

A Carrot and Stick approach to Discipline Self-dealing by Controlling Shareholders

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Abstract

This paper presents an innovative approach to the regulation of self-dealing by controlling shareholders. Our proposal is grounded on the identification -through the lenses of economic analysis- of the shortcomings inherent in the existing legal solutions, ranging from the absolute prohibition of self-dealing, to the prohibition of voting with conflicting interests, or to the imposition of fairness duties to the majority shareholders.

We present our proposal for an alternative regulation, based on the use of options, in a two period game between the controlling shareholder, who is able to pursue an identified self-dealing opportunity, and the minority shareholders, who desire to determine the merits of this business opportunity. We show that our regulatory proposal is more efficient than existing regulation in the circumstances of our model.

The enhanced efficiency of our proposed regime is mainly due to two novel characteristics of our approach. First, it takes advantage of the repeated nature of the relationship between the controller and the corporation. In particular, our proposal implies that obtaining future private benefits requires limiting current private benefits. By doing this we can provide at no cost an additional incentive that aligns the interest of the controller with that of the small shareholders. Second, we allow the controller to determine the level of private benefits that he will extract in each period and apply an automatic penalty for excessive levels. By doing this we eliminate both the costs of collective action, and the costs of legal action that critically affect the outcome of the existing regulatory regimes.

JEL classification: G32; G34; K22.

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Investment fund SageCrest II ended 2006, according to accounts submitted to non-managing partners, with over \$995m (£512m, 648m) in assets. Now redemptions and pay-outs have been suspended, forensic accountants are picking over the reports, and a complaint has been filed in the Connecticut Superior Court by an investor, Westerly Capital LLC. The complainants allege that SageCrests managers, Windmill Management LLC, Alan Milton, and Philip Milton, and an associate, Richard Weyand, [...] mismanaged the funds business and investments by ... excessively concentrating the funds investments on businesses originated and operated by an individual defendant who was both the funds majority owner and a principal of its manager ... [and] overly concentrating the funds loan relationships on one of the businesses operated by the funds majority owner, in effect allowing him to siphon out most of the funds available cash.

Financial Times, June 15 2008

The chief executive of a small digital rights management (DRM) software group is suing Microsoft and Time Warner on the grounds that their roles as both shareholders and customers of the DRM maker has enabled the two giants to "enrich themselves" at the expense of the company and employee shareowners. The lawsuit was filed by Michael Miron, founder and chief executive of ContentGuard, which makes software to protect digital media against piracy. The suit alleges that as major shareholders, Microsoft and Time Warner have caused ContentGuard to grant them "extremely broad and valuable" technology licences to its intellectual property for a "nominal consideration". Mr Miron also claims that the two companies sub-license ContentGuard's technology to groups that might otherwise be its customers. The lawsuit alleges that Microsoft and Time Warner have pressured employee shareholders to sell their stake for \$2.098 per share, an offer considered too low because "the company's valuation has been materially diminished by . . . self-dealing conduct".

Financial Times, March 9 2005

1 Introduction

One of the central challenges in the design of corporate law is the set of tools to deal with controlling shareholders in publicly traded companies. It is well known in the economic literature that the presence of a controlling shareholder in a corporation entails benefits, but also costs. Therefore, the ideal would be to protect the small shareholders against the "expropriation" by the powerful controlling shareholder, without sacrificing the benefits that his presence may bring to the performance of the company. This goal is shared by both the economic and the legal approaches to the issue, but the outcome from each of them is very different.

In this paper we review each of these approaches and explain why existing legal remedies are not appropriate to ensure that the controller will (only) be punished if he extracts an amount of private benefits that is larger than the optimal level from an economic point of view. Effectively, economic theory states that overall efficiency requires that the party in control chooses the action that yields the largest sum of public and private benefits. On the one side, private benefits can compensate the controller efforts. However, on the other side, the controlling shareholder has incentives to chose actions with high private benefits, even if their public benefits are low. Therefore, there is minority expropriation and low investment efficiency. To solve this problem the regulation is focused on reducing private benefits, especially those obtained through self-dealing transactions. In this sense, the universal legal approach to combat the expropriation of the minority is the pro-rata distribution rule, which states that the distribution of benefits and costs should be borne by all shareholders -including the controller- on a pro-rata basis. The application of the pro-rata distribution rule focuses on monitoring individual transactions that are suspect of benefiting the controller at the expense of other shareholders and, depending on the jurisdictions, the control is made *ex ante* (on a rule-based system) or *ex post* (on a standard-based system). We will show that this approach is distortive (it does not ensure the optimal amount of private benefits), and difficult to enforce. The result is that, in jurisdictions whose companies are dominated by a controlling shareholder, the extraction of private benefits is higher than desirable, and therefore, new regulatory strategies are attempted, mainly focused on shaping ownership structures to improve investment efficiency.

To overcome those shortcomings, we develop an alternative regime, the "carrot and stick approach" that can reduce minority expropriation and increase investment efficiency, and can do it at lower cost than existing regulatory regimes.

To develop the "carrot and stick approach" we use a model that allows us to carefully analyze the main current regimes, and to offer an alternative which is shown to be more efficient. We present a two period game where, in each period, a controlling shareholder, who effectively monitors managers, has identified a self-dealing opportunity. This opportunity offers private benefits to the blockholder, and it may offer higher or lower returns to the small shareholders. Moreover, because of the existence of this opportunity the blockholder's incentives to monitor the performance of the company increase, and this also benefits small shareholders.

In the context of this model, we analyze the outcome that is achieved applying the existing alternative regulations (a rule-based regime that leaves the choice of project solely to disinterested shareholders, and a standard-based regime that imposes Court-determined liability if the controlling shareholder has violated a legal duty in the choice of project). We then compare these outcomes to the outcome that can be achieved under our alternative proposal, the "carrot and stick" regime: the blockholder is free to make project choice in both periods in exchange for both a call option and a put option for the minority shareholders. The options can be exercised at the prevalent market price at the end of the first period if the blockholder chose the alternative project and it failed. The call gives the minority the right to buy back the stake from the blockholder at market price. The put gives the minority the right to sell to the blockholder an additional stake γ at market price.

This approach has important benefits compared with the existing regulatory regimes. First, unlike existing regulatory regimes, it takes advantage of the repeated nature of the relationship between the controller and the corporation. By doing this we can provide at no cost an additional incentive that aligns the interest of the blockholder and the small shareholders: obtaining future private benefits requires limiting current private benefits. Second, we allow the controller to determine the level of private benefits that he will extract (the *carrot*) and apply an automatic penalty for excessive levels (the *stick*). The penalty is designed in the form of a call and a put option that the minority can exercise to force the blockholder to change his

stake after a period of bad results. By doing this we eliminate both the costs of collective action and the costs of legal action that critically affect the outcome of the existing regulatory regimes. Third, we do not impose an a priori minimum ownership stake, therefore firms whose blockholders have low stakes can benefit from the monitoring and investment opportunities that they may bring. Fourth, the changes in ownership compositions that are induced by the penalty will tend to increase efficiency in the following periods. An increase in the blockholder's stake guarantees that, in the future his incentives will be better aligned with those of the small shareholders. The elimination of his stake represents an opportunity to decrease ownership concentration, which may be optimal for some firms, or to change the blockholder.

The rest of the paper proceeds as follows. In Section 2 we briefly review and compare the current economic and legal approaches to the role of controlling shareholders. In Section 3 we review the existing legal regulation of self-dealing, with a focus on the European case. In Section 4 we present the model. We analyze the results of the model for the existing alternative regulatory regimes in Sections 5. We then present the results for the proposed "carrot and stick" regime in Section 6 and prove this alternative to be a more efficient means to control self-dealing. In Section 7 we discuss several extensions to our base model. Section 8 briefly concludes the paper.

