

The One Share - One Vote Debate: A Theoretical Perspective

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Abstract

The impact of separating cash flow and votes depends on the ownership structure. In widely held firms, one share - one vote is in general not optimal. While it ensures an efficient outcome in bidding contests, deviations mitigate the free-rider problem, thereby promoting takeovers. In the presence of a controlling shareholder, one share - one vote promotes value-increasing control transfers and deters value-decreasing control transfers more effectively than any other vote allocation. Moreover, deviations allow a controlling shareholder to reduce her equity stake, thereby exacerbating the conflict of interest between her and the minority shareholders. If there is any, the rationale for mandating one share - one vote must therefore be to dis-empower controlling minority shareholders. While this is likely to reduce conflicts among shareholders, it tends to empower managers to the detriment of all shareholders. It is an open question whether this policy would improve the quality of corporate governance, notably in systems built around large active owners. In addition, an all-inclusive one share - one vote principle would require to also regulate pyramidal groups as well as (some) derivative security transactions. The verdict in the case of depositary certificates, voting and ownership ceilings is less ambiguous, since they insulate managers from both takeovers and effective shareholder monitoring.

Keywords: Security-Voting Structure, Market for Corporate Control, Controlling Minority Shareholders, Shareholder Activism

JEL Classifications: G32

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I Introduction

The most important contractual right that shareholders have is widely taken to be their right to vote on important corporate matters (Manne, 1965; Easterbrook and Fischel, 1983). That provided, the question arises how voting rights should be distributed among shareholders. At first glance, it seems natural to demand that shareholders who supply an equal amount of capital or hold equal claims should have an equal opportunity to influence decisions. In the simplest case, two shares with identical cash flow rights ought to carry identical voting rights. However, reality looks different: Many firms sell otherwise identical shares with different voting rights or restrict the exercise of votes above some limit. Other firms issue shares that confer no voting rights on their holders, who can only hope that their interests are protected through an effective enforcement of fiduciary duties.

Because deviations from this principle (one share - one vote) seem to violate some intuitive concept of fairness, they have raised many debates. In the US, the New York Stock Exchange (NYSE) refused for quite some time to list firms with multiple share classes. Bowing to competitive pressure from the American Stock Exchange and NASDAQ, it changed its rules in 1986.¹ To date, firms may go public with different share classes on all three markets. That notwithstanding, all three exchanges prohibit since 1994 listed firms from issuing shares that dilute the voting rights of existing shareholders (Loss and Seligman, 2003). In Europe, the trend has been moving in the opposite direction. In various countries, regulation is gradually becoming more restrictive and the frequency of deviations is slowly decreasing towards the US level (Goergen et al., 2005). Still, stark differences at the national level fuel a recurrent debate about a EU-wide prohibition of deviations, a policy issue intimately related to the European takeover regulation (Ferrarini, 2006) and the call for stronger shareholder rights (Deminor Rating, 2005).

Corporate voting practices have varied over time as much as they vary across countries today. Deviations can be traced back to ancient Rome, where so-called *publicani* issued different shares to the wealthy and to the wider public (Chancellor, 1999). During the Middle Ages, the common practice in Europe evolved from a one member - one vote rule to a variety of disproportional voting structures, some favouring small or medium-sized shareholders, others enhancing the control of large shareholders (Dunlavy, 1998; Pistor et al., 2003). Early US practices limited the voting power

¹The percentage of listed US dual-class firms has since risen to about 10 percent (Chemmanur and Jiao, 2005).

of individual shareholders but by the beginning of the twentieth century firms empowered dominant shareholders by selling non-voting shares to smaller shareholders (Manne, 1964). Finally, the NYSE gave in to public criticism and from 1926 onwards disallowed the listing of firms with non-voting stock for the next sixty years (Seligman, 1986).² Both in the US and in Europe, issues of inferior voting stock then became rather uncommon until the latter half of the twentieth century when their appearance often concurred with takeover waves (Jarrell and Poulsen, 1988; Rydqvist, 1992). In some countries, this required legal reforms.³

This paper reviews the existing theoretical literature on the one share - one vote principle. Our focus is on how deviations affect the dynamics of control allocation as well as the agency problems between shareholders and those entrusted with managing the firm. In the remainder of this introduction, we describe the different types of deviations from the one share - one vote principle, discuss the notion of shareholder democracy and provide a conceptual framework. A roadmap of the remaining sections concludes the introduction.

A Deviations from the Proportionality Principle: A Taxonomy

The proportionality principle posits that any shareholder should own the same fraction of cash flow rights and voting rights.⁴ According to a recent survey, 35 percent of the top 300 European companies deviated in 2005 from the one share - one vote principle (Deminor Rating, 2005). Deviations come in different guises and can be classified into three groups: leveraged voting power, lock-in mechanisms, and the unbundling of cash flow and voting rights through derivative transactions.

A.1 Leveraging Voting Power

Shares with Differential Voting Rights A straightforward device to deviate from proportionality is to issue different classes of shares. These are known as dual-class share structures, or, alternatively, as restricted- or subordinate-voting share structures. Dual-class share structures can

²This development was part of a populist uprising against Big Business during which double taxation of inter-corporate dividends was introduced as a means to dismantle pyramidal groups (Morck, 2003).

³For instance, legal provisions for non-voting shares were introduced in Italy in 1974, Portugal in 1986, Spain in 1986, and Belgium in 1991 (Arruñada and Paz-Ares, 1995).

⁴In its Report on European Takeover Regulation, the High Level Group of Company Law Experts argues that regulation should be guided by two principles, shareholder decision-making and proportionality between risk bearing and control (European Commission, 2002). The European Commission appointed the Group to provide independent advice following the rejection of the proposed takeover directive by the European Parliament in 2001.

involve non-voting shares with or without preferential dividends as is common in Germany, Italy and the UK. Alternatively, the superior shares may command multiple votes per share as in Sweden or the Netherlands. Dual-class share structures can in principle be used to implement any possible distribution pattern of dividend and voting rights among shareholders. However, regulation usually imposes some restrictions on the firms' security-voting structure, i.e., on the allocation of cash flow rights and voting rights across different share classes. These constraints are phrased either in terms of a minimum proportion of voting shares e.g., 50 percent, or in terms of a minimum ratio of votes per inferior share to votes per superior share, e.g., 1/10 (Rydqvist, 1992). Despite such constraints, dual-class share structures allow a party to control a firm with a relatively small fraction of cash flow rights. For instance, a minimum vote ratio of 1/10 implies that 50 percent of the votes can be held with less than 10 percent of the cash flow rights.

Multi-Firm Structures A wedge between cash flow rights and voting rights can also be created with a single class of shares by linking multiple firms through pyramid or cross-ownership structures. A pyramid structure consists of a hierarchy of firms in which higher-tier firms own shares in lower-tier firms. This device allows to attain a controlling minority structure and is often chosen for this purpose. For instance, a three-tier pyramid enables a party to fully control the bottom-tier firm while holding merely 12,5 percent of its cash flow rights. It only requires a majority stake in the top-tier firm which owns a majority stake in the middle-tier firm which in turn owns a majority stake in the bottom-tier. Essentially, this leverage is achieved by de facto transforming the remaining shares in each tier into non-voting shares. By chaining more firms, the wedge between cash flow rights and voting rights can be substantially increased without losing control over the firms in the pyramid.⁵ In cross-ownership structures firms own shares in each other. Thus, the voting rights used to control a group of firms are distributed over the entire group rather than concentrated in the hands of a single party (Bebchuk et al., 2000).

Pyramids and cross-ownership can be attractive for other reasons than separating cash flow rights and voting rights. They allow the group to create an internal capital market, thereby channeling profits to the group's most promising investment opportunities (Almeida and Wolfenzon, 2005). Furthermore, pyramids and cross-ownership raise questions with respect to the implemen-

⁵Faccio and Lang (2002) report that pyramids are used by 19 percent of listed European firms that have a controlling shareholder at the 20 percent level.

tation of the proportionality principle as they are deviations accomplished outside the corporate charter. This also applies to foundation ownerships which are widely used in the Netherlands. The foundation administrates the shares and issues depository receipts which are claims on the firm's cash flow rights, thereby retaining (most of) the voting rights (Deminor Rating, 2005).

A.2 Lock-In Mechanisms

Ownership and Voting Restrictions Even if a firm chooses a one share - one vote structure, its corporate charter may include voting and ownership ceilings, thereby undermining (the spirit of) the proportionality principle. Voting rights ceilings, which exist in many EU countries, limit the number of votes that a shareholder can cast irrespective of the number of voting shares she owns. That is, all shares held in excess of the ceiling lose their votes. Thus, voting ceilings drive a wedge between the cash flow rights and the voting rights of a blockholder.

Ownership ceilings, known in Italy and the UK, prohibit shareholders to own more shares than a certain threshold. Although ownership ceilings are strictly speaking not deviations from the proportionality principle, they prevent individual shareholders from accumulating a substantial stake and voting power, thereby limiting the ability to influence corporate decisions. Voting and ownership ceilings have the opposite effect of dual-class share structures. They dilute rather than leverage shareholders' ability to concentrate control.

Double Voting Shares In France, most major listed companies adopt by-laws that bestow double votes on shareholders who have held shares in their own name for at least two years.⁶ In addition, this privilege can be restricted to shareholders from the European Union, Norway, Liechtenstein, and Iceland (Knudsen, 2005). Since the double voting shares do not constitute a separate share class, they revert to ordinary shares when changing hands. That is, the double vote is not attached to the share but is granted to the holder, and hence cannot be transferred. By leveraging the voting power of incumbent shareholders (but not new owners), they impair control changes (Lannoo, 1999). Furthermore, since they empower long-term investors, it is sometimes claimed that their purpose is to protect the firm from the influence of investors with short-term financial interests.

⁶The legal provisions for double voting shares date back to 1933 and were designed to compensate for the prohibition of dual-class shares (Conac, 2005).

Priority Shares In some countries, firms may issue so-called priority shares which grant their holders extraordinary decision powers in specific matters. For example, they may entitle them to appoint board members or block a proposed merger. Priority shares and its associated privileges are often tied to the identity of the person or institution that they are issued to, as e.g. governmental authorities (in which case they are commonly called golden shares).

Depository Certificates In the Netherlands, the shares of many companies are administered by a foundation which in turn issues depository certificates. These certificates carry the shares' cash flow rights but no direct voting rights. In order to vote, certificate holders must request a voting proxy from the foundation. Otherwise, the foundation will exercise the voting rights.⁷

A.3 Derivative Transactions

Shareholders may trade their cash flow rights or voting rights with other investors thereby unbundling the firms' chosen security-voting structure.⁸ Recent capital markets developments have made it easier and cheaper to separate cash flow and voting rights (e.g., Hu and Black, 2006a). For instance, equity swaps allow a shareholder to virtually exchange her dividend rights for another claim. She can use this to dispose of (hedge) her direct financial interest in the firm while retaining her voting rights. At the same time, her counterparty assumes a financial interest in the firm without any corresponding (formal) influence. Conversely, the security-lending market allows investors to borrow votes without assuming any firm-related economic risk. When an investor borrows a share from its legal owner, the dividends ultimately still accrue to the lending shareholder but the votes are exercised by the borrower. Provided the existence of well-functioning markets, any shareholder may privately engineer her desired combination of cash flow and voting rights, independent of the firm's security-voting structure. This also undermines the effectiveness that regulatory constraints on the firms' security-voting structure have, unless these types of derivative transactions are restricted as well.

⁷Another specific feature of the Dutch governance system is the structured regime, which is mandatory for firms with more than 100 employees or subscribed capital in excess of €11.4M. It transfers numerous powers from the shareholders to the supervisory board, such as the approval of annual accounts or the election of management and supervisory directors (Moerland, 2002). Formally, this does not violate the proportionality principle but reduces shareholder rights *in toto*.

⁸Another group of deviations organized by shareholders are formal and informal shareholder agreements such as voting pacts or pre-emption pacts. Because of their variety, a full treatment is beyond the scope of this survey. For a theoretical analysis of such agreements (in privately held firms) see Chemla et al. (2004).

Each of these mechanisms to deviate from the proportionality principle has several dimensions that are likely to be relevant in practice. We will largely abstract from the specific features and concentrate instead on the ultimate allocation of cash flow and voting rights. In particular, we will often use the dual-class share structure as the representative means to separate cash flow and voting rights. Indeed, any allocation of cash flow and voting rights, notably controlling minority shareholder structures, achievable through cross-ownership, pyramids or multi-class share structures can be replicated by simple dual-class share structures.⁹ However, the equivalence does not extend to lock-in mechanisms, which we discuss separately (Section V).

Furthermore, our analysis will emphasize dual-class share structures relative to multi-firm structures and derivative transactions for two reasons. First, the latter fulfill functions that go beyond the issues addressed in this survey. For instance, multi-firm structures create internal labor and capital markets and are vehicles for the vertical and horizontal integration of firms. Financial derivatives facilitate risk sharing among investors. Second, banning these forms of deviations requires changes not only in corporate laws but also in securities laws and industry regulation.

B Shareholder Democracy

The one share - one vote principle is also promoted on the grounds that it constitutes the natural counterpart of the democratic principle of equal suffrage in the corporate context. Yet, the parallel between these two concepts is rather vague, if not inappropriate (Manne, 2007). The political one person - one vote rule seems to more naturally translate into a one shareholder - one vote rule (Dunlavy, 2006). In fact, some may argue that corporate democracy suggests extending voting rights to other stakeholders of the firm, as is partially done in the German system of labor co-determination. By contrast, the one share - one vote principle implies that (only) shareholders should own voting rights in proportion to their economic ownership of the firm. However, citizens' voting rights are neither proportional to their tax payments nor to their share in the public benefits provided by the government (Allaire, 2006).¹⁰ Moreover, it is a priori unclear whether corporate

⁹Section 2 in Bebchuk et al. (2000) illustrates this in detail. However, there exists a difference between dual-class shares and pyramids in terms of liquidity in the (secondary) stock market, which we discuss in Section V.C.

