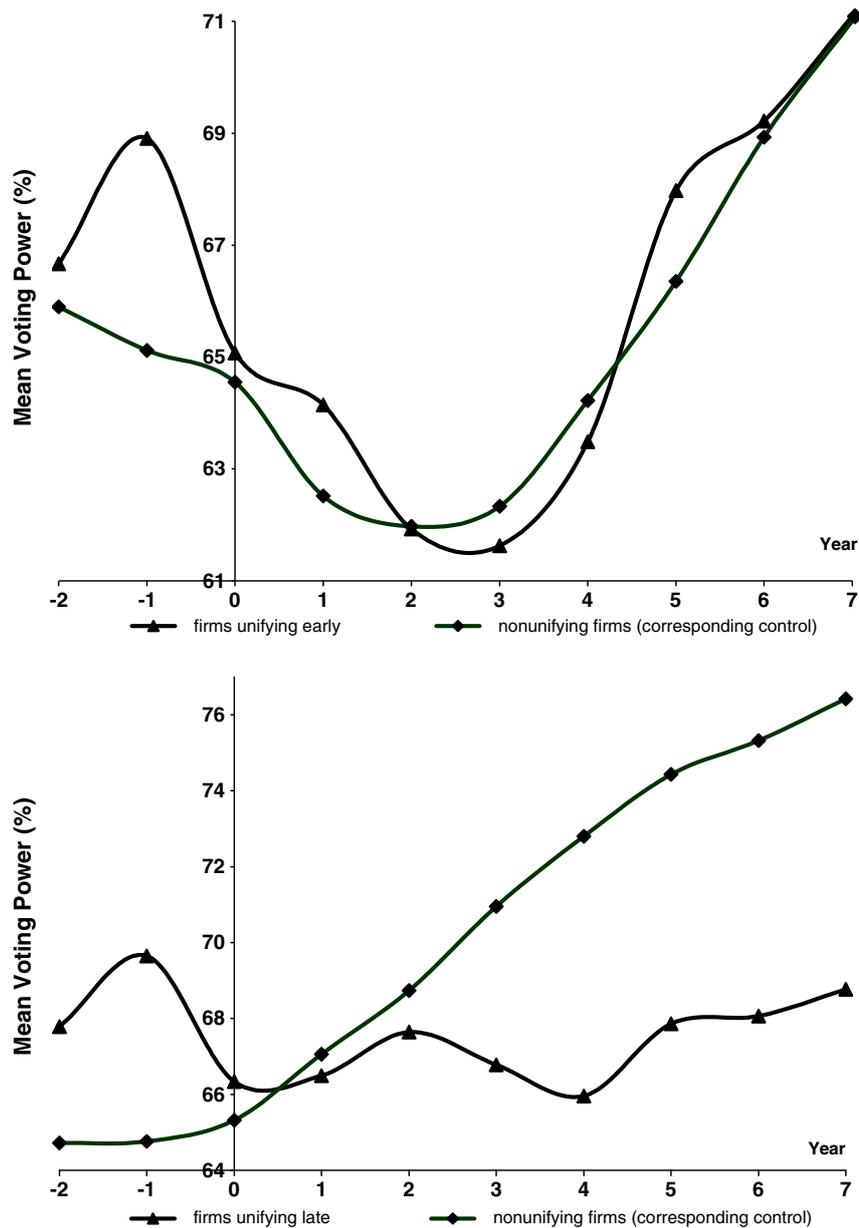


Fig. 4. The mean voting power of controlling shareholders around the unification year (year 0): Firms unifying “early” (in 1990–92) and firms unifying “late” (1993–2000).

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  $+7$ ).

In the entire sample period (from year  $-2$  to year  $+7$ ), we find that in unifying firms, the mean cumulative control change score is 0.79 vs. 0.72 in the control sample of non-unifying firms, a difference that is economically and statistically insignificant. Restricting attention to the post-unification years, control changes among unifying firms were in fact slightly less frequent than in the control sample (the mean control change score is about 0.54 in the unifying sample vs. 0.6 in the control sample). Moreover, the frequency of full control changes in the post-unification years was equal (and low) in both the unifying and the control sample. Apparently, the large equity stakes maintained by the controlling shareholders even after the unification were sufficient to block any significant increase in the probability of a control change or a takeover.

#### 4.5. 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 6 and Fig. 5 present the evolution of the mean Tobin's Q for unifying and non-unifying

**Table 6**

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

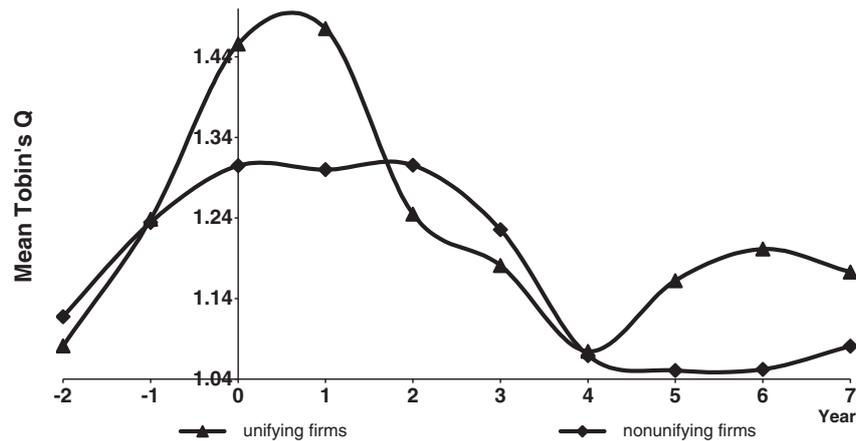


Fig. 5. Mean Tobin's Q around the unification year (year 0).