2 The economic analysis of self-dealing

In the economic literature self-dealing opportunities are usually comprised within the larger category of private benefits of control.

Following the seminal papers by Aghion and Bolton (1992) and Aghion and Tirole (1997), control rights are modeled as the power to choose among alternative actions which cannot be foreseen in incomplete contracts. Each action entails *public benefits*, which can be shared by all investors, and *private benefits of control*, which accrue exclusively to the party in control. Thus private benefits of control include self-dealing opportunities, but also the taking of corporate opportunities, trading on inside information, excessive compensation and perquisites, the pursue of "pet" projects, the "psychic" value of power, etc.

In widely held firms control rights are exercised by professional managers. In firms with concentrated ownership control rights are exercised by investors who hold large equity stakes (blockholders). Only large

blockholders have both the ability and the incentives to curtail managerial power. The ability to oppose managerial choices comes from the voting power that the block confers. The incentives come from the large cash-flow rights that the block confers. A blockholder will only exert control if his benefits from doing so outweigh the *private costs of control* that he must incur in order to monitor management. These costs include the costs of gathering information, voting on the board of directors and the shareholders' general meetings and also the illiquidity and the foregone diversification gains that the blockholder suffers (Demsetz and Lehn 1985). Interestingly, these monitoring costs, which are incurred by the blockholder, lead to higher public benefits for all investors.

Many authors model the private benefits accruing to blockholders as a pure transfer of resources that reduces public benefits (e.g. Bebchuk 1999). Other authors model them as inefficient transfers, taking the view that value is lost when public benefits are diverted for private uses (e.g. Pagano and Roël 1998, Bennedsen and Wolfenzon 2000). Few authors recognize that private benefits need not come at the expense of public benefits. Among them, Burkart, Gromb and Panunzi (1997) present a model where the controller has to choose among two projects, each yielding different security and private benefits. With some probability both the controller and the non-controlling shareholders prefer the same project and with some probability they disagree. This approach seems more adequate for self-dealing transactions which can generate public benefits alongside private benefits of control. For example Allen and Phillips (2000) present empirical evidence showing that block ownership by corporations has significant benefits in product market relationships, and that a large part of these benefits accrue to minority shareholders.

A large and growing body of both theoretical and empirical research has analyzed the problems that arise from the separation of control and ownership (for a review of the literature see Becht, Bolton and Röel, 2003). Here we will analyze the two main problems identified in this literature that make regulation necessary. The first refers to the overall efficiency of the firms' actions when the controller enjoys private benefits. The second refers to the potential for minority expropriation, i.e. the "unfair" distribution of benefits between the party in control and the non-controlling shareholders.

2.1 Investment efficiency

Overall efficiency requires that the party in control chooses the action that yields the largest sum of public and private benefits. It can be shown that, if the shareholders can freely trade their shares and the attached voting and control rights, the efficient action will be chosen¹. However, efficient trade requires that all shareholders are fully informed about the actions and their outcomes, and that there are no wealth constraints or coordination failures. Otherwise, the party in control will choose the action that maximizes the sum of his private benefits and his share of public benefits.

Because the required conditions for efficient trading are unlikely to be met, it is important to design the ownership structure in a way that ensures that the controller's preferred action will be as efficient as possible. In a competitive capital market, initial owners or founders of firms are paid a fair price for the shares and hence they design claims so as to maximize their returns. The ownership structure will thus be chosen so as to maximize total wealth. Zingales (1995) discusses the decision of an initial owner taking his company public through an IPO. He shows that the owner will choose the capital structure that allows him to maximize the proceeds obtained from the simultaneous sale of cash-flow rights to small shareholders and private benefits to large investors. Pagano and Roël (1998) show that even the decision on whether to go public or remain private will depend on the size of the private benefits of control. Burkart et al. (1998) present a model where the party in control can convert security benefits into private benefits but in the process dissipates some of the value. In this setting, it is optimal to have a controller with the largest possible equity stake. This forces the controller to internalize a greater part of the loss, thereby inducing her to extract less private benefits and maximizing efficiency.

Unfortunately, there may be obstacles that impede the implementation of the efficient ownership structure. In particular it may not be stable. Bebchuk and Zingales (2000) and Bebchuk (1999) show that when private benefits of control are large and the optimal ownership structure is a dispersed structure, with no controlling shareholder, it may not be implementable. Even if the founder sells to dispersed shareholders, they anticipate that posterior trading will result in the emergence of a controlling block. Therefore the founder can only ask the price of a concentrated ownership firm. Because of this he will choose a concentrated

¹See Burkart and Lee (2008) for a description of how this would happen.

ownership structure in the first place.

Moreover, Bebchuk and Roe (1999) and Roe (2005) argue that the existing corporate legal framework determines to a large extent the feasibility of a particular ownership structure. For example, the decision power of the shareholders general meeting is restricted in the US corporate law in favour of the managers, and this reduces the incidence of blockholders in the US relative to Europe. Even if the optimal capital structure is chosen initially, the controlling party can use its power to push for changes towards inefficient structures and collective action problems can induce small shareholders to accept proposals which are against their best interests (Neeman, 1999). The founder may be unable to guarantee initial shareholders that their voting rights will not be diluted in the future.

Thus we must conclude that investment efficiency is unlikely to be attained in the absence of regulation. We now turn to the second main problem that the literature has addressed: the expropriation of the non controlling shareholders by the controlling party.

2.2 Minority expropriation

Minority expropriation refers to the unequal distribution of benefits generated by the corporation, with non-controlling shareholders obtaining a lower fraction than what they would get in a pro-rata distribution. There are two types of minority expropriation: ex-post and ex-ante expropriation.

Ex-post expropriation occurs when the controlling party selects an action that does not maximize public benefits. As we have just seen, it is difficult to design an ownership structure that can avoid ex-post expropriation. Moreover, ex-post expropriation may be efficient for different reasons: (i) the action the maximizes total benefits need not coincide with the action that maximizes public benefits (ii) the ability to extract sufficient private benefits may be necessary to compensate a blockholder for the cost of holding a large block and providing monitoring services and (iii) expropriation may help overcome the free-rider problem in takeovers (Shleifer and Vishny, 1986).

Therefore there is an optimal level of ex-post minority expropriation. Making expropriation too difficult could curtail the monitoring incentives of blockholders. Making it too easy will result in inefficient investment decisions. In the particular case of self-dealing transactions, it is clear that a total ban on self-

dealing transactions is not desirable: it would discourage efficient control and it would eliminate self-dealing opportunities that could benefit both the controller and the minority shareholders.

Ex-ante expropriation occurs when the non-controlling shareholders obtain less than a fair expected rate of return on their shares. Jensen and Meckling (1976) argue that, when the firm is founded or first sold, the non-controlling shareholders can anticipate the opportunistic behavior of the controller. They will purchase the shares at a discount and earn a fair expected rate of return. Thus firms where private benefits of control are large will have lower equity values (there will be a price discount reflecting insufficient protection) but the minority shareholders will earn a fair rate of return. However, for the same reasons that make it difficult to write complete contracts, it is unlikely that small shareholders can perfectly foresee the future actions of the controller.

Therefore, it is an empirical question whether small shareholders are good at anticipating ex-ante the degree of expropriation to which they may be subject ex-post. Recent evidence suggests that they are not good at it. Gompers, Ishii and Metrick (2003), Giannetti and Koskinen (2005) and Giroud and Mueller (2008) demonstrate that firms where private benefits are likely to be high have lower market values and earn significantly lower stock returns. They interpret this as evidence that the existence of private benefits leads to ex-post minority expropriation whose magnitude is underestimated by investors.²

Summing up, from a review of the economic literature, we may conclude that, even if we rule out ex-ante expropriation of the minority, the low price that will be paid for companies with high private benefits of control raises the cost of capital for these firms. This in turn hinders investment and growth at company level, and stock market development at country level (La Porta et al. 1999, Zingales 1995 and Dyck and Zingales 2004, Beck and Levine, 2005). Therefore, legal measures aimed at reducing private benefits of control and, in particular, at regulating self-dealing transactions can be socially valuable (Gilson, 2006).