¹⁰James Madison (1865) raises the question whether voting rights should be given to every citizen or just to those who own (economic) property: "In a just and free government... the rights both of property and of persons ought to be effectually guarded. Will the former be so in the case of a universal and equal suffrage? Will the latter be so in the case of a suffrage confined to the holders of property?"

governance and political governance should adhere to the same principles, as the two systems operate under different premises. For instance, a government has (the legal monopoly over) police powers, i.e. the use of physical measures to coerce individuals to compel compliance with its statutes, but corporations do not (Jensen and Meckling, 1983). In addition, shareholdings can usually be traded on secondary markets whereas (at least legally) citizenship cannot (Rodrigues, 2006).

The economic rationale for the proportionality principle is often based on two broad arguments. First, residual control rights should rest with shareholders because they are the (only) residual claimants and thus have the strongest interest in maximizing firm value (e.g., Easterbrook and Fischel, 1983, 1991). Second, voting power should match economic incentives, i.e., shareholders should be able to voice their opinion in proportion to their owned risk-capital (e.g., Black and Kraakman, 1996).

These arguments, although intuitively appealing, are not indisputable. Shareholders are not the only residual claimants, as other stakeholders also have claims which are sensitive to firm performance (Black, 1999).¹¹ In addition, it is debatable whether allocating control rights among providers of risk-capital should in general adhere to the one share - one vote principle. In fact, there exist financing arrangements in which deviations from this rule are part of sophisticated contracts. For instance, private equity and hedge funds are typically run by general partners, while limited partners have no voting power and are solely protected by covenants and a limited investment period. Similarly, contracts between venture capitalists and entrepreneurs typically allocate cash flow rights separately from voting rights. (Gompers and Lerner, 1996; Kaplan and Strömberg, 2003; Sahlman, 1990). Another example is the possibility to incorporate a firm as a limited partnership, e.g., the 'Sociétés en Commandite par Actions' in France or the 'KGaA' in Germany, where partners have differential voting rights despite contributing similar amounts of risk-capital. These examples suggest that deviations may well be part of the optimal arrangement between entrepreneurs and providers of risk-capital.

¹¹The argument that shareholders are the sole residual claimants relies on the presumption that the claims of other stakeholders are fully protected by contracts. This does not hold when either contracts or markets are incomplete (Tirole, 2001; Allen, 2005; Allen and Gale, 2002). Moreover, giving control solely to shareholders may not even maximize shareholder value (Allen et al., 2006). Nonetheless, shareholder control is commonly considered to be a second-best solution because shareholders are the most vulnerable residual claimants and because splitting decision rights among conflicting parties creates haggling costs and entails ill-defined performance measures (Becht et al., 2003; Tirole, 2001).

C Conceptual Framework

Even highly sophisticated contracts do not fully specify a firm's (future) course of action. As time evolves, new unforeseen eventualities and opportunities arise to which the firm has to respond. The firm therefore needs to choose who takes such residual decisions. The necessity to take a decision does not as such imply that the allocation of decision-making authority matters. For instance, if all members of the firm are equally affected by a decision, there is full agreement and it is immaterial which member gets to decide. One reason why the allocation of control rights matters is the presence of an agency problem or conflict of interests. Indeed, the corporate governance literature is based on the premise of such conflicts of interest, usually among corporate insiders (top management or controlling blockholder) and outside investors (minority shareholders or creditors).

Following the seminal paper by Aghion and Bolton (1992), much of the theoretical research explores the relevance of control rights in a setting with an entrepreneur and a single investor.¹² Control rights are modeled as the power to choose among alternative actions, and each action entails two kinds of benefits: security benefits or cash flows that can be shared between entrepreneur and investor, and non-transferable private benefits that accrue exclusively to the entrepreneur. Examples of private benefits are prestige, consumption of perquisites, excessive salaries, or the sale of assets below market value to another firm fully owned by the entrepreneur. The existence of these private benefits creates a potential conflict and hence a role for control rights. If the investor has the control right, she picks the alternative that maximizes her share of the security benefits. By contrast, the entrepreneur opts for the alternative that maximizes the sum of private benefits and her share of the security benefits. Thus, the parties may disagree over the choice of action in which case the outcome depends on the allocation of the control rights. Moreover, the party in control need not take the socially efficient decision, i.e., the action with the largest sum of private benefits and security benefits.

If the party in control, say the investor, indeed picks an inefficient decision, her gains are by definition smaller than the loss for the entrepreneur. Consequently, the entrepreneur should be willing to offer a payment that persuades the investor to pick instead the entrepreneur's preferred action, or equivalently, sell the decision right. Thus, even though control rights matter, their

¹²For a general discussion of the importance of control rights as a way to understand firms' financial structures see Hart (1995, 2001).

initial allocation does not affect the outcome: the parties reach the efficient decision through renegotiation.¹³

Such renegotiation may, however, not be feasible for various reasons. One impediment emphasized in the corporate finance context is the entrepreneur's limited wealth. That is, the entrepreneur may not have sufficient wealth to compensate the investor in return for the forgone gains that the investor would realize with her most preferred action. In fact, limited wealth is most often the reason why the entrepreneur approached the investor in the first place. Otherwise, she could have undertaken the venture without the investor.¹⁴

The allocation of votes among shareholders is both a more complex and narrow question than how control should be divided between an entrepreneur and a single investor. On the one hand, the dispersion of control among a potentially large number of investors (shareholders) gives rise to new issues, in particular coordination and delegation problems. On the other hand, the (extent of) control rights allocated to the shareholders as a collective - as opposed to e.g., the board - are taken as given. Nonetheless, the basic insights from the entrepreneur-single investor relationship continue to apply. First, if all shareholders agree on the course of action, the allocation of votes is immaterial. Any group of voting shareholders takes the same decision, and shareholders are therefore indifferent with respect to the allocation of voting rights. Second, voting rights are valuable in the presence of conflicting interests, but the initial allocation need not affect the outcome.

To understand the latter point, consider a firm with n shareholders each of whom holds some cash flow rights and some, possibly different, fraction of the votes. Parallel to the entrepreneur-single investor example, the firm chooses an action a from a set of available actions a_1, \dots, a_m . Each alternative generates security benefits X^a which are shared according to the shareholders' cash flow rights. In addition, each action generates private benefits for each shareholder Z_1^a, \dots, Z_n^a which are independent of the cash flow and voting rights. When shareholders have dissonant preferences over the alternative actions, they are not indifferent with respect to the vote allocation, and votes are valuable. If shareholders can trade the voting rights, the action with the largest sum of security

¹³This result is a variation or application of the Coase Theorem, stating that the outcome of bargaining or contracting is in a world of perfect renegotiation independent of the initial assignment of property rights.

¹⁴The failure to renegotiate under investor control does not imply that entrepreneur control is necessarily optimal. Under entrepreneur control, the chosen action may yield large private benefits but little security benefits, thereby precluding the investor from earning a return. Anticipating this, the investor may not be willing to finance the venture. Hence, investor control may be a prerequisite to secure financing as it is a means to increase security benefits (Tirole, 2001).

benefits and private benefits is chosen, irrespective of the initial allocation. Suppose some action a' would be chosen by simple majority under the initial vote allocation. If there exists another action a^* which generates a larger sum of security and private benefits, the beneficiaries of action a^* gain more than the beneficiaries of action a' lose when switching to action a^* . Hence, the former can induce the latter to vote for action a^* , or equivalently, to sell their votes. Thus, trading in the market for votes ensures that the efficient decision is taken.

An efficient outcome may not be reached for generic reasons (e.g., wealth-constraints) and reasons more specific to publicly traded corporations. First, the ownership structure can be an obstacle to an efficient market for votes or corporate control. On the one hand, dispersed shareholders as a group may bargain too aggressively because each of them perceives her decision as negligible for the takeover outcome. As a result, a would-be acquirer may be unable to earn a profit even though the takeover would be efficient. This is the well-known free-rider problem identified by Grossman and Hart (1980a). On the other hand, the coordination failure of dispersed shareholders may cause controlling blocks to be kept or purchased by a party that does not generate the largest sum of private and security benefits. Since the value of the controlling block comprises all private benefits but only part of the security benefits, a surplus from a block trade does not imply efficiency nor does efficiency imply a surplus. Section II “Control Transfers and Security-Voting Structure” examines to what extent the security-voting structure mitigates or exacerbates these inefficiencies.

Second, vote trading ensures efficient decisions only if all shareholders are fully informed about the actions available and associated payoffs. This requirement is rarely met in large firms where shareholders do not exercise their control rights on a day-to-day basis but delegate it to the board and the management. Moreover, dispersed shareholders have little incentive to acquire the necessary information to monitor the management. As a result, managers enjoy considerable discretion in running the firm, which they may abuse to pursue their own interest. Unless there exist checks and balances on managerial behavior, the delegation of control is therefore likely to lead to an outcome that is not in the collective interest of the shareholders. One favored mechanism for mitigating the manager-shareholder conflict is partial ownership and control concentration in the hands of a large shareholder.¹⁵ Section III “Ownership Concentration and Security-Voting Structure” discusses how

¹⁵Other important governance mechanisms are the financial structure, the board of directors, product market competition and legal investor protection (Allen and Gale, 2000; Shleifer and Vishny, 1997). As the effectiveness of these mechanisms varies across firms and countries, the importance and prevalence of ownership concentration

the security-voting structure affects the effectiveness of blockownership as a governance mechanism. In addition, a firm's ownership and control structure affects the extent to which hostile control transfers are feasible. The threat of losing control can affect a broad range of corporate decisions. Section IV "Contestable Control and Security-Voting Structure" analyzes these ex-ante effects of takeovers and the possible interactions with the security-voting structure.

Third, corporate charter amendments or public laws can exogenously restrict the transfer or exercise of voting rights, e.g. through ownership and voting ceilings, priority shares and double voting shares. Section V "Restricted Transferability" discusses how such restrictions impair control changes and shareholder monitoring.

Section VI "Regulation versus Contractual Freedom" discusses the general economic reasons for and against regulating the security-voting structure, notably deviations from the proportionality principle. Even if a specific security-voting structure, in particular one share - one vote, were unambiguously optimal, a ban on deviations could entail undesired consequences and compensation issues, and generally prove difficult to implement. We discuss these more practical concerns in Section VII "Limits to Mandating One Share - One Vote" and end with Section VIII "Concluding Remarks".

II Control Transfers and Security-Voting Structure

A well-functioning takeover market subjects firms to a continuous auction process: whenever an outside party is able to improve the value of the firm's existing resources it can bid for its control and replace the incumbent management. In principle, firms should therefore be ultimately owned and managed by those who maximize their value (Manne, 1965; Jensen and Ruback, 1983). However, the theoretical literature identifies various reasons that impair an ex-post efficient control allocation, notably incentive and coordination problems inherent in the takeover process.¹⁶ Our concern is whether deviations from the proportionality principle, notably dual-class share structures, mitigate or exacerbate these frictions and inefficiencies. If so, we also explore whether shareholders and corporate insiders choose structures that minimize these frictions, thereby promoting an efficient

depends on the respective governance system.

¹⁶There are several reviews of the takeover literature, including Andrade et al. (2001), Bhagat et al. (1990), Becht et al. (2003), Bruner (2002), Burkart and Panunzi (2006b), Holmström and Kaplan (2001), Hirshleifer (1995), Jensen (1988), McCahery et al. (2004), Scherer (1988) and von Thadden (1990).

control allocation.

Much of the takeover literature presupposes a publicly listed target firm with dispersed ownership and freely tradeable shares. By contrast, the empirical evidence shows that outside the UK and US most companies, even the listed ones, have a large shareholder (La Porta et al 1999, Barca and Becht 2001).¹⁷ While dual-class shares are frequently used to enhance the large shareholder's control (votes), thereby hindering or even preventing hostile takeovers, dispersedly held dual-class firms are by no means unusual. In the sample of Bennedsen and Nielsen (2004), 57 percent of 1035 European dual-class firms have dispersed control, i.e., no group that comprises every owner with at least 5 percent of the votes holds collectively the majority. For the 500 largest firms, this figure is above 67 percent.¹⁸ We therefore examine the role of the security-voting structure for dispersedly held firms and firms with a controlling shareholder separately.

A Tender Offers

In a typical tender offer, the acquiring firm, henceforth the bidder, offers to purchase the shares of dispersed shareholders for cash or in exchange for other securities. If a majority of shares is tendered, the bidder gains control over the target firm.¹⁹ In this section, we presuppose that such a public tender offer is indeed feasible. In particular, we assume that there are neither restrictions on the accumulation of shares or votes, nor priority shares endowed with veto power, nor controlling shareholders.

Our analysis of the tender offer process considers a widely held target firm that is approached by a bidder who does not own any shares prior to the offer. The firm has a dual-class share structure with $n_v \in \{1, \dots, n\}$ voting shares, the remaining $(n - n_v)$ shares being non-voting. (For $n_v = n$, the dual-class structure is reduced to one share - one vote.) If the incumbent management remains in control, shareholders obtain the security benefits x^I per share, while the bidder is known to generate security benefits x^B per share once she is in control.

¹⁷This is commonly considered the main impediment to the emergence of an active market for corporate control in many European countries (e.g., Franks and Mayer, 1998a).

¹⁸Pajuste (2005) analyses a sample of dual class firms from seven European countries (Denmark, Finland, Germany, Italy, Norway, Sweden and Switzerland) during the period 1996 to 2002. In her sample, the two largest shareholders own less than 20 percent of the votes in about 24 percent of the dual-class firms.

¹⁹Tender offers emerged as a new form of takeover in the UK in the mid-1950s and some years later also in the US (Singh, 1971). During the takeover wave of the 1980s, they became a regular mode of acquisition in the UK and US, but remained rare elsewhere. As opposed to a merger, a tender offer allows the bidder to circumvent the incumbent management by addressing the shareholders directly.

To gain control, the bidder submits an unrestricted offer, conditional on getting at least 50 percent of the voting shares. If the firm has a dual-class structure ($n_v \neq n$), the offer may discriminate between the two classes.²⁰ Thus, the bidder may quote different prices for voting and non-voting shares. However, if she submits a price for a certain share class, she has to buy all tendered shares from that class, conditional upon a control transfer.²¹ In the models reviewed below, discriminating between share classes is part of the optimal bidding strategy. Bidders make an offer only for voting shares because non-voting shares are of no use in gaining control and cannot be purchased at a price below the (expected) post-takeover value.