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.<sup>16</sup> 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).<sup>17</sup>

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 tendency of this profitability gap to shrink following the unification. Similarly, asset growth rates of non-unifying firms also tend to be (slightly) higher on average than those of all unifying firms, although unifying firms with an SPO exhibit growth rates that are similar to those of non-unifying firms. There is no sign of substantially higher growth rates after the share unification.<sup>18</sup>

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 4.3). 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 median Q's (which remained roughly constant for both early and late unifiers) and net return on assets (ROA) statistics (which 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

<sup>16</sup> We also note a substantial increase in Q between year –1 and the unification year, year 0. The average Q of unifying firms increases by about 0.22 (from 1.24 in year –1 to 1.46 in year 0), with no parallel change in the average Q of the control sample firms. Interestingly, the order of magnitude of this increase in Q is similar to Bennedsen and Nielsen's (2010) estimate of the mean discount on dual class share companies in Europe. Another plausible interpretation of this change may have to do with an endogenous firm choice of the unification year – firms prefer to unify and perhaps to issue additional equity at a time when their relative valuation is high.

<sup>17</sup> More generally, the distributions of Tobin's Q in the unifying and control samples (over the entire period), are very similar with almost identical means, medians, lowest and highest quartiles. It is impossible to formally reject the hypothesis that the distributions are equal in a Kolmogorov–Smirnov Test.

<sup>18</sup> This implies that comparisons of Q between unifying firms and the control sample are not strongly affected by very different patterns of sales or asset growth in the groups.

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).<sup>19</sup>

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 relatively small decline in excess control rights did not have much of an effect on firm performance.<sup>20</sup>

## 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, on average, 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; on average, 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 not been used to replace dual class shares – perhaps there was 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 cannot identify very clear evidence of subsequent improvements in firm valuation and performance.

In terms of implications for the one share-one vote regulation in emerging markets and other economies, the results of the Israeli experiment should be extrapolated with care. On the one hand, we demonstrate that, in the absence of additional measures of corporate governance reform, regulation inducing one share-one vote might fail to bring about a substantial long-term change in an environment where controlling shareholders are relatively powerful. In our sample, (some) controlling shareholders undid almost completely the dilution of their voting power caused by the one share-one vote regulation, making the regulation appear useless.

On the other hand, the one share-one vote regulation may, in and of itself, have had some positive effects. First, to recover their primary levels of voting power, controlling shareholders had to buy shares from the public at the relatively higher prices of public shares following the unification. This constitutes a “one-time tax” on controlling shareholders. Second, the regulation may have had some “educational” and signaling values: Any regulation protecting small investors should increase their trust in financial markets and encourage equity market participation, which could translate eventually into financial development and a more efficient allocation of resources.

However, regulatory enforcement of one share-one vote eliminates the economic advantages of the dual class structure for issuing firms, as outlined in the recent theoretical and empirical survey articles of [Burkart and Lee \(2008\)](#) and [Adams and Ferreira \(2008\)](#). Thus, protecting small investors via one share-one vote regulation does have its costs and may not fit all.

On the basis of our results and the above considerations, it is easy to conclude that the total welfare effects of the one share one vote regulation are unclear and case-dependent. However, we propose that in weak corporate governance economies, where the potential abuse of minority rights is non-trivial, the protective and moral effects of the one share-one vote regulation probably outweigh its costs; hence a one share one vote regulation should probably be adopted as one component of much broader corporate governance reforms. Notably, this is merely an intuitive conjecture – our study does not provide any measures of the overall welfare effects of the regulation.

Another possibly important implication of the results in this study pertains to the marginal value of voting rights. The results suggest that marginal voting power may be valuable to some controlling shareholders even way above the 50% absolute majority point. In our sample, the loss of voting power upon unification did not make the controlling shareholders lose their majority and yet many of them chose to offset at least part of the unification-induced dilution by buying shares on the market. We suggest that this could stem from the possibility that a wide margin above 50% secures the controlling shareholders' private benefits of control for longer periods (even after several future public equity offerings). Thus, “excess” voting rights may not be redundant, if they increase the present value of future private benefits.

## Acknowledgements

We thank the Editors of the Journal of Corporate Finance, as well as Morten Bennesen, Sudipto Bhattacharya, Ingolf Dittmann, Joseph Fan, Shmuel Hauser, seminar participants at IDC, and conference participants at the Workshop on Corporate Governance at

<sup>19</sup> Because of collinearity 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 stakes (cash flow rights) as an explanatory variable. The results remain qualitatively unchanged when introducing various additional controls such as leverage or dummy variables for late unifications. The coefficient on the change in voting rights becomes marginally statistically significant only when industry dummies are (erroneously) omitted.

<sup>20</sup> A benign interpretation of this result could be that investor protection in Israel was good to begin with and therefore did not improve much with the abolition of dual class shares. This is grossly inconsistent with daily news reports about conflicts between minority and controlling shareholders in Israel; it is also inconsistent with the large control premia observed in Israeli companies ([Dyck and Zingales, 2004](#)) and with the continuous attempts to improve investor protection on behalf of the Israel Securities Authority over the last two decades.

the Copenhagen Business School, the Conference in Honor of Haim Levy at the Hebrew University, the CEPR/Banca d'Italia conference in Rome, the European Finance Association meeting in Frankfurt, and the Journal of Corporate Finance conference in Beijing for the many helpful comments and suggestions. We also thank Konstantin (Kosta) Kosenko for sharing with us his data on pyramidal groups in Israel, and Yevgeni Ostrovsky and Gill Segal for the outstanding research assistance. Financial support from the Krueger Center at the Hebrew University School of Business Administration is gratefully acknowledged. All remaining errors are our own.

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