²Giannetti and Koskinen (2005) offer a theoretical explanation for these results. They show that, even if investors can perfectly anticipate ex-post expropriation, it will not be fully reflected in equity prices. Prices will be too high because they will reflect the joint demand from both controlling and non-controlling shareholders.

3 The legal analysis of self-dealing

From our economic analysis we can conclude that the regulation of self-dealing should be aimed at increasing investment efficiency. Our legal analysis allows us to identify the two strategies that regulators have designed to achieve this goal. The first one is to reduce ex-post expropriation in the belief that this will induce the controller to make ex-ante efficient investment decisions. The second strategy tries to shape ownership structure in order to prevent inefficient decisions. This second strategy implies a prejudice about the relative desirability of different ownership structures. We now review each of these alternative approaches separately.

3.1 The reduction of ex-post expropriation

3.1.1 The general view

The traditional legal approach holds that the Law should enforce the pro-rata distribution rule, stating that the distribution of benefits and costs should be borne by all shareholders -including the controller- on a pro-rata basis. The main problem of this approach is that it mandates an "equal" legal treatment to all shareholders, despite any consideration of these being minority or controlling shareholders. And therefore, the enforcement of the rule is either excessive (discourages the emergence of desirable controllers), or defective (encourages the emergence of undesirable controllers).

The application of the pro-rata distribution rule focuses on monitoring individual transactions that are suspect of benefiting the controller at the expense of other shareholders. This transaction-centered approach is the universally known legal approach to combat extraction of private benefits of control. But different jurisdictions use different mechanisms to enforce the rule. We can essentially recall three scenarios. In the first, there is no effective enforcement of the rule, a case in which we may expect a large level of private benefits of control. In the second, the suspect transactions are ex post judicially reviewed. The legal basis for this is the reliance of the Law on standards of conduct for the controlling shareholders to restrain them in their dealings with the controlled company. In these jurisdictions, it is well established that the controlling shareholder owes fiduciary duties towards other shareholders, and Courts have the legal authority to control the fairness of the relevant suspect transactions. Finally, in the third scenario, the fairness test for the

transaction is performed ex ante. For this purpose, the fairness of the transaction is subject to precise rules. Some of those rules require approval -either by a committee of independent directors, or by the majority of the minority shareholders-, others simply require disclosure.

The effectiveness of either version of the legal approach in each jurisdiction is debatable (for the U. S. case, criticizing the judicial doctrine, Gilson and Gordon, 2003). The same occurs with their relative shortcomings and the potential improvements in their performance (Enriques, 2002). It is true that these mechanisms do not work optimally. But, in our view, the main problem of the transaction-centered approach is that its purpose is not to achieve the appropriate level of benefit extraction, as the economic rationale requires, but to assess the fairness of individual transactions.

Monitoring individual transactions offers too little protection against the extraction of private benefits when the controller pursues a personal interest outside the corporation (the controller has other business interests) at the expense of the company's profitability. If this is the case, it is extremely problematic to provide evidence -that may carry enough weight in a law suit- that his advantage comes at the expense of the other shareholders (paradigmatic is the situation in Europe, Johnson et al, 2000). Furthermore, many of the major corporate decisions and actions may have the potential to impact those other business interests in an indirect fashion, and to subject these decisions to review and strict monitoring would presumably render control unworkable (the administrative costs of the regulation would be prohibitively high)³. Strict enforcement of the system would restrain the emergence of controlling shareholders. This observation is particularly relevant for European legal systems.

3.1.2 A particular case: Legal analysis of European Corporate Law regarding controlling shareholders

The battle against private benefits of control has not been a traditional goal of Corporate Law in European countries. The pressure from corporate governance advocates has produced new rules that deal with the

³Litigation in these cases is not as effective as when it concerns managers. In the U.S., the Sinclair Oil doctrine limits the intrinsic fairness standard to self-dealing operations, that is, the controlling shareholder is on both sides of the transaction, and moreover, he used its position to extract non prorata benefits from a transaction to the minority shareholders' detriment. But is not extensive to other potential mechanisms of extraction of private benefits in an indirect way. In those cases, the business judgment rule should be applied. Further, in S. Bainbridge, *Corporation Law and Economics*, pp. 338 ff.

abuses of control by managers, but the protection against other shareholders has not changed much ⁴. *The received wisdom among European legal scholars is that minority shareholders already receive extensive protection against majority shareholders by force of mandatory rules in Corporate Law.* This view is clear both in the traditional analysis and also in the new corporate governance literature.

With regard to the traditional analysis, it states that existing mandatory rules effectively protect minority interests⁵. Just to give a hint of the kind of rules we are talking about -and which are conspicuously absent in US Corporate Law: rules granting to minority shareholders the power to call a general meeting through court order following management inaction; rules allocating power between the board and the shareholders, rules on quorums, and supermajority requirements; extensive rights of information, appraisal rights, etc. In fact, many of these rules protect the minority as a group, and not minority shareholders as individuals. It is not surprising that European Corporate laws are well equipped with such tools, because they intend to balance the political power inside the firm. The issue these rules address is the decision-making system within the firm, and the limits of the control powers of the majority. In many European countries, accordingly, these rules and standards are connected to the doctrine of the abuse of voting rights.

Actually, these rules operate as rules against *exploitation or oppression*, but not against *expropriation*. They take care of the ability of a majority of shareholders to exercise their formal power and its abuse, but not of the underlying economic substance. In fact, expropriation has not been traditionally a working notion for European scholars in Corporate Law. The reason is probably not mysterious: Corporate Law protects the economic interests of investors with a different set of rules, most notably with the rule of distribution pro share of the corporate profit. Assets diversion has never been a noticeable problem in corporations from a legal viewpoint. Formally, there seems to be no space for conflicted transactions involving controlling

⁴P. Lele and M. M. Siems (2007), "Shareholder protection: a leximetric approach", 7 *Journal of Corporate Law Studies*, 17-50.

⁵The general opinion among European legal scholars is that the level of shareholder legal protection is good. True, the most popular shareholder protection index -La Porta et al. 1999-, anti-director rights index, shows far from great scores for many European jurisdictions, but the index has been subject to many criticisms. In particular, limited and ad hoc selection of variables, coding errors, a U.S bias, the absence of certain variables, the unsatisfactory definition of many variables, have been raised, among others (Spamann, 2009). The European contributions to this critique have been substantial, all with the shared purpose of making an effort to rescore the final results for the European countries, specially Germany (Braendle, 2006). Besides, new indexes to measure the quality of law have been constructed, more sensitive to those variables which protect minority shareholders against other shareholders, like the "alternative minority protection index" (M. Berndt, 2002), in which Germany performed better than the U.S. All these results suggest that the quality of shareholder protection in the European jurisdictions is generally high.

shareholders: either the corporate decisions are taken by the shareholders meeting -supposedly in the interest of all shareholders -, or they are taken by other corporate actors, the managers. In each case, the law grants judicial actions against "illegal" resolutions. The core idea is that the mandatory structure of the corporation in European Corporate Law, and the institutionalization of its procedures leave no place for unnoticed assets diversion. And in the field of the standards, the principle of the equality of treatment would take care of the interest of all shareholders.

However, it is reported (Dyck and Zingales, 2004; Nenova, 2003) that asset diversion exists, also in jurisdictions with traditional good law. Available data confirm that the level of extraction of private benefits in the European context is higher than what seems desirable.