To succeed, a bidder must not only win the approval of a majority of the shareholders (owning voting shares), but also outbid any competing offer. The takeover outcome (bid price) and hence the impact of the security-voting structure depends on which of the two constraints binds. We consider the cases of an offer by a single bidder and of bidding competition in turn.

A.1 Single Bidder

The seminal paper by Grossman and Hart (1980a) shows that the market for corporate control (votes) may not function efficiently even though – or precisely because – votes are dispersedly held. We briefly review their argument as it is central to the understanding of how the security-voting structure affects the target shareholders’ decision to accept a bid.

Free-rider problem Suppose the target firm has only voting shares ($n_v = n$) held by a very large number of shareholders such that each perceives her tendering decision to have a negligible impact on the takeover outcome.²² When deciding to accept an offer with a (per share) price p , each shareholder compares the benefits and costs of tendering in case of success and failure. If the bid fails, the offer becomes void and the choice is irrelevant. If the offer succeeds, the shareholder gets the bid price p when tendering and the post-takeover security benefits x^B when retaining her share. Thus, for any price below the post-takeover security benefits, each shareholder prefers not

²⁰The obligation to offer all share classes the same terms (coattail provision) is tantamount to imposing the one share - one vote structure, thereby making the choice of security-voting structure in case of a takeover meaningless.

²¹The assumption that a bid has to be unrestricted for a given class is not crucial. Indeed, one can easily replicate the analysis of intra-class restricted bids by redefining n_v . For example, restricted offers for half of the voting shares amounts to $n'_v = n_v/2$. Indeed, the analysis of restricted vs unrestricted bids is analogous to that of single-class vs. dual-class structures (Bergstöm et al., 1997).

²²Strictly speaking, this requires an infinite number of shareholders ($n = \infty$). To ease the exposition, we abstract from such technical details.

to tender. As all shareholders behave in the same manner, the lowest price at which the bidder can succeed is $p = x^B$. At this price the bidder makes no profit on the shares purchased in the tender offer. If the bidder incurs some cost K in making the bid, the takeover will not take place even if it is efficient ($n(x^B - x^I) > K$).

In other words, the success of a bid is a public good for target shareholders, but each individual shareholder has an incentive not to tender in order to “free-ride”. As a result, value-increasing takeovers of dispersedly held firms fail, unless the bidder has a private source of gains or means to appropriate part of (the increase in) the post-takeover security benefits. The theoretical literature suggests several ways how the bidder may (partially) overcome the free-rider problem, such as e.g., the dilution of minority shareholder cash flow rights (Grossman and Hart, 1980a), the acquisition of a stake prior to the tender offer (Shleifer and Vishny, 1986b; Chowdhry and Jegadeesh, 1994), or financing the takeover with debt (Mueller and Panunzi, 2004). Notwithstanding such devices, it still holds true that the free-riding behavior precludes bidders from earning a profit on the shares purchased in the tender offer. Hence, the profit prospects of would-be acquirers remain limited and too few takeovers are undertaken, as posited by Grossman and Hart (1980a).

While private bidder gains promote takeovers, they do not ensure an efficient control allocation. In particular, dispersed shareholders may also fail to reject a value-decreasing bid (Bebchuk, 1985, 1988). Suppose that the bidder generates private benefits of Z^B but overall decreases value ($nx^B + Z^B < nx^I$). If the bidder offers a price $p > x^B$, shareholders face the so-called pressure-to-tender problem. A shareholder who believes the bid to succeed prefers to sell at the price p to avoid being in the less favorable minority position with security benefits x^B . If she believes the bid to fail, the choice is again irrelevant. Thus, tendering can be individually rational for a shareholder, and the bidder can profit from such a bid provided that $Z > K$.

In the standard free-rider setting, the security-voting structure does not matter for the takeover outcome or shareholder wealth. This holds equally true for value-increasing and value-decreasing bids. Suppose that there are $n_v < n$ voting shares and the bidder makes an offer for these shares only. As before, she must offer $p = x^B$ to induce voting shareholders to tender, and hence she makes no profit on the voting shares. In fact, it is immaterial how many shares the bidder must buy to gain control. Likewise, shareholders are indifferent between voting and non-voting shares, as they receive x^B in either case.

This irrelevance result hinges on three assumptions. First, shareholders know at the time of the bid the post-takeover security benefits. Second, the security and private benefits depend on (the identity of) the bidder but not on her final (cash flow) stake. Third, each shareholder presumes that her decision does not affect the takeover outcome, i.e., is not pivotal.

Asymmetric Information Even when bidders have superior information about their ability to generate security benefits, they cannot on average purchase shares in the tender offer at a price below the average post-takeover security benefits. Target shareholders retain their shares unless the offer price at least matches the expected post-takeover security benefits (\hat{x}^B). Thus, the free-rider problem remains under asymmetric information (Hirshleifer, 1995).

At et al. (2007) show that the security-voting structure affects the takeover outcome in this setting precisely because $p = x^B$ does not hold for each individual bidder type. Instead, the bid price is fair ($p = \hat{x}^B$), but some types pay more and others less than their respective post-takeover security benefits. More non-voting shares reduce the fraction of return rights that bidders purchase and therefore render a bid *ceteris paribus* more profitable for types who pay more than their post-takeover security benefits. Hence, some formerly frustrated types can earn a profit and now make a bid. In response, shareholders revise their beliefs about the post-takeover share value downward. This in turn lowers the bid price at which shareholders are willing to tender and makes the takeover profitable for further types. Thus, non-voting shares mitigate the free-rider problem when shareholders do not know the bidder's ability to generate value and private benefits and security benefits are positively correlated.²³ In this setting, the security-voting structure can in fact be used to discriminate among bidders, i.e., to frustrate value-decreasing ones but encourage value-increasing ones. Typically, this optimal structure deviates from one share - one vote. Moreover, the optimal number of voting shares decreases with the quality of legal shareholder protection.

Endogenous Private Benefits Grossman and Hart (1980a), like many subsequent takeover models, (implicitly) assume that private benefits and security benefits are independent of the bidder's final cash flow stake. To succeed, the bidder must offer a price equal to the post-takeover security benefits and she undertakes the bid if her private benefits are sufficient to cover the takeover

²³These results - like others in this literature - are sensitive to the assumed relationship between security and private benefits. For instance, more voting shares promote takeover activity when security benefits and private benefits are inversely related.

cost ($Z > K$). The security-voting structure has no impact on the bid price or the takeover incidence.

Burkart et al. (1998) show that the security-voting structure can matter because it affects the bidder's private benefits. In contrast to the above framework, they assume that the extraction is inefficient and exhibits decreasing marginal returns. When the bidder owns more cash flow rights, she internalizes more of this inefficiency and therefore extracts less private benefits which implies higher post-takeover security benefits. As in Grossman and Hart (1980a), the bidder does not make any profit on the tendered shares, and the private benefits constitute her only profit. Since non-voting shares reduce the number of cash flow rights that a bidder has to purchase to gain control, more non-voting shares increase her private benefits. This in turn may be necessary to make the bid profitable. This result suggests that one share - one vote may frustrate too many takeovers. In this case, more private benefit extraction is a benefit rather than a cost of dual-class structures as it promotes takeovers of dispersedly held firms.

Finite Number of Shareholders With a finite rather than infinite number of shareholders, each individual shareholder takes into account that her decision is with positive probability pivotal for the aggregate outcome. As a result, she is willing to tender at a price below the post-takeover security benefits (Bagnoli and Lipman, 1988; Holmström and Nalebuff, 1992). This “discount” and hence the bidder's profit increase as it becomes more likely that each individual shareholder's decision is pivotal. A reduction in the number of voting shares therefore mitigates the free-rider problem (Gromb, 1992). With fewer votes to be tendered, each voting shareholder feels more pivotal and hence more inclined to sell. As a result, the bidder's profit and the takeover probability increase.

Social vs. Private Optimality The above extensions of the Grossman and Hart (1980a) framework all find that deviations from one share - one vote mitigate the free-rider problem in dispersely held firms. To the extent that takeovers should be promoted, deviations may thus be socially efficient. Or in other words, a one share - one vote structure may frustrate too many socially desirable takeovers. Similarly, regulations that compel bidders to extend the offer to all (voting and non-voting) shareholders, like the mandatory bid rule or the coattail provision, replicate the one share - one vote structure and may therefore render some value-increasing takeovers unprofitable.

The socially optimal structure differs in general from the privately preferred one, because target shareholders neither internalize takeover costs nor the bidder's private benefits. This divergence is simple to illustrate: Since the free-rider condition equates the bid price to the security benefits under the bidder, shareholders want a takeover to succeed whenever $x^B \geq x^I$. From a social perspective, takeovers should not succeed unless $nx^B + Z^B - K \geq nx^I + Z^I$. Clearly, these two conditions need not coincide.

This divergence undermines the common view that owners who take a firm public choose the socially optimal charter provisions because they are residual claimants and therefore fully internalize the costs and benefits of their decisions (Jensen and Meckling, 1976). The flaw in the argument is that initial negotiations cannot feasibly include all parties that contribute in the future to the value of the firm, such as the bidder in the present context. Being self-interested, owners and initial shareholders choose the security-voting structure that maximizes their expected takeover returns, while the socially efficient rule takes the bidder's cost and private benefits into account.

A.2 Bidding Contest

To analyse the role of the security-voting structure in bidding contests, we assume that an outside bidder B competes against the incumbent I . (The rival could equally well be another outside bidder). For simplicity, neither the bidder nor the incumbent owns an initial stake in the firm, and there are no takeover costs ($K = 0$). The security benefits generated by the incumbent and the bidder are x^B and x^I per share and their (total) private benefits are Z^B and Z^I . At the time of the bidding contest, these characteristics are known to the shareholders. As before, the target firm has n outstanding shares which all carry the same security benefits but only n_v carry a vote.

We assume that competition is effective in the sense that the losing competitor's willingness-to-pay determines the bid price. That is, the winning bid price is larger than the security benefits generated by the winner. Otherwise, the takeover outcome would be determined by the shareholders' tendering decision, in which case the results from the single-bidder section apply. Finally, we assume that the bidder B generates a higher total value than the incumbent I , i.e.,

$$nx^B + Z^B \geq nx^I + Z^I. \tag{1}$$

Hence, the efficient outcome is that bidder B wins the control contest. Following Grossman and Hart (1988),²⁴ we examine which security-voting structures ensure this outcome. (The subsequent results can, of course, be replicated for the reverse case when incumbent control is more efficient.)

Reservation Prices Given that competition is effective, the bid price exceeds by definition the winner's security benefits. Consequently, either party submits an offer for the voting shares only, and the winning bid will attract all n_v voting shares. Anticipating this, B and I are willing to offer at most $n_v x^B + Z^B$ and $n_v x^I + Z^I$ respectively. We refer to these amounts as the competitors' reservation prices. The bidding outcome will be efficient only if B 's reservation price is higher than I 's:

$$n_v x^B + Z^B \geq n_v x^I + Z^I. \quad (2)$$

It is easy to verify that B wins irrespective of n_v when she has larger private benefits. If B has both higher security and higher private benefits ($x^B \geq x^I$, $Z^B \geq Z^I$), she wins the contest irrespective of n_v . This also holds when B has lower security benefits but higher private benefits ($x^B < x^I$, $Z^B \geq Z^I$). To see this, note that B wins for $n_v = 1$ and for $n_v = n$ because $Z^B > Z^I$ and she is assumed to be the more efficient party ($n x^B + Z^B \geq n x^I + Z^I$). As both sides of the inequality are linear in n_v , B 's willingness to pay must be higher for all values of n_v . Thus, the security-voting structure is irrelevant for the outcome whenever the more efficient party has also larger private benefits.

In the opposite case ($Z^B < Z^I$), a dual-class structures can, however, lead to an inefficient outcome. When n_v is sufficiently low, I may have a higher reservation price than B . By contrast, the one share - one vote structure ($n_v = n$) always ensures the efficient outcome as condition (2) then coincides with the efficiency condition (1). Thus, one share - one vote is socially optimal as all dual-class structures bear the risk that the less efficient incumbent wins the contest (Grossman and Hart, 1988).

Control Premium When a party values control primarily because of her private benefits, she is willing to pay a control premium per share. To see this, divide condition (2) by n_v to obtain the price

²⁴See also Harris and Raviv (1988).

that a party is willing to pay per voting share: $x^B + (Z^B/n_v) \geq x^I + (Z^I/n_v)$. Each party is prepared to pay a premium (Z/n_v) in excess of her security benefits. Three factors account for the potential inefficiency of dual-class structures. First, the party with the larger private benefits is prepared to pay a higher premium (relative to her security benefits). Second, the control premium per share increases when there are fewer voting shares. For a sufficiently low fraction of voting shares, the difference in the control premia may thus be larger than the difference in security benefits, and I may thus offer a higher per share price than B . Third, the voting shareholders' tendering decision ignores the potential loss in security benefits incurred by non-voting shareholders. If the non-voting shareholders could coordinate themselves, they could negotiate the efficient outcome by compensating the voting shareholders for any foregone control premium.

Social vs. Private Optimality The analysis of the case of bidding competition leads to the conclusion that the one share - one vote is socially optimal in the sense that it always allocates control to the bidder with the highest overall value.²⁵ The difference to the single bidder case arises because the losing bidder's reservation price as opposed to the free-rider condition is the relevant constraint for a successful bid.

As in the single bidder case, target shareholders may prefer a socially suboptimal structure. As already pointed out by Grossman and Hart (1988), deviations from one share - one vote allow shareholders to extract a higher control premium. To understand this, consider the case when $x^B > x^I$ and $Z^B > Z^I$. In this constellation, B always wins and pays I 's reservation price. For any given dual-class structure, the value of all non-voting shares is $(n - n_v)x^B$ whereas the total price paid for the voting shares is $n_v x^I + Z^I$. It is easy to see that total shareholder wealth decreases in n_v as $x^B > x^I$. Shareholders gain from realizing B 's security benefits and can do so by letting the parties compete over fewer shares. In any case, the total bid price includes the value of I 's private benefits.