Confronted with the empirical evidence, the new corporate governance literature recognizes the existence of minority expropriation. This has been a factor behind the recent corporate governance reforms undertaken in many European countries (Enriques and Volpin, 2007; Conac, Enriques and Gelter, 2007). The legal motivation to combat self-dealing is well known: the pro-rata distribution rule sustains an intensive supervision of the related-party transactions. With legal peculiarities in each country, there are three main legal tools to fight minority expropriation: First, ex ante approval or ex post ratification requirements; second, disclosure requirements, and third, judicial review of insiders' duties. It is true that we can observe some slow progress in disclosure and approval requirements concerning directors, but not concerning controlling shareholders. Furthermore, ex post control of fiduciary duties of insiders is still in both cases -managers and controlling shareholders- relatively underdeveloped in Europe.

Let us now briefly review the core of the anti-self dealing legislation. Most Corporate Laws rely on the board of directors to police the fairness of most related party transactions (also in cases involving controlling shareholders). And the natural question arises, can the board be trusted to prevent self dealing?

a) The regulatory framework for disclosure has perceptibly improved, although transparency reforms have faced opposition by powerful interest groups. Disclosure of corporate governance arrangements -under the principle of "comply or explain"-, or the financial report, have become routine practice in the life of large European firms. But disclosure of self-dealing is still weak. In some cases there are rules enacted that force firms to disclose related-party information. However, the information is not specific and not easily

available. The EU does not require the full disclosure of conflicted transactions with controlling shareholders in public corporations. In the case of corporate groups, parent companies in Germany are forced to disclose the share of the net profits or losses that is attributable to their subsidiaries taken as a whole.

b) One of the most important tools to combat self-dealing, according to some influential scholars (Djankov et al., 2008), is the ex ante approval of the related-party transaction. There are two main questions that should be addressed jointly: who takes the decision, and which transactions are subject to approval.

The first question is clear: the decision must be taken by the minority shareholders, or by a committee of independent directors, but not by the majority of the board. The option of the independent directors may be considered with some skepticism, because in most jurisdictions these directors are not truly neutral from the controller -or if they are, they have no incentives to resist capture by the dominant shareholders- and are -indirectly at least- appointed by the controlling shareholders. In the other case, if the decision is to be taken by the outsiders, there are two main possibilities: either the majority of the minority approves the transaction; or the shareholder's meeting without the votes of the interested shareholder is in charge. Nevertheless, these legal strategies have not been adopted by most European jurisdictions (Hertig and Kanda, 2004).

The second question is more problematic. The distinction between routine and non-routine transactions is very easy to manipulate. So, as it is shown, this legal strategy is still only in its infancy, and is not well implemented in European legal orders. Concerning approval requirements, France is leading European jurisdictions. They have extended the special regime on directors' related party transactions to dominant shareholders.

c) Finally, another main weapon against insiders' opportunism is the use of standards of conduct and fiduciary duties. In general, in European jurisdictions, this tool is not well rooted within their legal systems. Three main reasons explain this observation. (i) First, Continental European jurisdictions rely less extensively than Common Law jurisdictions on judicial review in these matters. Instead, Europe tends to favour ex ante mechanisms -rules and procedural requirements. The problem is that for these mechanisms to be effective, some crucial elements are lacking, for example, rules imposing something like the majority of the minority. (ii) Second, European jurisdictions have developed ways of making directors liable for breach

of fiduciary duties. In fact directors are fiduciaries in the narrow legal sense of the term, and there are standards of conduct in general private law to that effect. But the story changes in the case of shareholders. In most Corporate Laws, shareholders have duties in favour of the corporation, but -outside partnerships- they owe no legal duties to other shareholders. (iii) Third, there is legal basis to make the directors liable for breaching a fiduciary duty, but no comparable sound legal basis exists for the controlling shareholder. In sum, controlling shareholders do not face a significant risk of being sued if they engage in self dealing. (iv) Fourth -and this is not a specific problem of Corporate Law- most European legal systems do not possess the features of an aggressive -and thus potentially deterrent- litigation system -no class actions, no contingency fees, high evidentiary standards in civil litigation-.

In short, it is not easy to make the controlling shareholder responsible. Corporate governance reforms have improved corporate law tools to deter directors, but not controlling shareholders, who are, in fact, the ones who tend to extract larger private benefits in Europe⁶. The corollary is clear: the European systems *legalize* a high rate of self-dealing.

3.2 The shaping of the ownership structure

From the previous discussion it seems clear that laws aimed at increasing ex-ante investment efficiency by reducing ex-post minority expropriation are not working very effectively. In this sense, the common view is that the high ratio of private benefits of control cannot be substantially reduced if ownership structure is not regulated. Since dispersed ownership does not seem to be a real alternative for most European firms, the regulators try to force the controlling shareholder to hold a majority stake in the corporation. In other words, the case of the "minority" shareholder of control is perceived to be the true problem⁷. The idea would be not to determine the appropriate level of private benefits for each corporation, given that the extent to which the controller should be able to extract private benefits must vary substantially across corporations, but to lower the general level of private benefits in a given jurisdiction. Following this hypothesis, the courses of action

⁶The problem is already addressed by academics: arrangements that enhance investor protection differ in companies with or without a controlling shareholder (Bebchuk and Hamdani, 2009). It is well known that continental European countries have followed the corporate governance model of the U.S., which face different governance problems than the ones that take place in the European firms.

⁷There is no doubt that when control is locked in hands of a minority shareholder, insider opportunism should increase, as shows L. Bebchuk et al., (2000). But with this policy, the channels of extraction remain untouched.

against this inefficiency are mainly the following: a) Changes of control under the equal opportunity rule, which lies at the heart of the mandatory bid rule in takeovers. b) Defence of the rule one share-one vote. c) Promotion of shareholders' democracy and improvements in the voting system (these initiatives would not work against a majority shareholder, but would be effective against a minority controlling shareholder).

These or other similar measures lead to a reduction in the total rate of private benefits within a jurisdiction -at least, the most egregious cases- but they do not affect the roots of the problem. These reforms appear to be tackling minority expropriation, but the rents of the controlling shareholders remain largely untouched. This occurs for three different reasons. First, these reforms do not affect the extraction channels used by controlling shareholders⁸. Second, the signal to the controlling shareholders is very clear: if you want to extract private benefits, you must enter the club of dominant shareholders. In other words: private benefits of control have become a privilege reserved to the majority shareholders, not to the minority shareholders anymore. Thus, these rules prevent some desirable control from emerging (the case of a "good" controller who only has a minority stake). And third, these measures are likely to induce an increase in concentration that increases the cost of control by reducing liquidity and diversification, so that larger private benefits may be necessary to compensate blockholders. The battle against minority controlling shareholders raises the price of expropriation, but it does not eliminate it.⁹

In sum, the legal approach to minority expropriation should be reconsidered. It is inefficient, since it pursues the fairness of the transactions and not the optimal rate of private benefits in each corporation, it is costly, and it is difficult to enforce, and therefore, ineffective to limit the capacity of extraction by the controlling shareholder. As a result, the economic goal -the allocation of the control in desirable hands- fails to be achieved. And second, the legal approach to combat undesirable ownership structures, although at some point effective to reduce the total level of the private benefits, entails more costs than benefits. At this

⁸This is consistent with the model of Bebchuk and Neeman (2009) about Investor Protection and Interest Group Politics. In their model insiders compete for influence over the politicians setting the level of investor protection. This lobbying game has an inefficiently low equilibrium level of investor protection.

⁹Restrictions on block size could also lead to disperse ownership but this is not free of costs either. For instance, consider a controlling minority shareholder whose block is smaller than the minimum imposed by law. The blockholder has two choices. He may raise his equity stake, provided that the expected total benefits (private and public) are large enough to cover the higher costs of the stake. Or he may dissolve the block because now the costs exceed the benefits. In this later case, private benefits of control and minority expropriation may not disappear, because the reduction in monitoring increases the power of managers. Notice that European law is one also ill-suited to deal with this problem.

crossroads, new solutions should emerge.

4 The model

Agents and payoffs

Consider a two period economy where a firm has an incumbent blockholder owning a fraction α of shares, the remaining $(1 - \alpha)$ being dispersed among many small shareholders. A risk neutral manager is in charge of running the firm. All agents are risk neutral and the market discount rate is normalized to zero.

Every period the firm has access to a risky investment project (the *standard* project). The project requires an investment I and its return can be one, with probability q , or zero, with probability $(1 - q)$. The cash-flows from the investment project are paid out as dividends every period and are not reinvested in the company.

Under the manager's control the probability of obtaining a high return is determined by the manager's quality.¹⁰ The incumbent blockholder can take an active role in managing the company advising and/or monitoring the manager. This increases the probability of success to $p > q$ but it has a cost C for the blockholder. Throughout the paper it is assumed that this cost is lower than the expected increase in the shareholders' wealth, that is

$$C < p - q, \tag{1}$$

thus the advisory/monitoring activities of the blockholder are socially valuable. Moreover, for the time being, we will assume that the blockholder's stake is high enough to induce monitoring even in the absence of self-dealing opportunities, that is

$$\alpha > \frac{C}{p - q}. \tag{2}$$

Additionally, when the blockholder plays an active management role, he can propose an alternative investment project in each period (the *alternative* project). It also requires an investment I and its return can be one or zero. The probability of success of this alternative project is $\tilde{\delta}p$ and $\tilde{\delta}$ is a random variable that

¹⁰For simplicity, we abstract from any agency problems between the manager and the shareholders. Thus, the manager neither needs to be incited to exert some productive effort nor prevented from extracting a rent. Accordingly, there is no need to offer the manager any salary, or equivalently, his compensation, including possible private benefits that he may receive in a richer model, are normalized to zero.

follows a uniform distribution in the $[0, 2]$ interval¹¹. The projects are mutually exclusive. This alternative project offers a self-dealing opportunity for the incumbent blockholder that generates private benefits b . This specification allows us to encompass different degrees of conflict between the blockholder and the small shareholders. If $\delta > 1$ the blockholder and the small shareholders have congruent interests. For lower values of δ their interests will diverge depending on the value of b . We will assume that the blockholder observes the realization of δ during the course of his managing activities, but it is not observed by the minority shareholders.

This simple setting tries to capture some of the particularities of block ownership that are not present in previous papers. In particular the presence of the blockholder can generate higher public benefits not only because of his monitoring activity, but also from the self-dealing opportunities that his presence creates (Allen and Phillips 2000). This is important because it makes the regulation of self-dealing opportunities more complex than the regulation of other types of private benefits, which should be optimally eliminated.

4.1 The legal system

If the blockholder proposes the alternative project a decision needs to be made about which project to undertake. The legal system determines who makes decisions about which project is chosen and the required disclosure policy. Moreover, if the alternative project is undertaken the legal system also determines who has standing to sue, the liability standard and the damages awards that can be applied. We will consider the following possibilities with respect to each of these rules.

4.1.1 Minimum disclosure requirements

The blockholder is required to reveal his interest in the alternative project.

4.1.2 The right to make the investment decision

The choice of project may require approval by (i) the board of directors or (ii) disinterested shareholders. The variable $A \in [A_b, A_d]$ (approval) takes on the value A_b if board approval is required and A_d if dis-

¹¹To make the problem interesting, in what follows we will assume that the standard project has positive NPV and that both projects have a positive probability of failure, i.e.

$$I + C < p \leq 1/2$$

terested directors approval is required. Disinterested directors approval has a cost K related to information transmission, since the disinterested directors have to learn the realization of δ in order to make an informed decision.

Throughout the paper we will make two important assumptions. First, we will assume that, when the blockholder takes an active management role, he controls the board of directors and/or he can influence the outcome of the boards decision, therefore approval by the board of directors means that the blockholder is free to chose his preferred project. Second, we will assume that there cannot be side transfers between the blockholder and the disinterested directors, i.e. the blockholder cannot influence their preferred choice¹².

4.1.3 Standing to sue

In case the project fails¹³, shareholders owning a minimum percentage of the equity β may sue derivatively the blockholder¹⁴ for damages that the firm suffered as a result of the change in project. Initiating legal proceedings has a cost βL . In derivative action this cost will be paid by the company, and any proceedings that the firm obtains from litigation will be equally divided among its shareholders (here, without loss of generality, we include the blockholder for simplicity).

4.1.4 Liability standards

The blockholder will be held liable if it can be proved that the transaction was unfair or that he acted in bad faith (*in our model, if he chose the alternative project knowing it had a low δ*).¹⁵ We will assume that the court can observe project choice at no cost but proving bad faith requires the plaintiff to present evidence verifying δ at a cost E . Thus, the total cost of the legal procedure is $S = \beta L + E$.

4.1.5 Damages awards

Damages or monetary penalties are to be paid by the blockholder when found guilty. We will assume that the probability that an innocent defendant if found guilty is zero and the probability that a guilty defendant

¹²We do not consider the alternative rule in which the choice of project has to be approved by the majority of the minority shareholders at the shareholders' meeting. This is because we are assuming that the disinterested board members are perfect agents of the minority shareholders. Agency costs could be interpreted as a higher K .

¹³We do not allow litigation when the return is high.

¹⁴We do not consider the possibility to sue the approving bodies (i.e. the board of directors).

¹⁵Most countries impose severe criminal sanctions when a transaction has been approved in violation of formal requirements imposed by law. Therefore we assume that all disclosure and approval requirements will be met.

is found guilty is $g \leq 1$. Under a *bath faith* standard the judge needs to find out whether the blockholder chose the alternative project when δ was lower than 1, and it can make mistakes, therefore $g \leq 1$. The variable D denotes the damages award to be paid when the blockholder is found guilty.

4.2 Timing

The timing of the game is the following. The ownership structure of the firm (α) and the legal rules are determined at an initial stage. And then every period we have 4 stages:

- In *stage 1* the blockholder (if there is one) chooses whether to take an active role in the management of the company. If he chooses not to take an active role the period game proceeds to *stage 3* and ends.
- In *stage 2* the blockholder proposes the alternative investment project and the legal rules determine who decides which project is undertaken.
- In *stage 3* payoffs from the chosen project are realized.
- In *stage 4*, if the alternative project was chosen and it failed we enter a litigation subgame:
 - In *stage 4.1* the shareholders decide whether to litigate. If they prefer not to litigate the game ends. Otherwise they pay βL and the case proceeds to court.
 - In *stage 4.2* the court will determine whether the blockholder is guilty after observing δ (at cost E for the plaintiff).
 - In *stage 4.3* damages awards are paid and the period game ends.

4.3 Equilibrium concept and strategy for the analysis

Let the vector (A, S, D) define the characteristics of the legal system: approval conditions, cost of legal procedures and damages awards. We define $\underline{D}(A, S, D)$ as the minimum damages award for which minority shareholders will initiate legal actions under legal system (A, S, D) . Similarly we define $\underline{\delta}(A, S, D)$ as the minimum probability of success for which the alternative project will be chosen and $\underline{\alpha}(A, S, D)$ as the minimum size of the blockholder's stake that guarantees that he has the incentives to play an active management role under legal system (A, S, D) .