This provides a rationale for deviating from one share - one vote. When the security-voting structure is chosen before the parties' characteristics are known, deviations come with the risk of inefficient outcomes. That notwithstanding, Sercu and Vinaimont (2006) show through simulations

²⁵While this also holds true in the setting with inefficient private benefit extraction (Burkart et al., 1998), one share - one vote is nevertheless not socially optimal. Non-voting shares intensify competition and force the winning party to acquire more cash flow rights, thereby reducing inefficient private benefit extraction.

that one share - one vote almost never maximizes shareholder wealth. That is, shareholders prefer to introduce non-voting shares.

In conclusion, the theoretical literature on tender offers suggests that the optimal security-voting structure depends on a variety of factors, notably the extent of competition and the (assumed) correlation between the parties' private benefits and security benefits. Thus, the claim that one share - one vote – or any other specific structure – is generally most conducive to an efficient control allocation of widely held firms is not justified. Moreover, target shareholders' preferred structure diverges from the socially optimal structure. In the single bidder case, shareholders prefer other structures because they do not internalize the bidders' private costs and benefits. In the competition case, they favour dual-class structures to extract higher control premia.

B Negotiated Control Transfers

The preceding analysis of the tender offer process presumes an ownership structure where (at least) the majority of votes is dispersedly held. Yet, many dual-class firms have a controlling minority shareholder. In this case, a control transfer can only take place with her consent and is therefore best viewed as the outcome of a bilateral negotiation between incumbent and new controlling shareholder.

Drawing on Kahan (1993) and Bebchuk (1994), we consider a firm run by a controlling shareholder I who owns a fraction $\alpha > 0.5$ of the voting shares. The remaining $(1 - \alpha)n_v$ voting shares and the $(n - n_v)$ non-voting shares are dispersed among small shareholders. The controlling shareholder is approached by an outside bidder B who would like to take control. We assume that both parties' know each others' reservation prices, i.e., the parameters x^B , x^I , Z^B and Z^I are known. Hence, I and B will agree on a control transfers if it is mutually beneficial. As it turns out, this situation is very similar to the bidding competition as B and I essentially compete for control, and the party that values control more highly will eventually gain (keep) it.

A control transfer is efficient if $nx^B + Z^B \geq nx^I + Z^I$, i.e., condition (1) holds. The value of the controlling block to I is $\alpha n_v x^I + Z^I$, while B values the block with $\alpha n_v x^B + Z^B$. Abstracting from takeover costs, the two parties find it mutually beneficial to trade if B 's reservation price is

higher than that of I :

$$\alpha n_v x^B + Z^B \geq \alpha n_v x^I + Z^I. \quad (3)$$

How controlling shareholder and bidder share this surplus determines the block price. Since the subsequent arguments do not depend on a specific block price, we abstract from its determination.²⁶ Once in control, the bidder has the option to purchase the remaining voting and non-voting shares. Due to the free-rider behavior, the small shareholders are not willing to tender their share for less than the security benefits x^B . Hence, the bidder would not make a profit and abstains from purchasing the remaining shares.

Condition (3) is almost identical to condition (2), the difference being that the control sale involves only the fraction α of voting shares. But this minor difference matters. While one share - one vote ensured an efficient takeover outcome in the competition case, this is no longer true in a control sale. To see this, note that condition (3) for a single class firm

$$\alpha n x^B + Z^B \geq \alpha n x^I + Z^I$$

differs from (1). Even though the corporate charter endows all shares with a vote, the presence of a control block turns all minority shares into virtually non-voting shares.

Inefficient Control Allocation Controlling blocks may not be owned by the more efficient party for the same reason as dual-class share structures can lead to an inefficient bidding outcome. Suppose that B generates more value but enjoys relatively small private benefits. If αn_v is sufficiently small, B 's reservation price may be lower than that of I . The reason is that I attaches a high control value to each share when she owns few. Consequently, she demands a price that B may not be willing to pay. Hence, a value-increasing control transfer may fail.

As in the competition case, the roles can be reversed. Suppose that B generates less value but enjoys larger private benefits. Now B 's reservation price may exceed I 's if αn_v is sufficiently small. Thus, a value-decreasing control transfer may occur because B is willing to pay I a very high control premium.

²⁶In the theoretical literature, the block price is typically the outcome of a bargaining game between incumbent and bidder that depends on the parties' outside options (see e.g., Burkart et al., 2000)

These inefficiencies arise because I and B do not internalize the effect of the control transfer on the minority shareholders, just as the voting shareholders ignored the welfare of the non-voting shareholders in the bidding contest. Again, the inefficiencies could be avoided if the minority shareholders were able to coordinate and compensate I or B for taking the efficient decision.

As in the competition case, an inefficient outcome is more likely to materialize when the fractions of voting shares is smaller. Increasing the number of shares that the controlling shareholder must hold reduces the control premium per share and thus the potential divergence between the ranking of reservation prices and the ranking of total firm values. That is, one share - one vote leads to the second-best control allocation, minimizing both the failure of value-increasing bids and the success of value-decreasing bids.

Social vs. Private Optimality Zingales (1995a) shows that floating some shares through an initial public offering (IPO) can increase the total proceeds from a control sale. By selling shares to dispersed investors who have no choice but to “free-ride” in the subsequent control sale, the owner can extract part of the surplus, without having to bargain over it.²⁷ Dual-class shares allow to float more shares (cash flow rights), while maintaining control. Moreover, the control premium (per share) increases, as fewer shares are involved in the control sale. Thus, dual-class share structures help to extract more surplus from the bidder, for essentially the same reason as in the competition case. The owner may therefore reduce the number of voting shares even if this increases the risk of an inefficient control allocation (Bebchuk and Zingales, 2000). However, it should be noted that deviations that increase the expected proceeds of firm founders may encourage entrepreneurial activity.

Mandatory bid rules and coattail provisions, which force the bidder to extend the same offer to controlling and minority shareholders, have an ambiguous effect on the efficiency of control sales (Kahan, 1993; Bebchuk, 1994). As the controlling shareholder does not sell unless she is paid a control premium, these provisions force the bidder to pay that premium on all shares. The redistribution from bidder to small shareholders increases the cost of a control transfer, thereby reducing takeover activity and entrenching existing control structures. This is a mixed blessing: While it

²⁷If the market for controlling blocks would be equally competitive as the market for cash flow rights, the two-stage sale procedure would not increase the owner’s total proceeds.

prevents all value-decreasing bids, it also deters more value-increasing bids.²⁸ This deterrence effect is more pronounced for dual-class structures because the control premium per share tends to be higher.

III Ownership Concentration and Security-Voting Structure

The preceding analysis of control transfers takes the firm's assets as given and examines how the distribution of cash flow and voting rights affects the allocation of control over these assets. Another complementary strand of the literature takes the identity of the party in control as given and explores how its decisions are influenced by the distribution of cash flow and voting rights. A firm's ownership and control structure influences the corporate decisions such as investment or dividend policies through two distinct channels. On the one hand, the ownership structure determines the extent to which shareholders actively participate in corporate decisions. We review these direct effects in this section. On the other hand, the ownership and control structure affects the extent to which control is contestable, which in turn has repercussions for a broad range of corporate decisions. We discuss these indirect or ex ante effects of the takeover threat in the next section (Section IV).

Many firms are characterized by the separation of ownership and control (Berle and Means, 1933): Shareholders delegate decision-making authority to managers to run the firm on their behalf. As a result, the manager may choose actions that increase her private benefits at the expense of the shareholders' security benefits. The shareholders can limit divergences from their interest by providing appropriate incentives or by monitoring the manager's actions. To use the latter mechanism, shareholders must reserve the right to overrule managerial decisions whenever they disagree and want to take action. This formal authority is embodied in the voting rights.

Yet, formal authority confers real authority, i.e., an effective control over decisions, only if it is duly exercised (Aghion and Tirole, 1997). However, shareholders tend to refrain from doing so unless they possess the relevant information. Small shareholders, in particular, lack the incentives to collect information and oversee managers. Abstracting from the possibility of a takeover, the

²⁸The premium of superior voting shares has significantly declined for firms listed at the Toronto Stock Exchange after the coattail provision was put in place in 1984 (Maynes, 1996). In the light of the above argument, it is unclear whether this is associated with an increase in efficiency.

allocation of votes among dispersed shareholders is therefore immaterial.

By contrast, an investor owning a substantial fraction of cash flow rights has an incentive to incur the monitoring costs to constrain the manager's discretion, thereby mitigating the agency problem. Indeed, concentrated ownership has been advocated as a simple governance mechanism to promote value maximization by firms either through monitoring or through the alignment of interests. Our objective in this section is to examine how the security-voting structure affects the blockholder's influence over corporate decisions.

A Outside Blockholder and Monitoring

A blockholder, who is distinct from the manager, is both willing and able to monitor management and influence corporate decisions. From the other shareholders' perspective, this may or may not be beneficial (Shleifer and Vishny, 1997). On the one hand, the outside blockholder can use her influence to increase security benefits, thereby acting in the interest of all shareholders. On the other hand, she may choose to collude with the manager to divert corporate resources and share the private benefits.²⁹ In this case, she becomes de facto an inside blockholder whose role we examine in the next section.³⁰ Here we assume that the blockholder is an outsider whose interests are perfectly aligned with the other shareholders.

These models typically abstract from the role of voting rights and assume that the blockholder has the ability or power to correct or reverse managerial decisions.³¹ This assumption is a simplification and fits the logic of the framework: Given shareholders have congruent interests, small shareholders can only gain from letting the blockholder monitor and interfere on their behalf.

There are, however, various reasons why the blockholder's degree of influence depends on both cash flow rights and votes. For instance, a blockholder's proposal may need to be backed by sufficiently many votes, say a simple majority, forcing her to mobilize extra support if she owns too few herself (Bennedsen and Nielsen, 2006). Similarly, owning more voting rights can improve the odds of a favorable outcome in a shareholder vote or a proxy contest when small shareholders vote

²⁹Both sides of ownership concentration are well documented in numerous empirical studies, but the evidence is inconclusive on whether the positive or negative effects dominate (Becht et al., 2003; Berglöf and Burkart, 2003.)

³⁰The difference between an owner-manager and a colluding blockholder is that the latter has to share the private benefits with the manager (e.g., Burkart and Panunzi, 2006a).

³¹A notable exception is Shleifer and Vishny (1986b) where an incumbent blockholder after collecting information must acquire the majority of votes either through a takeover or a proxy contest to implement the intended changes.

erratically or nurture a status quo bias in favor of management (Rydqvist, 1992).

Given that votes have a distinct impact on the blockholder's ability to challenge managerial decisions, leveraging voting power is advantageous if ownership of large equity stakes entails (opportunity) costs. For instance, holding a substantial fraction of one firm's cash flow rights is costly for a risk-averse investor (Admati et al., 1994; Hagelin et al., 2006). In order to reduce firm-specific risk, the blockholder may even press the firm to engage in value-reducing hedging activities or to forgo risky but profitable investment projects (Hu, 1990). Larger stakes also reduce liquidity in the secondary market, thereby making it more difficult to sell shares when in sudden need of cash.³² Furthermore, no investor may be sufficiently wealthy, and credit markets imperfect.

Under the one share - one vote structure, these costs do not only constrain the size of the equity stake but also the voting power. To the extent that more monitoring is desirable, it is optimal to let the blockholder own more votes than cash flow rights. A dual-class structure may also be desirable when too much monitoring frustrates valuable managerial initiative (Burkart et al., 1997). In that case, a wedge between votes and cash flow rights may simultaneously reduce the cost of interference and the level of monitoring.

A Simple Illustration Consider a manager-run firm with a single outside blockholder L , who holds a fraction $s \in [0, 1]$ of the voting rights and a fraction $d \in [0, 1]$ of the cash flow rights. Being risk-averse, L incurs a cost $k(d)$ of holding a non-diversified portfolio with $k_d > 0$ and $k_{dd} > 0$.³³ The manager generates a total value of $V > 0$, and can divert up to an amount $Z < V$ (without having to fear legal prosecution), unless L interferes.

To reverse the managerial decision L has to incur some fixed cost of interference, \underline{c} . In addition, she needs to spend resources to mobilize the support of other shareholders, unless she holds a majority of the votes. More specifically, the total cost of reversing a decision is $c(s)$ with $c_s < 0$ for all $s < 0.5$ and $c(s) = \underline{c}$ for all $s \geq 0.5$. That is, interference is cheaper when L owns more votes, and once she holds a majority of the votes she only bears the fixed cost \underline{c} . Furthermore, $2\underline{c} < Z$, and the diverted amount is fully recovered if L interferes.

³²The possibility of insider trading may cause a price impact of trades, which is more severe in less liquid markets (Kyle, 1985). In that case, a blockholder may face a considerable discount when having to sell shares. In fact, the discount may even be partially due to potential inside information on her own part (Maug, 1998).

³³Throughout the article, we use the following short-hand notation. If f is a function, f_x denotes the first-order derivative of that function with respect to x , f_{xx} the second-order derivative with respect to x , and f_{xy} the cross-derivative with respect to x and y .

We are interested in the question which ownership structures induce L to challenge the management, and which among these structures minimize L 's costs.

Since the manager never loses from diversion, her (weakly) dominant strategy is to divert as much as possible, i.e. Z . For given values of s and d , L thus interferes when her gain exceeds the cost of interference, i.e.

$$dZ \geq c(s). \tag{4}$$

Clearly, she is more likely to reverse managerial private benefit extraction when she receives a larger share d of the gains from interference (alignment effect), or when she owns more votes s , thereby lowering her cost of interference (power effect).

Leveraging L 's voting power simultaneously reduces interference and underdiversification costs. Thus, the optimal structure allocates to L a majority of the votes ($s^* \geq 0.5$) to maximize her ability to monitor and an equity stake sufficient to preserve her incentive to interfere, i.e., $d^* = \underline{c}/Z$. Since $2\underline{c} < Z$ by assumption, $d^* < 0.5$. That is, it is cost-efficient for L to own fewer cash flow rights than voting rights.