Even though there are two periods, for the time being, they are completely independent, so we will study the one shot game. Formally, this is a four stage dynamic game of complete information. We look for a subgame perfect equilibrium of the game such that the vector $(\underline{D}, \underline{\delta}, \underline{\alpha})$ maximizes the net total benefits (both public and private) generated by the firm given the restrictions imposed by the legal system (A, S, D) . Thus *our main focus will be on the effect of regulation on investment efficiency*. However, we will also analyze separately public benefits so as to study the effect of regulation on minority expropriation.

To characterize the equilibrium of the game we take the legal system as given and we proceed backwards. First, we look at the litigation stage in order to characterize the shareholders' choice on whether to sue. Secondly, we study how the contract affects project choice. Thirdly, we determine the blockholders incentives to monitor. We then compare the value achieved under alternative regulations to determine which are the optimal legal rules. We will specifically consider three alternative regulatory regimes.

- The first one, the **absence of regulation regime** (A_b) , will be our base case. This is a regime where the blockholder is free to make project choice without having to comply to any rule or standard.
- The second one, the **rules based regime** (A_d) , requires the approval by disinterested directors.
- The third one, the **standard based regime** (A_b, S, D) , appears when only board approval is required but under the duty that decisions must be made in the best interest of the shareholders, who can sue the blockholder.

Notice that the absence of regulation regime can also be interpreted as a standard based regime where the legal system is so inefficient that it is not used.

5 Results for the existing regulatory regimes

5.1 Base case: absence of regulation (A_b)

In this case the blockholder is free to make investment decisions and he has all the relevant information concerning the value of δ . The blockholder prefers the alternative project if his expected payoff is higher, taking into account that he gets a fraction α of the public benefits and all the private benefits b :

$$\alpha\delta p + b \geq \alpha p,$$

thus the blockholder prefers to undertake the alternative project whenever

$$\delta \geq \underline{\delta}(A_b) = 1 - \frac{b}{\alpha p}. \quad (3)$$

The total expected return of the alternative project is $\delta p + b$, so total value will be the highest if the alternative project is chosen only for $\delta^* = 1 - \frac{b}{p} \geq \underline{\delta}(A_b)$. Therefore in the absence of regulation the alternative project will be chosen too often to maximize total value. Moreover, the conflict between the investment preferences of the blockholder and the minority shareholders, who want the project approved only for $\delta > 1$, will be more pronounced as α decreases or b increases.

The alternative project will only appear if the blockholder chooses to take an active management role. Incentive compatibility requires that:

$$\Pr(\tilde{\delta} \leq \underline{\delta})p\alpha + \Pr(\tilde{\delta} > \underline{\delta}) \left[E(\tilde{\delta}/\tilde{\delta} > \underline{\delta})p\alpha + b \right] - C \geq q\alpha$$

where $\underline{\delta} = \underline{\delta}(A_b)$ and given $\tilde{\delta} \rightsquigarrow U[0, 2]$, the above expression simplifies to

$$\frac{\underline{\delta}}{2}p\alpha + \left(1 - \frac{\underline{\delta}}{2}\right) \left[\left(1 + \frac{\underline{\delta}}{2}\right)p\alpha + b \right] - C \geq q\alpha. \quad (4)$$

Together equations (3) and (4) implicitly define the minimum value of α for which the blockholder finds it optimal to monitor in the first place

$$\alpha \geq \underline{\alpha}(A_b) = \frac{C - \left(1 - \frac{\underline{\delta}}{2}\right)b}{\left[1 + \frac{\underline{\delta}}{2}\left(1 - \frac{\underline{\delta}}{2}\right)\right]p - q}. \quad (5)$$

If the alternative project did not exist the blockholder would monitor for α higher than $C/(p - q)$. The opportunity to obtain private benefits increases the blockholders incentives to monitor in the first place.

If $\alpha \geq \underline{\alpha}(A_b)$ total expected wealth in each period will be equal to

$$W(A_b) = \left[-I + \left(1 + \frac{\underline{\delta}}{2}\left(1 - \frac{\underline{\delta}}{2}\right)\right)p \right] + \left(1 - \frac{\underline{\delta}}{2}\right)b - C. \quad (6)$$

The term in brackets reflects the net public benefits. The second and third terms represents respectively the private benefits and costs of control. Three results are worth noticing. First, total wealth is higher with a controlling blockholder than with a fully dispersed ownership (in that case total wealth is equal to q). Second, public benefits are higher and small shareholders are better off than when there are no opportunities for self-dealing. This may seem a surprising result but it is logical given our assumption the alternative project is "neutral", i.e. on average it is as good as the standard project. The blockholder will not undertake the alternative project for very low values of δ . Therefore, conditional on the project being accepted by the blockholder, the alternative project is on average better than the standard project. Additionally the blockholder will be willing to monitor for lower values of α . Of course, there will still be cases when, ex-post, the minority shareholders would prefer not to undertake the alternative project, in particular whenever $\underline{\delta}(A_b) \leq \delta \leq 1$, i.e. there will be ex-post minority expropriation. Third, both public and total benefits are increasing in α , because $\underline{\delta}$ increases with α .

5.2 Rules based regime (A_d)

If (i) the disinterested directors have the right to decide, (ii) they know the value of δ , and (iii) their interests are aligned with those of the minority, they will select the alternative project if and only if¹⁶

$$\delta > \underline{\delta}(A_d) = 1. \quad (7)$$

Notice that if conditions (ii) or (iii) are not met we fall back to the base case. Therefore, a rules based regime where directors lack information or incentives will not make a difference with respect to the absence of regulation regime.¹⁷

¹⁶Since $\delta^* = 1 - \frac{b}{p} < \underline{\delta}(\overline{D}, \overline{A})$, the alternative project will not be chosen often enough to achieve investment efficiency, because the dispersed shareholders do not obtain private benefits.

¹⁷Notice that it is never optimal to give control of the investment decisions to disinterested directors if they are not well informed. This is because during the investment stage the disinterested directors, not knowing the value of δ , will always select the alternative project, i.e.

$$E(\delta)p \geq p.$$

This happens because the alternative project is "neutral" but the shareholders know that the blockholder will never propose the alternative project for very low values of δ , and this implies that the expected probability of success of the alternative project is greater than one. The only difference with respect to the base case is that shareholders' expected wealth will be lower than before because of the additional cost of making disinterested shareholders vote. Thus the information costs inherent in a rules based regime can be understood as increasing the value of K .

The same is true if the directors do not have incentives to act in the minority 'interest.

The alternative project will only appear if the blockholder chooses to take an active management role.

Incentive compatibility requires that:

$$\frac{1}{2}p\alpha + \frac{1}{2} \left[\frac{3}{2}p\alpha + b \right] - C \geq q\alpha.$$

Therefore the blockholder will play an active role if

$$\alpha \geq \underline{\alpha}(A_d) = \frac{C - \frac{1}{2}b}{\frac{5}{4}p - q}. \quad (8)$$

Notice that

$$C/(p - q) > \underline{\alpha}(A_d) > \underline{\alpha}(A_b).$$

Therefore the blockholder's incentives to monitor are larger than when there are no opportunities for self-dealing but lower than when he is free to make project choice (base case). This is because, for the same monitoring effort, the opportunities to obtain private benefits are lower when the decision about project choice must be made by informed disinterested directors.

If $\alpha \geq \underline{\alpha}(A_d)$ total expected wealth in each period will be equal to

$$W(A_d) = \left[-I + \frac{5}{4}p - K \right] + \frac{1}{2}b - C. \quad (9)$$

The terms in brackets reflect the net public benefits and the last two terms reflect the private benefits and costs of control. If we compare equation (9) with equation (6) we see that giving control over investment decisions to the disinterested directors has two opposite effects. On the one hand, it increases the total expected returns from the project. However, on the other hand, collective action costs reduce public benefits¹⁸. Moreover, by reducing private benefits it increases the minimum α that guarantees that the blockholder will monitor.