Under one share - one vote ($s = d$), a reduction in the interference cost necessarily goes together with an increase in the underdiversification cost, and vice versa. As a result, L either diversifies her wealth less or monitors the manager less.

Shareholder Activism and Short-Termism In most countries around the world corporate ownership is characterized by the presence of large shareholders who have substantial influence over corporate decisions (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002). The main exception appears to be the US, where dispersed ownership is prevalent, although blockholders are not entirely absent (Becht et al., 2003).³⁴ Since Berle and Means (1933), this absence of active owners has frequently been lamented by corporate governance activists in the US. With the growth of funds under institutional management, expectations arose that large institutional investors, such as mutual and pension funds, would actively monitor managers (Black, 1992). However, some anecdotal evidence apart, empirical studies found little systematic impact of institutional ownership on firm governance and none on firm performance (Black, 1998; Gillan and Starks, 1998; Karpoff,

³⁴In the UK, some degree of voting control by large blockholders is not uncommon (Goergen and Renneboog, 2001).

2001; Romano, 2001).

More recently, active hedge funds like *Third Point* or the *Hermes UK Focus Fund* pursue more aggressive strategies such as nominating board members, replacing top managers, or intervening in takeovers, which appear to improve shareholder value (Becht et al., 2006; Bratton, 2007; Klein and Zur, 2006). Compared to mutual and pension funds, their (more) active governance role is attributed to fewer restrictions imposed by regulations, political constraints, or conflicts of interests, and their ability to charge more performance-based fees (Kahan and Rock, 2006). Public pressure or litigation aside, their preferred mode of intervention seems to be the credible threat of a proxy contest. Since active hedge funds typically control (much) less than the majority of the votes, they must be backed by other shareholders (as in the previous illustration). Often this support comes from more passive institutional investors. Therefore, the ability to coordinate with other investors seems to be crucial for these funds to be effective monitors.

Active hedge funds have also been criticized, notably for their alleged short-term horizon that pressures managers to boost short-term profits at the expense of long-term profitability.³⁵ The same objection was raised against corporate raiders and institutional investors during the takeover wave of the 1980s (Jensen, 1988; Stein, 1989). Supporters of this view advocate regulatory measures in order to relieve the short-term pressure on managers.³⁶ For instance, one option is to leverage the voting power of long-term shareholders as in the French system of double voting shares.

Diverging planning horizons are, however, immaterial for corporate decisions when capital markets are perfect, complete and efficient.³⁷ In such a world, current prices reflect the (unique) present discounted value of all future dividends, and investors can execute any trade at these prices, thereby reallocating payments across time periods to achieve their most preferred cash flow. As a result, all investors agree on the objective of maximizing current stock prices, thereby separating the optimal investment policy from their time preferences.

Theoretical models of short-termism relax the above strong assumptions about capital markets

³⁵Fund managers may have shorter time horizons because of liquidity reasons or dynamic trading strategies. Moreover, they may prefer to trade on short-term information to signal their ability to investors (Guembel, 1999).

³⁶In addition, some critics emphasize the conflict between activist funds and the interests of other stakeholders, especially workers. Franz Müntefering, the current Vice-Chancellor of Germany, who in 2005 compared private equity and hedge funds to financial "locusts", said more recently: "[T]here is a finance industry out there ... which has little to do with classical entrepreneurship. Some of them act responsibly, others don't. That is why I think we need rules that ensure that this industry ... respects the requirements of the social market economy" (*Financial Times*, 2007).

³⁷This shareholder unanimity result in perfect and complete markets dates back to the Fisher Separation Theorem (Fisher, 1930). DeMarzo (1993) and Geraats and Haller (1998) analyze shareholder conflicts in incomplete markets.

and derive conditions under which markets or managers behave myopically. In Stein (1989), the source of inefficiency is asymmetric information. Assuming that the market cannot distinguish between more or less profitable investment projects at their outset, firms with "good" projects are undervalued in the short run. Managers or owners who for various reasons are concerned about the current stock price (rather than the fundamentals) therefore pursue myopic strategies, if that signals the true quality of their investments to the market. This requires that firms with "bad" projects refrain from mimicking the strategies because the latter are (too) inefficient, i.e. costly.

The argument by Stein premises that no investor is able to identify the mispriced firms. Otherwise, arbitrage trades would bid up the stock price. However, even known price distortions can be persistent when there exist market imperfections that lead to *limits to arbitrage* (e.g., Shleifer, 2000). In particular, stock prices may be myopic if arbitrage is more difficult for long-term assets than for short-term assets (Shleifer and Vishny, 1990). If so, a shareholder with a shorter (expected) holding period may prefer a short-term investment over a more profitable long-term investment, i.e. maximizing the short-run share price as opposed to the fundamental value.

Although the above theories derive conditions under which short-termism prevails, their empirical relevance is unclear. First, other (plausible) modeling assumptions generate different results. For instance, Edmans (2007) formally argues that institutional investors reduce myopia by collecting costly information about firms' long-term profitability and (partially) revealing this information to the market through their trades. Second, the empirical evidence on myopia in markets or among managers is mixed at best.³⁸ Third, hedge fund interventions such as the opposition to *Deutsche Börse's* takeover attempt of the *London Stock Exchange* seem to be more targeted at curbing managerial self-dealing rather than the pursuit of short-term interests.³⁹

B Inside Blockholder and Extraction

As small shareholders abstain from monitoring, an inside blockholder in an otherwise dispersedly held firm enjoys considerable autonomy. Jensen and Meckling (1976) show that the insider and the small shareholders have diverging interests. Assuming that the value of the firm depends on

³⁸For instance, Abarbanell and Bernard (2000) find no evidence of myopia in US stock markets, and Bushee (1998) finds that by and large institutional shareholdings are associated with longer-term investments. Similar results are found in other papers, many of which are listed in Kahan and Rock (2006), fn. 241.

³⁹The anecdotal evidence on activist hedge funds notwithstanding, there is yet too little empirical evidence to draw broader conclusions.

costly managerial actions, the insider underprovides such effort relative to the socially optimal level, because she bears all the effort cost but receives only part of the returns (security benefits). A larger equity stake increases her incentives to exert effort, thereby aligning her interests (more) with those of the other shareholders. Crucial for this result is the assumption of decreasing marginal returns to effort, which is to say that it becomes increasingly difficult to create more value. Unless the firm is fully owned by the insider, the socially optimal effort level is not achieved. The underprovision of effort constitutes (one manifestation of) the agency cost of outside finance.

The effort provision problem can be rephrased as a problem of private benefit extraction, where the insider can convert security benefits into private benefits but in the process dissipates some of the value (Burkart et al., 1998). In this setting, a larger equity stake forces the insider to internalize a greater part of the loss, thereby inducing her to extract less private benefits. The crucial assumption is that the marginal loss increases in the level of extraction. That is, it becomes increasingly inefficient to extract more private benefits.⁴⁰ Again, outside finance creates agency costs, as some inefficient extraction always occurs unless the insider owns the whole firm.

The alignment effect operates solely through the insider's cash flow rights, while the vote allocation does not matter as long as the remaining shares are dispersed. As in the case of the outside blockholder, the irrelevance of the voting rights allocation relies on the assumption that the other shareholders remain passive. A role for votes emerges when corporate decisions that benefit primarily the insider require shareholder approval. In this case, the inside blockholder may need to bribe a sufficient number of minority shareholders to support her, thereby effectively having to share some of her private benefits. As a consequence, her incentive to divert resources may decrease in the amount of support she has to procure.⁴¹

A Simple Illustration We slightly modify the previous example. Consider a firm of value V with a single inside blockholder I , who holds a fraction $s \in [0, 1]$ of the voting rights and a fraction $d \in [0, 1]$ of the cash flow rights. As before, we assume that some action requires the support of a simple majority, forcing I to persuade other shareholders when she is short of votes. In addition, we assume that she can and must bribe them to vote for an action that is against their own interest,

⁴⁰Otherwise, the inside blockholder extracts either nothing or all she can without being legally prosecuted. The former (latter) obtains if her equity stake is larger (smaller) than the constant marginal deadweight loss.

⁴¹Similar arguments have been put forward in the context of multiple blockholders (Bennedsen and Wolfenzon, 2000; Nagar et al., 2004).

e.g., because it dilutes their security benefits.

More specifically, suppose that she seeks shareholder approval for an action that she relies on to extract private benefits. We assume that she needs to "buy" $\max\{0, 0.5 - s\}$ votes by giving up a share $1 - \alpha(s)$ of the private benefits to some of the other shareholders. So, $\alpha(s) \in [0, 1]$ denotes the fraction of the private benefits that I retains, where we assume that $\alpha_s > 0$ for $s < 0.5$ and $\alpha(s) = 1$ for $s \geq 0.5$. In words, she keeps a higher fraction of the private benefits to herself when she owns more votes, because it requires a smaller bribe to ensure outside support. When she owns the majority of votes, she keeps the entire private benefits, as no bribes are needed.

If she gains approval, she can choose an amount $z \in [0, Z]$ she wants to divert, where $Z < V$. Following the previous discussion, we assume that private benefit extraction is inefficient. More specifically, we assume that the diverted resources are transformed into private benefits of value $\phi(z)$, where $\phi_z > 0$, $\phi_{zz} < 0$, $\phi_z(0) = 1$ and $\phi_z(Z) = 0$.

We are interested in I 's optimal extraction decision. Suppose that the transaction was approved. For given s and d , she chooses z in order to maximize $\alpha(s)\phi(z) + d(V - z)$. Because $\phi(z)$ is concave in z , the solution is given by the first-order condition

$$\phi_z(z) = \frac{d}{\alpha(s)}. \quad (5)$$

Due to the inefficient extraction technology the left-hand side is decreasing in z , and I 's preferred extraction level is hence inversely related to the value on the right-hand side. This implies that extraction decreases in her share of cash flow rights (alignment effect), while it increases in her share of voting rights as long as $s < 0.5$ (power effect). The latter effect stems from the fact that she must buy fewer votes, thereby retaining a larger share $\alpha(s)$ of the private benefits.

The level of extraction therefore increases in the difference between L 's votes and cash flow rights ($s - d$). According to this argument, controlling minority stakes exacerbate the conflict between large and small shareholders by increasing both the incentive and the ability of the blockholder to extract private benefits. Consider again the effect of mandating a one share - one vote structure in a situation where $s > d$. The insider could respond by increasing her equity stake, thereby strengthening the alignment effect, or by reducing her voting power, thereby weakening her ability to extract private benefits. In either case, the level of extraction would decrease.

C Trade-off between Monitoring and Extraction

Bennedsen and Nielsen (2006) combine the preceding insights in a single framework in which votes have a distinct impact on the efficacy of monitoring and extraction. Leveraging a blockholder's voting power entails a trade-off: It makes her a more effective monitor of the management, but it also enables her to extract more private benefits. In the above examples, an increase in s reduces the cost $c(s)$ of overruling the management but increases the fraction $\alpha(s)$ that the blockholder keeps from any self-initiated private benefit extraction. Or putting it more generally, empowering the blockholder mitigates the agency conflict between managers and shareholders while aggravating the conflict between large and small shareholders. Hence, the effect of a mandatory one share - one vote rule that disempowers blockowners is ambiguous: Although it protects small shareholders against private benefit extraction by the large shareholder, it leaves the manager with more discretion and hence the ability to extract (more) private benefits.

IV Contestable Control and Security-Voting Structure

Decisions and actions of corporate insiders are often not challenged by existing shareholders, in particular when their stakes are small. Another potentially effective constraint on the insiders' behaviour is the market for corporate control (Manne, 1965). Apart from facilitating actual control changes, the mere possibility that an outsider with more resources and better information than the existing shareholders challenges the insider's control can have a disciplinary effect (Grossman and Hart, 1980b; Scharfstein, 1988). The fear of being ousted after a takeover may induce insiders to abstain from self-serving actions that lower firm value.⁴² As the security-voting structure influences the extent to which control is contestable, it also matters for decisions taken in anticipation of a (hostile) takeover threat. In addition, (regulatory) restrictions on the security-voting structure limit the insiders' ability to preserve control which in turn may affect the choice of ownership structure and the decision to go public. In what follows, we examine the effects that the security-voting structure has through its impact on control contestability.

⁴²For instance, the large scale restructuring carried out by incumbent managers during the 1980s is attributed to the concurrent real takeover threat (Holmström and Kaplan, 2001).

A Alignment and Control Contestability

Control contestability and partial ownership concentration are alternative mechanisms to mitigate the conflict between insiders and (outside) shareholders. It thus seems ideal to discipline insiders by using both mechanisms. But to the extent that votes are tied to cash flow rights, the two are inversely related: More shares give the insider more cash flow rights (more alignment) but also more votes (less control contestability). This is most evident in the one share - one vote structure, where every increase in cash flow rights coincides with a proportional increase in voting rights.⁴³

Separating votes from cash flow rights changes the interplay between the two mechanisms. If the insider holds more votes than cash flow rights she undermines both mechanisms, thereby increasing her incentives to engage in self-dealings. That is, leveraging the insider's voting power aggravates the agency conflict because she is better protected from a takeover and is less aligned with the other shareholders (Bebchuk et al., 2000; Claessens et al., 2002; Gompers et al., 2006; Masulis et al., 2007). As the subsequent example illustrates, the vote allocation could in principle also be used to achieve the opposite, i.e., to strengthen the two mechanisms.

A Simple Illustration Consider the previous example with a firm of value V and a single inside blockholder I , who holds a fraction $s \in [0, 1]$ of the voting rights and a fraction $d \in [0, 1]$ of the cash flow rights. As before, I can divert an amount $z \in [0, Z]$ of corporate resources which are then transformed into private benefits of value $\phi(z)$, where $\phi_z > 0$, $\phi_{zz} < 0$, $\phi_z(0) = 1$ and $\phi_z(Z) = 0$. Contrary to before, however, the extraction decision requires no shareholder approval. As a result, the vote allocation does not directly affect the resource allocation under I .