¹⁸We are assuming that the disinterested directors can commit to apply ex-post the chosen election policy. If K is very high they may prefer to delegate on the blockholder when the alternative investment project appears. If commitment were not possible we would need to verify that:

$$\frac{5}{4} - \left[1 + \frac{\delta}{2} \left(1 - \frac{\delta}{2} \right) \right] > \frac{K}{p}.$$

5.3 Standard based regime (A_b, S, D) .

In a standard based regime during the litigation phase the blockholder is found guilty with probability $g \leq 1$ if he chose the alternative project knowing $\delta < 1$ and it failed. If the alternative project fails the shareholders will only sue if

$$\Pr(\tilde{\delta} < 1/\tilde{\delta} \geq \underline{\delta})gD \geq S.$$

Where $\Pr(\tilde{\delta} < 1/\tilde{\delta} \geq \underline{\delta})$ is the probability that $\tilde{\delta}$ is lower than one given that the blockholder chose the alternative project. In what follows we will assume that this inequality holds, therefore the minority shareholders will always sue if the alternative project fails. Otherwise we would be back in our base case. Thus, even a well designed standard based regulation needs effective enforcement in order to make a difference with respect to the absence of regulation regime.

During the investment stage the blockholder will always select the alternative project if $\delta \geq 1$. If $\delta < 1$ he will select the alternative project if and only if:

$$\delta p\alpha + b - (1 - \delta p)[gD + \alpha S] \geq \alpha p.$$

Therefore the blockholder prefers to undertake the alternative project whenever

$$\delta \geq \min \left\{ 1; \underline{\delta}(A_b, S, D) = \frac{\alpha p - b + gD + \alpha S}{p(\alpha + gD + \alpha S)} \right\}. \quad (10)$$

This threshold is always higher than the base case but lower or equal to one, therefore this reduces the conflict of interest between the blockholder and the minority shareholders.

Congruence of interests can be achieved if the damages award is set so that $\underline{\delta}(A_b, S, D) > 1$. But in this case $\Pr(\tilde{\delta} < 1/\tilde{\delta} \geq \underline{\delta}) = 0$. Therefore the shareholders will only sue if the cost is zero. Moreover, the blockholder will act in the best interest of the shareholders only if the expected penalty for not doing it is high enough. Thus congruence of interest requires $S = 0$ and:

$$D(\underline{\delta}(A_b, S, D) = 1) > \frac{b}{(1-p)g}.$$

The award should increase if p or b increase and/or probability of detection g decreases.

Of course, in the more plausible case in which $S > 0$ and $\underline{\delta}(A_b, S, D) < 1$ the threshold for approving the alternative project $\underline{\delta}(A_b, S, D)$ will be lower than one and increasing in α .

We find that the blockholder will monitor if

$$\alpha \geq \underline{\alpha}(A_b, S, D) = \frac{C - \left(1 - \frac{\delta}{2}\right) b + \left(1 - \frac{\delta}{2}\right) \left[1 - \left(1 + \frac{\delta}{2}\right) p\right] gD}{\left[1 + \frac{\delta}{2} \left(1 - \frac{\delta}{2}\right)\right] p - q - \left(1 - \frac{\delta}{2}\right) \left[1 - \left(1 + \frac{\delta}{2}\right) p\right] S}. \quad (11)$$

where $\underline{\delta} = \min\{1; \underline{\delta}(A_b, S, D)\}$. Again incentives to monitor for a given α are lower than in the base case because, for the same monitoring effort, the opportunities to obtain private benefits are lower and, additionally, these opportunities are subject to potential litigation costs.

Finally, if $\alpha \geq \underline{\alpha}(A_b, S, D)$ expected wealth in each period will be equal to

$$W(A_b, S, D) = \left[-I + \left(1 + \frac{\delta}{2} \left(1 - \frac{\delta}{2}\right)\right) p - \left(1 - \frac{\delta}{2}\right) \left(1 - \left(1 + \frac{\delta}{2}\right) p\right) S\right] + \left(1 - \frac{\delta}{2}\right) b - C. \quad (12)$$

Again the term in brackets reflects the public benefits net of litigation costs and the second and third terms the private benefits and costs of control. Comparing this equation with equation (6) we can see that the only differences come from: (i) the litigation costs that reduce public benefits and (ii) the higher threshold for project approval ($\underline{\delta}(A_b, S, D) > \underline{\delta}(A_b)$). Interestingly the payoffs received by the minority shareholders will exceed their share of the net public benefits because they will also receive damages awards. However, damages awards are a pure transfer between the blockholder and the minority. Therefore, high damages awards may be bad in efficiency terms (because the alternative project may not be chosen often enough and litigation costs increase) but good for preventing minority expropriation.

5.4 Summary of alternative regulatory regimes

Our results so far can be summarized in the following proposition:

Proposition 1 *The analysis of the alternative regulatory regimes yields the following results: (i) The existence of self-dealing opportunities increases total wealth, therefore self-dealing transactions should not be forbidden.*

$$-I + q < W(A_b).$$

(ii) No regime can guarantee investment efficiency. The alternative project will be chosen: Too often in the absence of regulation. Not often enough in a rules based regime. Too often or not often enough depending on the relative levels of private benefits and damages awards in a standard based regime.

$$\underline{\delta}(A_d) = 1 > \frac{p-b}{p} > \underline{\delta}(A_b).$$

$$\underline{\delta}(A_b, S, D) > \underline{\delta}(A_b).$$

(iii) Incentives to monitor increase as b increases and they are more pronounced in the absence of regulation.

$$C/(p-q) > \underline{\alpha}(A_d) > \underline{\alpha}(A_b).$$

$$\underline{\alpha}(A_b, S, D) > \underline{\alpha}(A_b).$$

(iv) The optimal regime will depend on the value of the parameters, many of which are firm or blockholder specific.

6 The "carrot and stick" regime to discipline self-dealing

The previous analysis shows that the existing regulation dealing with private benefit extraction is far from perfect. We propose an alternative where the blockholder can obtain the right to chose the project in both periods (the *carrot*) in exchange for both a call option and a put option for the minority shareholders (the *stick*). The options can be exercised at the prevalent market price at the end of the first period if the blockholder chose the alternative project and it failed. The call gives the minority the right to buy back the stake from the blockholder at market price. The put gives the minority the right to sell to the blockholder an additional stake γ at market price.

Unlike the existing legal regimes, this regime takes advantage of the dynamics of the game making project choice in the second period contingent on the choice made in the first period. This approach has important benefits when compared with the existing regulatory regimes. First, by linking both periods, we provide at no cost an additional incentive that aligns the interests of the blockholder and the small shareholders: obtaining future private benefits requires limiting current private benefits. Second, we let the blockholder make the investment decision and punishment only requires the exercise of an option. Doing this we eliminate both

information costs K and legal action costs S that critically affect the outcome of the existing regulatory regimes. Third, we do not impose an a priori minimum ownership stake, therefore firms whose blockholders have low α but also low b can benefit from the monitoring and investment opportunities that they may bring. Fourth, the changes in ownership compositions that are induced by the penalty will tend to increase efficiency in the following periods. Forcing an increase in the blockholder's stake guarantees that, in the future his incentives will be better aligned with those of the small shareholders. Buying back the stake represents an opportunity to decrease ownership concentration, which may be optimal for some firms, or to change the blockholder.

To solve the game we proceed backwards starting from the second period. In the second period the game will be played like in the absence of regulation case that we already analyzed, therefore the outcome will only depend on the stake of the blockholder. There are four possible scenarios to consider. First, the options were not exercised at the end of the first period and the incumbent blockholder's stake is still α . Second, the put option was exercised and his stake is $\alpha + \gamma$. Third, if the call option was exercised and there is no new blockholder. Fourth, the call option was exercised and there is a new blockholder with stake α' .