We introduce the possibility of a takeover, in which case I sells her block at an exogenously given price P , and foregoes her entire private benefits (without separate compensation). The probability of a takeover depends on I 's voting power s , and is denoted by $1 - \theta(s)$ with $\theta(s) \in [0, 1]$, $\theta_s > 0$ for $s < 0.5$, and $\theta(s) = 1$ for $s \geq 0.5$. That is, I can block takeovers more easily when she owns more votes (Burkart et al., 2006), and is insulated from the takeover threat when she owns a majority of the votes.

⁴³This inverse relationship can in principle lead to a non-monotonic mapping from inside ownership to firm performance (e.g., Morck et al., 1988). For instance, a larger block may initially improve value through the alignment effect, but above some level reduce value by preventing value-increasing takeovers (e.g., Stulz, 1988). There exists no consensus on the exact form of the relationship, and the empirical evidence is – endogeneity issues aside – at best inconclusive (Adams and Ferreira, 2007).

Again, we are interested in I 's optimal extraction decision for various ownership structures. For given s and d , she chooses z to maximize $\theta(s)[\phi(z) + d(V - z)] + [1 - \theta(s)]P$. The first part of the sum is her expected pay-off from remaining in control, whereas the second term represents her expected takeover revenue. Because $\phi(z)$ is concave in z , the solution is given by the first-order condition

$$\phi_z(z) = \frac{d}{\theta(s)}. \quad (6)$$

which is identical to (5), except that $\theta(s)$ replaces $\alpha(s)$. As before, extraction decreases in I 's share of cash flow rights (alignment effect), while it increases in her share of voting rights as long as $s < 0.5$ (entrenchment effect). The entrenchment effect stems from the fact that I can block more takeovers when she has more voting power, thereby increasing the probability $\theta(s)$ that she actually benefits from the extraction.

As argued by advocates of the one share - one vote rule, the level of extraction increases in the difference $(s - d)$. The push for one share - one vote is indeed a proposal to drive this wedge to zero. However, this is not the efficient solution. Following the logic of the argument, it is even better to let the difference assume a negative value. That is, extraction is lowest under a professional manager who owns a large block of only non-voting shares, thereby being strongly aligned and easily contestable.

Contrary to the above argument, insiders who hold a substantial financial interest but no (or simply less) votes do not seem prevalent. Instead, firms are either run by insiders who hold large equity stakes and are largely insulated from hostile takeovers, or widely held and run by professional managers, who are much more vulnerable to hostile takeovers but also less aligned. In spite of stock option plans and the like, compensation packages for top executives typically dwindle in comparison to the equity stakes of most large owners. Given these alternatives in practice, the relevant question seems to be whether (minority) shareholder interests are better protected either by the alignment of large entrenched owners or by the contestability of professional managers. That the corporate governance scandals of the recent past have occurred both in dispersely held firms (e.g., Enron) as well as in firms with dominant owners (e.g., Parmalat) indicates that this question has no obvious answer.

B Benefits of Entrenchment

The preceding section emphasizes the disciplinary effect of the takeover threat. However, control contestability comes with benefits as well as costs, and its overall impact is much debated in the literature. On the one hand, actual takeovers may destroy or redistribute rather than create value. Like other governance mechanisms, they are not free of agency problems, and may be a manifestation as much as a cure of distorted incentives. For instance, they may be driven by managerial overconfidence (Roll, 1986; Malmendier and Tate, 2004) or empire-building motives (Jensen, 1986), rather than by value improvements. Moreover, the pressure-to-tender problem may induce rational shareholders to tender their shares to a value-decreasing bidder (see Section II.A.1).

On the other hand, the mere threat of a takeover may distort insiders' behavior rather than induce them to promote profit-maximizing actions. First, if takeovers are undertaken for reasons other than reversing inefficient or self-serving behavior, acting in the shareholders' best interest need not be an effective protection against a takeover.⁴⁴ Second, insiders who are exposed to a substantial takeover threat may waste effort on measures to protect themselves. Apart from poison pills, stock repurchases or litigation to fend off hostile takeovers, they may pursue more opaque strategies, like undertaking skill-specific investments to become less easily replaceable (Shleifer and Vishny, 1989) or awarding workers generous long-term contracts, thereby making takeovers less attractive (Pagano and Volpin, 2005).

Third, the takeover threat may discourage investments in firm-specific human capital which may become redundant after a control change (Knoeber, 1986; Ippolito, 2006). More generally, if takeovers imply some form of contract renegotiation ("breach of trust"), the firm's stakeholders are reluctant to tie their fate to the firm and prefer to develop more general skills that increase their value in the external labor market (Shleifer and Summers, 1988).

Finally, the takeover pressure may induce insiders to behave myopically and sacrifice long-term profitability to boost short-term earnings (Stein, 1988; Chemmanur and Jiao, 2006). For instance, a takeover threat may hinder firms from pursuing long-term R&D strategies or, more generally, may lead the insider to underinvest, thereby constraining firm size (Attari and Banerjee, 2004; Banerjee, 2005; Kihlstrom and Wachter, 2005).

⁴⁴In support of this argument, empirical studies find that size consistently reduces the takeover probability and more so than good performance (Burkart and Panunzi, 2006b).

The common theme of the above arguments is that entrenchment, i.e. some protection from takeovers, may preserve or promote insiders' incentives to increase firm value. Thus, control contestability has both negative and positive effects on corporate decisions that are taken prior to a takeover attempt.⁴⁵ To illustrate this ambiguity, the following example formalizes the idea that the takeover threat can both "discipline" managers and "frustrate" their incentives to create value.

A Simple Illustration Consider a firm that is managed by an insider I who, for simplicity, cherishes only private benefits. The total firm value $V(e)$, which we so far held constant, is now an increasing function of the I 's effort e , and the marginal returns to effort are decreasing ($V_e > 0$ and $V_{ee} < 0$). In addition, I can extract a fraction ϕ of the firm value if she stays in control. Thus, I generates security benefits $X^I = (1 - \phi)V$ and private benefits of $Z^I = \phi V$.⁴⁶

With probability $\theta(s, V)$ the firm is taken over, and I is ousted, losing all her private benefits. The takeover probability (weakly) decreases in the I 's voting power s and total firm value V ($\theta_s \leq 0$ and $\theta_V \leq 0$).

Given the above assumptions, I chooses effort e to maximize her expected pay-off

$$\Pi = (1 - \theta) Z^I - e = (1 - \theta) \phi V - e.$$

The first-order condition is given by $\partial \Pi / \partial e = 0$ or, equivalently,

$$(1 - \theta) \phi V_e - \theta_V V_e \phi V = 1.$$

The first term on the left-hand side captures the idea that I exerts more effort when she is more likely to retain control (i.e., when $(1 - \theta)$ is large). We refer to this as the initiative effect. By contrast, the second term measures how effective effort is as a takeover deterrent or, more precisely, how much this effect is worth to I . We refer to this as the disciplinary effect. To elaborate the

⁴⁵The empirical evidence on the effects of anti-takeover devices is inconclusive and provides results in support of either view (Burkart and Panunzi, 2006b).

⁴⁶The constant extraction rate simplifies the argument but ignores the fact that the insider may extract a higher fraction when she owns less cash flow rights. We thus abstract from the alignment effect and may for simplicity assume that the insiders owns no cash flow rights. While this biases the result in favor of deviations, it isolates the trade-off between the disciplinary and initiative effect of the takeover threat.

above informal arguments, we rewrite the first-order condition as

$$1 - (\theta + \theta_V V) = \frac{1}{\phi V_e}. \quad (7)$$

As the right-hand side increases in effort due to $V_{ee} < 0$, the effort level that satisfies this equation must increase when the left-hand side is larger.

We analyze the impact of I 's voting power on her effort choice first for the case of a controlling shareholder ($s \geq 0.5$) who is immune to hostile takeovers. In this case, the takeover probability is zero ($\theta = \theta_V = 0$) and the left-hand side is equal to 1. Whether a different structure that does not preclude a takeover induces more effort depends on the sign of $(\theta + \theta_V V)$. If $\theta > |\theta_V V|$, a controlling insider exerts more effort than an insider who must fear a hostile bid. That is, the initiative effect dominates the disciplinary effect, and minimizing contestability provides the strongest incentives to the insider to create value. By contrast, if $\theta < |\theta_V V|$ the takeover threat disciplines the insider, i.e., induces him to work harder.

To analyze the question more generally, we now assume partial contestability ($s < 0.5$) and take the partial derivative of the left-hand side of (7) with respect to s :

$$\frac{\partial}{\partial s} (1 - \theta - \theta_V V) = -(\theta_s + \theta_{V_s} V).$$

When this expression is positive, i.e. $(\theta_s + \theta_{V_s} V)$ is negative, the left-hand side of (7) increases in s . This in turn implies that more voting power induces the insider to exert more effort.

Simple inspection reveals the two aforementioned effects. The first term θ_s is always negative and captures the effect that the insider's initiative increases in s as it becomes more likely that she remains in control to enjoy the private benefit.

The second term $\theta_{V_s} V$ is also negative if $\theta_{V_s} < 0$. The latter condition implies that the extent to which a further increase in firm value reduces the takeover probability increases in s . If this holds, more voting power also provides stronger incentives to fend off a takeover by increasing firm value. As a result, less insider votes unambiguously reduce effort. By contrast, if $\theta_{V_s} > 0$, frustrating takeovers by increasing the firm value becomes more effective when the insider has less voting power. In this case, a genuine trade-off between initiative and discipline emerges.

C Choice of Ownership

The takeover threat may not only affect a firm's investment strategies but also its choice of ownership and control structure. An insider may monopolize or at least concentrate voting rights to avoid losing her private benefits of control. That is, the expected degree of control contestability influences the choice between dispersed and concentrated as well as public and private ownership. Accordingly, regulatory constraints on the choice of the security-voting structure can have significant consequences for capital structure and ownership patterns. Drawing from the wider corporate finance literature, we discuss how ownership choices may respond to a mandatory one share - one vote rule.

Persistent Controlling Shareholder Structures Bebchuk (1999) points out that dispersed ownership structures may be inherently unstable when private benefits of control are large. For a simple illustration, consider a single-class firm with a large scope for private benefits and a risk-averse insider I who contemplates floating the majority of her shares.⁴⁷ The floated shares would leave control and hence the private benefits up for grabs. A bidder B can gain control by making a tender offer $p = x^B$ to the dispersed shareholders (see Section III.A.1). Confronted with the bid, I can choose to counterbid, thereby paying to retain her private benefits. Alternatively, she can sell her shares and forgo her private benefits without full compensation. In either case, the firm reverts to a controlling shareholder structure. Anticipating this outcome, I retains a controlling block to begin with to protect her private benefits, provided that she values them more than the forgone diversification gains.⁴⁸ In fact, I may even forgo new investments in order not to dilute control (Attari and Banerjee, 2004; Banerjee, 2005).

This analysis yields two insights. First, when dispersed ownership structures are inherently unstable, one share - one vote can make inevitable controlling shareholder structures (socially) more costly. In the above example, deviations would allow I to maintain control while diversifying a larger share of her financial wealth. Second, policies that aim to break-up controlling shareholder structures by prohibiting dual-class shares may not achieve their objective but instead reduce risk-

⁴⁷Bodnaruk et al. (2005) provide evidence that diversification gains are an important rationale for going public.

⁴⁸While the result relies on the implicit assumption that I does not bid more than her reservation price (Burkart, 2000), it is not an artefact of the partial equilibrium analysis. In an economy with many firms, incomplete markets and shareholders who have heterogeneous preferences and wealth endowments, firms' production choices will be determined by large or dominant shareholders (DeMarzo, 1993).

sharing, market liquidity, or firm size. Conversely, direct measures to reduce private benefits may endogenously lead to less ownership concentration and fewer deviations from one share - one vote.

The Decision to Go Public Instead of floating fewer shares, firms may choose not to float any. Many entrepreneurs tap into the equity market only if they are granted some safeguard against losing control or, in fact, precisely because going public creates a dispersed (as opposed to closely held) ownership structure with little interference by outside investors (Pagano and Röell, 1998). Accordingly, entrepreneurs may be reluctant to go public when public capital markets stipulate stiff corporate governance rules that impede managerial autonomy (Boot et al., 2006). Instead, entrepreneurs may prefer to enter private contracts which do not impose listing and disclosure costs and are more flexible.

This points at a potentially important consequence of a mandatory rule that (further) restricts entrepreneur's contractual freedom when going public. They may opt out of public markets or migrate to markets with more lax regulations. For instance, it is sometimes claimed that successful firms with dual-class structures, like Warren Buffet's Berkshire-Hathaway Inc. or Google Inc., may have remained private without a grip on control. Relatedly, the New York Stock Exchange abandoned its one share - one vote requirement in 1986 purportedly because firms increasingly listed at the American Stock Exchange and NASDAQ which had no such rule in place (Loss and Seligman, 2003).⁴⁹ Whether this implies that such regulations simply push bad firms out of the market or generally lead firms to resort to inferior means of financing is an open question that is also raised in the debate about the Sarbanes-Oxley Act.

Discouraging Blockownership The ability to extract sufficient private benefits may be necessary to compensate a blockholder for the cost of holding a large block (e.g. due to underdiversification or illiquidity). Restrictions on the security-voting structure may impair this ability and hence discourage blockownership. For instance, consider a controlling minority shareholder whose private benefits exceed her opportunity costs from holding a non-diversified portfolio. She may respond to a mandatory one share - one vote rule in two ways. On the one hand, she may raise her equity stake, thereby further reducing her diversification, provided that the expected private

⁴⁹To date, initial public offerings with multiple share classes and the issuance of stock inferior voting shares are allowed. However, in 1994 the US exchanges and NASDAQ have adopted rules that forbid recapitalizations that dilute the voting power of existing voting shareholders (Ferrarini, 2006).

benefits are sufficient to cover the additional disutility. On the other hand, she may reduce her vote share because the underdiversification costs otherwise exceed her private benefits. This latter reaction may in turn raise the takeover probability, thereby further reducing her expected private benefits and hence reinforcing her incentives to reduce the block. In the extreme case, she might dissolve it altogether, thereby handing over substantial power to the manager.

To the extent that a blockholder's voting power affects her monitoring ability, similar arguments apply to the case of outside blocks. Consider a firm with a single outside blockholder who holds voting power in excess of her equity stake because it improves her ability to monitor. Mandating one share - one vote may then induce the blockholder to reduce her voting power to the level of her equity stake, thereby reducing monitoring and hence leaving more discretion to the manager.⁵⁰

Monitoring, Liquidity and Pyramids Becht (1999) discusses the relationship between voting power, trading liquidity, and alignment. He argues that the ideal mechanism must concentrate voting power to allow direct monitoring, disperse cash flow rights to create liquidity and align the interests of the monitor with those of other shareholders. Unfortunately, these objectives conflict. Large blocks of cash flow and voting rights endow the blockholder with monitoring ability and the right incentives, but reduce liquidity. Dual-class structures allow for monitoring ability and liquidity, but may distort the blockholder's incentives.

According to Becht, mandating one share - one vote may make matters worse because controlling minority shareholders may then opt for pyramidal structures in order to protect their influence (see also Section VI.B). Pyramids provide blockholders with control and low-powered incentives as in dual-class structures but moreover reduce liquidity at each level of the hierarchy.

To see the last point, consider a dual-class firm with a blockholder who holds all voting shares, which entitle him to 25 percent of the cash flow; and, in comparison, a pyramid of two single-class firms with a blockholder who holds a 50 percent stake in a shell company, which in turn holds a 50 percent stake in a company which manages all physical assets (operating company). In either case, the blockholder controls the physical assets but is entitled to only 25 percent of the cash flow rights. However, the secondary market for the cash flow rights differs across the two settings. In the case of the dual-class firm, the cash flow rights of the non-controlling shareholders are traded

⁵⁰For instance, this would undermine family firm structures in which founding family members monitor non-family managers, which according to Villalonga and Amit (2006) operate well.

in a single stock, the firm's non-voting shares. In the case of the pyramid, one-third of them is traded through the shares of the shell company, whereas the rest is traded through the shares of the operating company. Such differences are not innocuous, as liquidity may not only affect trading costs but also interact with blockholders' monitoring decisions (Bolton and von Thadden, 1998; Maug, 1998).

D Minority Shareholder Protection

As shown above, controlling minority shareholders have strong incentives to extract private benefits, thereby diluting the security benefits of non-controlling shareholders. This insight forms the basis of the argument that minority shareholders are better protected under a one share - one vote rule. This view neglects the potentially important difference between *ex-post* and *ex-ante* expropriation. Provided that non-controlling shareholders hold *rational expectations*, they anticipate the opportunistic behavior of the insider and hence purchase the shares at a discount. If so, they do earn a fair expected rate of return.⁵¹

This argument builds on two premises: First, shareholders are not naïve and foresee the impact of the insider's leveraged voting power. Second, the (initial) shareholders are present to negotiate the terms of trade (the share price) when the firm goes public. Hence, minority shareholder protection is not a compelling justification for security-voting regulations, unless policy-makers believe that investors are systematically oblivious to future contingencies that can be exploited to their detriment or are coerced into the terms of the issue.⁵² Note that the second premise is violated in the case of future bidders, who are not yet present when the corporate charter is designed.

Another line of argument in favor of one share - one vote does not posit that minority shareholders on average pay a price above the present discounted value of the future security benefits. Instead, it argues that the discount due to insufficient protection discourages or prevents firms from raising capital, thereby hindering investment and firm growth. Such problems arise in situations where agents are unable to *ex-ante* commit themselves to actions that are not in their interest

⁵¹ Assuming risk-neutrality and competitive capital markets with a zero discount rate in the example of Section IV.B, non-controlling shareholders pay in total no more than $(1 - \theta) X^I(e_s^*) + \theta E(X_s^B)$ for their shares, where $X^I(e_s^*)$ are their security benefits under the incumbent and $E(X_s^B)$ the expected takeover price.

⁵² While rational expectations are a standard assumption in economic theory, the emerging literature on behavioral economics allows for persistently mistaken agents, thereby in principle creating scope for regulators to protect them from their own poor decisions. For models with rational managers and boundedly rational investors, see e.g. Shleifer and Vishny (2003) or Stein (1996).

ex-post. However, this argument ignores that the (initial) security-voting structure is contractible and hence can serve as a commitment device.

By contrast, commitment problems can arise in the case of dual-class recapitalizations or dual-class exchange offers, which may lead to implicit wealth transfers among existing shareholders by altering the distribution of power. Such midstream changes in the security-voting structure may be enforced by a dominant shareholder group, or effectively coerce dispersed shareholders into surrendering their voting rights even though participation is voluntary.⁵³ Thus, they may be used by dominant shareholders to extract private benefits (Hart, 1995; Ferrarini, 2006; Gilson, 1987).⁵⁴ As minority shareholders anticipate this, firms's inability to guarantee that their voting rights will not be weakened in the future may increase the cost of capital (Becht et al., 2003).

As argued above, private benefits and discounts for (non-voting) shares are not tantamount to (ex-ante) minority shareholder expropriation on part of the controlling shareholders. Similarly, they do not imply that dual-class share firms are necessarily less efficient, as the correct efficiency measure comprises both the security benefits and the private benefits.⁵⁵ Furthermore, it has to be noted that private benefits can be beneficial, even if their extraction dissipates some value. For instance, they may help overcome the free-rider problem in takeovers (see Section II.A.1), or reward and hence promote entrepreneurial activity.

V Restricted Transferability

So far, the analysis has focused on deviations from one share - one vote that do not limit the parties' ability to trade votes or exercise their voting power. Inefficient control allocations could arise because dispersed shareholders free-ride or minority shareholders are excluded from negotiated control sales. Abstracting from these coordination problems, an efficient control allocation may not be reached due to institutional restrictions on the transferability of shares or votes.

Voting rights (or ownership) ceilings hinder the emergence and influence of large shareholders,

⁵³For instance, voluntary dual-class exchange offers possibly expose free-riding shareholders to a pressure-to-tender problem (Ruback 1988; Arruñada and Paz-Ares, 1995). Section II.A.1 describes the pressure-to-tender problem.

⁵⁴This concern sparked a policy debate during the US takeover wave of the 1980s when many firms used dual-class recapitalizations to centralize control in the hands of insiders (Fischel, 1987; Seligman, 1986; Gordon, 1988).

⁵⁵Lease et al. (1983), Doidge (2004), Dyck and Zingales (2004), Nenova (2003) and Zingales (1995b) document that superior voting shares or control blocks trade at a premium relative to ordinary shares and interpret these premia as measuring the size of private benefits.

thereby making takeovers virtually impossible. At the same time, they fragment power and impede effective monitoring of the management. Voting ceilings have been justified on grounds that they protect minority shareholders from parties who seek to gain control with the purpose of looting the firm (Franks and Mayer, 1998a). However, they leave shareholders at the benevolence of managers who are largely insulated from blockholder interference and takeovers (Goergen et al., 2005). That is, they simultaneously undermine the two major mechanisms for disciplining managers: outside monitoring and control contestability.

In practice, the impediments of voting ceilings are occasionally overcome. Shareholders may coordinate their actions by entering into voting pacts (Becht and Röell, 1999). As a result, monitoring may be carried out by a shareholder coalition.⁵⁶ Moreover, the controlling coalition can change following the sale of individual stakes, and such control transfers can exhibit a considerable degree of hostility (Jenkinson and Ljungqvist, 2001). This notwithstanding, coordinated monitoring may be difficult in practice because the coordination requirements arguably impose larger costs on monitoring and takeovers, and well-designed voting ceilings can extend to groups of shareholders linked by a voting pact.

As voting ceilings can be removed by shareholders, they are not an absolute safeguard against takeovers.⁵⁷ Moreover, voting on a removal is similar to (directly) voting on an acquisition offer, a mechanism proposed by Bebchuk and Hart (2001) to overcome coordination problems in takeovers. Like the Bebchuk-Hart mechanism, it indeed resolves the pressure-to-tender problem. If a majority of shareholders were to eliminate the ceiling, disapproving shareholders would still have the option to tender. Thus, the latter have no incentives to distort their preferences in the vote due to hedging considerations. When voting on the removal, shareholders compare pre-takeover share value with the returns from tendering or retaining their shares, and therefore do not remove the ceiling when confronted with a value-decreasing bid.⁵⁸

A special case of restrictions are foreign ownership ceilings. It is often claimed that they serve

⁵⁶Research on multiple blockholders and security-voting structure is scarce, a noteworthy exception being Benned-
sen and Wolfenzon (2000) who analyse this subject for privately held firms.

⁵⁷While voting restrictions partly explain the low level of hostile takeovers in Germany, the hostile bid for Conti-
nental by Pirelli was substantially delayed but not prevented by the voting ceilings (Franks and Mayer, 1998b). On
these accounts, the initial proposal for the European Takeover Directive saw voting ceilings as a primary target of
the break-through rule (McCahery et al., 2004).

⁵⁸Removable ceilings do, however, not overcome the free-rider problem in case of a value-increasing bid. Once a
ceiling is removed by vote, each shareholder still prefers to retain her share unless the bidder offers the post-takeover
share value.

to ensure that national champions remain in domestic hands. While this may be true in many or even most cases, Stulz and Wasserfallen (1995) provide an alternative rationale. In their theoretical model, a foreign ownership ceiling helps the firm to extract a higher share premium from foreign investors. They predict that this effect exists in countries that benefit from (international) capital flight and find empirical support for this hypothesis in the case of Switzerland.⁵⁹ Nevertheless, foreign ownership ceilings protect firms from foreign acquirers.

Priority shares grant insiders or shareholders with very few cash flow rights extraordinary decision powers. Their holders put (too) much emphasis on their private benefits when taking decisions, and obstruct control changes or other decisions that endanger these benefits. Often they have the power to (effectively) block takeovers against the interests of the other shareholders, thereby reducing control contestability. In the case of golden shares, such "private" benefits may preserve public (national) interests or simply serve self-interested politicians.⁶⁰ In other cases, they accrue to corporate insiders. For instance, priority shares in the Netherlands are usually sold to foundations that are controlled by management-friendly parties or even the company directors themselves. This endows the board with substantial powers, notably to appoint its own members. As a result, an unwanted large shareholder cannot easily obtain control of the firm's key positions, and insiders are insulated from outside monitoring and hostile takeovers. An even more effective entrenchment device are depositary receipts. They typically leave the majority of the votes in the hands of a foundation whose board members have links with the management of the firm (Renneboog and Szilagyi, 2006).

The system of double voting shares resembles a dual-class share structure consisting of ordinary voting shares and shares with two votes each. Like dual-class shares, they can serve to consolidate an incumbent's control and to favor her in control contests. But in contrast to dual-class shares, they may impair takeovers even when the incumbent is willing to relinquish control. Since the double votes are lost in a transaction, the block may no longer command a majority of the votes in the hands of the bidder. Thus, the incumbent cannot ensure the success of the takeover. Moreover, when a

⁵⁹Supportive evidence is found in studies reporting that firms' non-voting shares sometimes trade at a premium over their voting shares when foreign ownership of the latter is restricted (e.g., Odegaard, 2006).

⁶⁰Government controlled firms may follow political rather than economic objectives (Shleifer, 1998, Shleifer and Vishny, 1994; Grundmann and Möslein, 2003). Yet, Bortolotti and Faccio (2006) find that golden shares need not harm the other shareholders as the government may be more likely to bail out the firm during distress (despite the fact that this may deteriorate ex-ante incentives). For wider discussions of the interplay between politics and corporate control, see Jensen (1991) and Hellwig (2000).

mandatory bid rule is in place, as in France, the bidder must extend an offer to all outstanding shares. She cannot price-discriminate between double voting and ordinary shares because they legally constitute a single class. This is equivalent to a system of dual class shares with a coattail provision, as it forces the bidder to offer a control premium also to small shareholders (see Section II.B). Thus, the mandatory bid rule reinforces the entrenchment effect of double voting shares.

The above deviations are functionally similar to anti-takeover charter amendments.⁶¹ Whether these are beneficial or detrimental for shareholders is debated. The arguments largely replicate those put forward in the controversy about the benefits and costs of contestable control (as described in sections IV.A and IV.B). That is, the entrenchment view argues that defensive measures allow incumbent managers to protect their private benefits at the expense of the shareholders, thereby hindering an efficient redeployment of corporate assets. By contrast, the shareholder interest view holds that they protect managers (and firms) from the disruptive effects of takeovers, enabling them to e.g. focus on long-term projects. In addition, defensive measures affect the dynamics of the tender offer process to the benefit of shareholders who lack coordination, by reinforcing the bargaining role of management on their behalf (Harris, 1990). This may prevent coercive bids (Bebchuk and Hart, 2001) and promote competition among bidders once the company has come into play (Shleifer and Vishny, 1986a). The empirical evidence is inconclusive and does not resolve the debate (Becht et al., 2003; Burkart and Panunzi, 2006b).

Transferability restrictions other than double voting shares grant insiders considerable protection from takeovers, even if they own very few or no cash flow rights. They are, however, not absolute defences, as they can be removed by shareholder vote. In addition, voting and ownership ceilings and depositary certificates hinder outside monitoring. Double voting shares also entrench existing control structures and make friendly control transfers more difficult, in particular in the presence of the mandatory bid rule.

⁶¹By the end of the 1980s, most S&P 500 firms and a vast majority of those firms listed on the NYSE or Amex are covered by several anti-takeover devices, including supermajority rules, fair-price amendments, staggered boards or the authorization of preference shares, which are all subject to shareholder approval (Danielson and Karpoff, 1998; Comment and Schwert, 1995).

VI Regulation versus Contractual Freedom

Since the security-voting structure influences a firm's control allocation and the incentives of those entrusted with managing the firm, the question arises whether its choice should be regulated. In a competitive capital market with fully rational investors, initial owners are paid a fair price for the shares and hence design claims so as to maximize their returns. The security-voting structure will thus be chosen in the shareholders' interest. One main argument in favor of regulation is that these choices typically diverge from the socially optimal rule. For instance, Section II.A.2 shows that target shareholders prefer a dual-class structure to extract more rents from the winning bidder. Since one share - one vote is socially optimal in this context, making it mandatory could in principle improve efficiency. Similarly, a firm's founder deviates from the socially optimal structure to increase the proceeds from selling the (entire) firm.⁶²

Another argument is that the choice of the security-voting structure may be subject to agency problems. Managers may push for structures which serve their own interest at the (other) shareholders' expense. Even though changes in the security-voting structure require shareholder approval, managers have substantial influence over the decision-making process. In addition, collective action problems can induce small shareholders to accept proposals which are against their best interests (Neeman, 1999). Relatedly, an entrepreneur who goes public may be unable to guarantee initial shareholders that their voting rights will not be diluted in the future. This commitment problem can lead to financial constraints and an increased cost of capital (see Section IV.D).

Economizing on transaction costs offers a further argument in favor of mandatory rules. While contractual freedom may lead to a variety of securities with differing cash flow and voting rights, regulation can set norms, thereby increasing market transparency. To the extent that transparency reduces information costs or raises investor trust, this can reduce the cost of capital.⁶³ In addition, harmonizing legislation across different jurisdictions may be desirable if regulatory competition impairs the emergence of socially optimal rules (Bebchuk and Ferrell, 1999; Monks and Minow, 1995). For instance, states that compete to attract incorporations or want to keep national champions

⁶²While such rent extraction is ex-post inefficient, it rewards the firm founder and therefore promotes entrepreneurial activity ex-ante.

⁶³Akin to this argument, bounded rationality among investors (that prevents them from accounting for the consequences of their own choices) can also support the use of mandatory rules. However, Daniel et al. (2002) argue that the government's best response are not direct interventions, which are equally prone to bounded rationality, but measures that improve private decision-making (e.g. disclosure, reporting and advertising).

under domestic control may bias their legislation in favor of corporate insiders.

The main argument against mandatory rules is the heterogeneity among firms. The theoretical results suggest that the (socially) optimal security-voting structure is likely to vary according to firm specifics and the wider corporate governance context. On the one hand, a standardized and narrowly defined rule may therefore exacerbate rather than mitigate inefficiencies, and distort the relative competitiveness of different firms. Moreover, it lacks the flexibility required to adapt to changes in the corporate environment. More sophisticated rules or case-by-case decisions, on the other hand, may require information that is difficult or even impossible to obtain for a regulator. In addition, regulatory discretion is susceptible to political capture, which biases the rules towards the interests of those groups which have most to lose and are most easily organized. For instance, when managers have greater lobbying power than shareholders, decisions are likely to reflect primarily their interests (Romano, 1987; Bertrand and Mullainathan, 1999).

But this is not to say that there should be no limitations on the extent or methods of deviating from the proportionality principle. For instance, harmonizing dual-class structures would simplify matters in the EU, where national differences seem to be largely a matter of formality: all types of shares with differential voting rights serve the common purpose of separating cash flow rights and voting rights. Regulating dual-class recapitalizations or other midstream changes in the security-voting structure which dilute the voting rights of existing shareholders may help to overcome commitment problems. One could allow dual-class recapitalizations only when they do not weaken the voting rights of existing shareholder groups (Gilson, 1987). This would enable dominant shareholders to raise additional funds without having to surrender control, while preventing any consolidation of control at the expense of existing shareholders. Furthermore, some limits on the extent of deviations appear sensible in order to prevent extreme outcomes. This may include a bound on multiple voting rights, which imposes a minimum equity stake on controlling shareholders, or a ban on lock-in mechanisms that insulate insiders from both takeovers and shareholder influence.

VII Limits to Mandating One Share - One Vote

Even if a specific security-voting structure were unambiguously optimal, mandating this structure raises some intricate issues. First, should holders of disproportionate voting rights be compensated in stock unifications, and if yes what scheme should be used? Second, shareholders may evade the mandated structure by resorting to alternative means of separating cash flow and voting rights. We discuss these issues with respect to mandating one share - one vote as it is the (only) rule under consideration.

A Compensation in Mandated Share Class Unifications

Unifications are essentially a sale of voting power from superior vote to inferior vote shareholders.⁶⁴ Hence, mandated unification must also specify (a procedure to determine) the terms of this transaction, as the parties are likely to disagree. Otherwise, they would have voluntarily agreed to unify the share classes.

The terms of trade could be prescribed by law, e.g., granting holders of superior voting shares x additional common shares for every y voting shares. (If x is set to zero, no compensation is offered.) Such legally fixed compensation levels are at best a crude measure of the “fair” value that voting rights command in different firms. As a result, either superior vote shareholders or inferior vote shareholders or both may claim to be expropriated and sue the regulator. In addition, the redistributive impact of fixed schemes can be anticipated and therefore undermined or even reversed. For instance, controlling shareholders can exploit low compensation levels by purchasing non-voting shares prior to the (announcement of the) unification (Bigelli et al., 2006). This suggests that the wealth effects may be ambiguous when controlling shareholders hold superior and inferior voting stock and retain control after the unification (Bergström and Rydqvist, 1990; Hauser and Lauterbach, 2004).

Alternatively, the terms of the unification can be determined through an independent expert evaluation. This procedure suffers from severe information problems. An expert would not only have to estimate the foregone private benefits but also hypothesize how the unification affects the security benefits. While controlling and minority shareholders would provide highly conflictive

⁶⁴During the last decade, many firms decided to abolish their dual-class share structures, some truly voluntarily, others in response to regulatory changes (Hauser and Lauterbach, 2004; Pajuste, 2005).

information, past or concurrent share price differences, though indicative, may either fail to account for the effects of a unification or be perturbed by expectations about the compensation itself. Finally, the extrapolation of past accounting data appears rather arbitrary.⁶⁵

Regulators may also let shareholders negotiate the compensation and coerce an agreement by making negotiation failure costly. For instance, the law may provide for a transition period and a default compensation rule, applicable if parties fail to reach an agreement by the end of the period. Similarly, banning issues involving inferior voting shares or changing the rules concerning the composition of stock indices may induce “voluntary” unifications (Hauser and Lauterbach, 2004; McCahery et al., 2004). The different schemes are likely to affect the parties’ bargaining power differently, thereby influencing the outcome.

The root of the problem is that parties are neither inclined to reveal their information nor to bargain voluntarily due to the redistribution inherent in unifications.⁶⁶ While the purpose of the intervention is to enforce or induce their cooperation, each specific measure is likely to be biased in favour of one party at the expense of the other.

B Derivative Transactions and Pyramids

If votes and cash flow rights can be unbundled through market transactions, the security-voting structure loses its relevance. At the same time, such trading allocates voting and cash flow rights in patterns comparable to those achieved by dual-class structures. It is therefore not surprising that the emerging debate about the impact of equity derivatives and security-lending markets on corporate decision-making parallels the one share - one vote controversy. On the one hand, it is argued that vote trading may mitigate the free-rider problem among small investors. The sale of votes to a single, possibly better informed, party may overcome the problem of shareholder apathy when voting is costly or some shareholders are uninformed (Neeman and Orosel, 2006; Christoffersen

⁶⁵McCahery et al. (2004) discuss these problems in detail. In the case of Siemens AG in Germany, shareholders decided to abolish a special share class without compensation, and in response the Siemens family sued the firm for compensation. The claim was first acknowledged by a Munich court, which awarded the family a compensation of about EUR 32 million based on past price differences, but the decision was later reversed by the Higher Court of Bavaria.

⁶⁶Neither can this redistributive conflict be removed by selling the entire firm in a bidding contest among single-class (shell) companies. For instance, a majority shareholder would always ensure that the bidder offering her the most generous compensation wins the contest. To avoid this outcome, her voting power would have to be diluted prior to the contest, which brings back the initial question of how to compensate superior vote shareholders in unifications.

et al., 2006).⁶⁷ Similar to proxy contests, an active shareholder may thus collect voting power from dispersed shareholders to discipline or challenge incumbent managers. This argument relies on the assumption that shareholders have homogeneous preferences.

On the other hand, it is contended that the unbundling of cash flow and voting rights can result in inefficient takeover outcomes and allows control to be held by investors with distorted incentives (Hart, 1995; Hu and Black, 2006a, 2006b). The fundamental problem is that an investor can hold votes in combination with (derivative) positions that are independent or even inversely related to the cash flow claims of common shares (Martin and Partnoy, 2005). This can lead to heterogeneous preferences among shareholders and hence to conflicts of interest. As a simple example, consider a shareholder who owns one share and an at-the-money put option on many shares of the same firm. The values of the two positions move in opposite directions but the wealth impact of the option is larger. Therefore, the shareholder has an interest in supporting (voting for) decisions that lower firm value.

Although there exist some evidence of increased vote trading around major corporate events (Christoffersen et al., 2005), the overall significance of this phenomenon for the decision outcome is unclear.⁶⁸ A large part of these derivative transactions is undertaken for other reasons such as hedging and speculative trading, thereby improving risk allocation and correcting stock prices (Diether et al., 2006). The regulation of such instruments must address the relationship between voting rights and indirect claims to the firm and needs to account for the various trading motives (Hu and Black, 2006b).

A prohibition of differential voting rights may also cause firms to shift from dual-class structures to pyramids (Bebchuk and Hart, 2002). However, pyramids are possibly more opaque and create less liquid markets for the cash flow rights of the firm (Becht, 1999). While pyramids can be discouraged, e.g., through double taxation of intercorporate dividends (Ferrarini, 2006), it would also eliminate other functions commonly associated with business groups and conglomerates. Pyramids create internal capital and labor markets that facilitate the monitoring and promotion of managers (Almeida and Wolfenzon, 2005; Morck et al., 2005) and, more generally, substitute for missing institutions and external markets that are plagued by frictions (Khanna and Palepu, 1997, 2000;

⁶⁷In addition, vote trading can make corporate control contests more efficient when capital gain taxes discourage shareholders from share trading (Blair et al., 1989).

⁶⁸There is some anecdotal evidence that vote trading indeed affects corporate decisions (Hu and Black, 2006a, 2006b).

Khanna and Rivkin, 1999; Leff, 1976, 1978).⁶⁹ As summarized by Khanna and Yafeh (2006), both cross-ownership (horizontal integration) and pyramids (vertical integration) may therefore be endogenous, and possibly optimal, responses to the economic and institutional environment. A case-by-case approach that discriminates between beneficial and detrimental multi-firm structures does not seem a feasible option, as it is highly information-sensitive and gives considerable discretion to the regulator.

VIII Concluding Remarks

Economic theory clearly shows that the impact of deviations from the one share - one vote principle crucially depends on the context, notably on the ownership structure. For dispersedly held firms, no specific security-voting structure is in general most conducive to an efficient control allocation, although it seems safe to conclude that voting restrictions and priority shares are detrimental. One share - one vote ensures the socially efficient control allocation when several bidders compete, but otherwise deviations mitigate the free-rider problem, thereby promoting takeover activity. In either case, the socially optimal structure diverges from the privately optimal one, because target shareholders neither take bidders' profits nor takeover costs into account.

Outside takeovers, there appears to be no role for the security-voting structure in widely held firms. In the presence of outside blockholders, some arguments suggest that leveraging voting power may encourage effective monitoring.

For firms with a controlling (minority) shareholder, one share - one vote promotes value-increasing control transfers and deters value-decreasing control transfers more effectively than any other structure. Furthermore, deviations allow a shareholder to maintain control despite owning a much smaller equity stake. The concentrated voting power protects her from the disciplinary effect of hostile takeovers, while the small equity stake may provide insufficient alignment with the minority shareholders. However, entrenchment need not always be bad, as the takeover threat can have disruptive effects on managerial behavior and undermine value-oriented corporate strategies.

Based on these theoretical considerations, a mandatory one share - one vote rule must be motivated by the perceived gains from weakening controlling minority shareholders and promoting

⁶⁹For the related analysis of external vs. internal capital markets in conglomerates, see Lewellen (1971), Gertner et al. (1994) and Stein (1997).

takeovers. Whether these gains would indeed materialize is an open question for several reasons.

First, actual takeovers can let more efficient owners and managers achieve control. However, takeovers - like other governance mechanisms such as active owners - are not free of agency problems. For instance, takeovers may be driven by managerial motives (empire building), rather than by value improvements. Similarly, the takeover threat disciplines managerial behavior but also exacerbates agency problems, when managers primarily take actions to protect their position.

Second, mandating one share - one vote can discourage firms from undertaking investments or going public. It may also increase the cost of concentrated ownership when dispersed ownership is inherently unstable due to large private benefits.

Third, one share - one vote weakens the influence of minority blockowners and may thus discourage blockownership. While this is likely to mitigate conflicts among shareholders, it also strengthens the position of managers, thereby aggravating the manager-shareholder conflict. Whether contestable managers or entrenched owners are more prone to act in the small shareholders' interest is debatable (Bolton and von Thadden, 1998). Managers are more vulnerable to hostile takeovers, but have a much smaller stake in the firm. Hence, a prerequisite for a consistent argument in favour of one share - one vote must be the assessment that the costs of entrenchment outweigh the benefits of alignment. Or in other words, the policy must be based on the confidence that managers are sufficiently disciplined by other governance mechanisms, such as legal protection, strong boards or a well-functioning takeover market (Shleifer and Vishny, 1997). However, concentrated ownership structures tend to be prevalent in countries in which other governance mechanisms are weaker.⁷⁰ This suggests that improvements in the general corporate governance environment should precede any intervention directly aimed at discouraging blockownership (Berglöf and Burkart, 2003).

In addition, mandating one share - one vote confronts policy-makers and regulators with considerable implementation problems, irrespective of its desirability. In particular, firms or shareholders may resort to alternative methods of separating ownership and control. As a result, implementing proportionality remains either partial, restricted to specific deviation devices, or requires more far-reaching changes in stock market regulations, disclosure rules or intercorporate taxation.

Finally, the verdict in the case of voting and ownership ceilings, priority shares that empower

⁷⁰This may not be true in countries where overall shareholder rights are so weak that votes confer (almost) no effective control rights. There, concentrating wealth in a specific firm may yield costs but little economic benefits. In some circumstances, an improvement in shareholder protection may thus lead to an increase in ownership concentration, e.g. when it improves monitoring efficacy (Burkart and Panunzi, 2006a).

corporate insiders, and depositary certificates is less ambiguous, since they insulate managers from both takeovers and effective shareholder monitoring.

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