How will the minority use their options? Since both options are to be exercised at current market value there is no gain to make in the transaction. Therefore, they will chose comparing the second period's outcome. Equation (6) shows that public benefits for the shareholders are increasing in the blockholder's stake. Therefore they will only exert the call if there is an alternative blockholder that is willing to buy an stake bigger than $\alpha + \gamma$. Otherwise they will exert the put. Thus, one of the options will always be exercised. This is important because it guarantess that ex-post the minority always has an incentive to punish the blockholder if he chose the alternative project and it failed. Moreover, total wealth in the second stage will always be at least as high as in the base case.

We now turn to the first period and the blockholder's choice of project. In the first period the blockholder will chose the alternative project only if

$$b + \delta p [\alpha + P_2(\alpha)] + (1 - \delta p) [j\alpha Q_2(\alpha') + (1 - j)(-\gamma Q_2(\alpha + \gamma) + P_2(\alpha + \gamma))] \geq \alpha p + P_2(\alpha), \quad (13)$$

where j is the probability that an alternative blockholder with a stake bigger than $\alpha + \gamma$ appears, i.e. it

is the probability that the call is exercised; $Q_2(\cdot)$ denotes the expected value of the shares in the second period, depending of the stake of the controlling blockholder at that stage; and $P_2(\cdot)$ denotes the incumbent blockholder's total expected payoff from the second period, given his stake. Therefore,

$$P_2(\alpha) = \alpha \left[-I + \left(1 + \frac{\delta_2(\alpha)}{2} \left(1 - \frac{\delta_2(\alpha)}{2} \right) \right) p \right] + \left(1 - \frac{\delta_2(\alpha)}{2} \right) b - C$$

$$Q_2(\alpha) = -I + \left(1 + \frac{\delta_2(\alpha)}{2} \left(1 - \frac{\delta_2(\alpha)}{2} \right) \right) p,$$

with

$$\delta_2(\alpha) = 1 - \frac{b}{\alpha p}$$

The blockholder will chose the alternative project in the first period if and only if

$$\delta > \underline{\delta}^* = \frac{\alpha p - b + P_2(\alpha) - j\alpha Q_2(\alpha') - (1-j)(P_2(\alpha + \gamma) - \gamma Q_2(\alpha + \gamma))}{p[\alpha + P_2(\alpha) - j\alpha Q_2(\alpha') - (1-j)(P_2(\alpha + \gamma) - \gamma Q_2(\alpha + \gamma))]}.$$

Which simplifies to

$$\delta > \underline{\delta}^* = \frac{\alpha p - b + (1-j)\frac{b^2\gamma^2}{4p\alpha(\alpha+\gamma)^2} + j\left(\frac{b}{2} - C + \frac{b^2(\alpha'^2 + \alpha^2)}{4p\alpha\alpha'^2}\right)}{\alpha p + (1-j)p\frac{b^2\gamma^2}{4p\alpha(\alpha+\gamma)^2} + jp\left(\frac{b}{2} - C + \frac{b^2(\alpha'^2 + \alpha^2)}{4p\alpha\alpha'^2}\right)}.$$

To analyze this expression it is useful to concentrate the two polar cases in which j takes on the values 0 or 1. Let us first consider the case in which $j = 0$, i.e. the minority will exercise the put. For this case, it is easy to check that the new threshold is higher than the previous first period threshold, $\underline{\delta}(A_b)$. Moreover, the new threshold is increasing in γ . And interestingly, the efficiency of the arrangement increases as the private benefit b increases. Notice that we can align interest and increase efficiency relative to the base case without incurring neither litigation costs nor information costs.

The case in which $j = 1$, i.e. the minority will exercise the call, is more complex. The new threshold is still increasing in b but it is decreasing in α' and C . This is because if he is replaced he losses the potential private benefits from the second period, but he is still compensated for the future public benefits wich will be larger the larger is α' and he can save on the monitoring costs C .

Why do the options work as an efficient penalty? After all we are only requiring that the blockholder buys or sells an stake at market value by the blockholder. Absent wealth, portfolio or liquidity constrains this

cannot be considered as a penalty. The reason why, in our model, it alters the incentives of the blockholder is the following. If after the first period the put is exercised and he is forced to increase his stake, in the second period he will prefer a lower level of expropriation (lower private benefits and higher public benefits). This is the optimal thing to do given his new increased stake. However, from the perspective of the first period, the lower future private benefits are perceived as a loss, while the higher future public benefits are neutral because they will be paid for. If after the first period the call is exercised and he is forced to sell his stake at market price, he will get no compensation for the foregone private benefits he could obtain in the second period. Obviously, in practice, wealth, portfolio or liquidity constraints will make the penalty even more threatening.

The effect that the options have on the blockholder's incentives to monitor in the first period is unclear. There are three effects to take into account. First, monitoring is less productive because in the first period the total benefits (public plus private) of the blockholder will be lower. This first effect is qualitatively similar to the effect of introducing a rules based regime or a standard based regime. Second, the private benefits that can be obtained in the second period are now lower, and this effect also makes monitoring in the first period less productive. However, there is a third effect that goes in the opposite direction, because the total public benefits in the second period will be higher if the options are exercised. Depending on which effect dominates, it is possible that the new $\underline{\alpha}$ that guarantees that the blockholder has incentives to monitor is higher or lower than in base case, when there is no regulation and both periods are independent.

Finally, provided that the blockholder has incentives to monitor, total expected wealth in the first period, given the new threshold for project choice, will be equal to

$$W = \left[-I + \left(1 + \frac{\delta}{2} \left(1 - \frac{\delta}{2} \right) \right) p \right] + \left(1 - \frac{\delta}{2} \right) b - C.$$

The results obtained by the direct comparison of this expression with equations (6), (9) and (12) are summarized in the following proposition:

Proposition 2 *The comparison of the "carrot and stick" regime with existing alternative regulatory regimes yields the following results:*

(i) *Public benefits are larger and private benefits lower than in the base case of absence of regulation. Inter-*

estingly, this reduction in minority expropriation is attained at no cost for the minority shareholders.

(ii) For the same value of $\underline{\delta}$, total value will be higher under the "carrot and stick" regime than under a standard based regime because it entails no litigation costs.

(iii) For $\underline{\delta} = 1$, total value will be higher under the "carrot and stick" regime than under a rules based regime because it entails no information costs. Under our proposed regime $\underline{\delta} = 1$ can be implemented by setting $j = 0$ (the minority only receives a put option) and γ such that the following equality is satisfied:

$$\frac{\gamma^2}{\alpha(\alpha + \gamma)^2} = \frac{4p}{b(1 - p)}.$$

(iv) For some values of the parameters the "carrot and stick" regime results in investment efficiency. i.e. $\underline{\delta} = \delta^*$. Under our proposal investment efficiency requires setting $j = 0$ (the minority only receives a put option) and γ such that the following equality is satisfied:

$$\frac{\gamma^2}{\alpha(1 - \alpha)(\alpha + \gamma)^2} = \frac{4p}{b(1 - p + b)}.$$

7 Extensions

7.1 Implementation

How can our proposal be practically implemented? Recall than in our theoretical model, the blockholder gets the right to chose the project in both periods in exchange for both a call option and a put option for the minority shareholders. The options can be exercised at the prevalent market price at the end of the first period if the blockholder chose the alternative project and it failed. The call gives the minority the right to buy back the stake from the blockholder. The put gives the minority the right to sell to the blockholder an additional stake γ ¹⁹. At the end of the first period, the observation of a low return on the self-dealing transactions triggers the exercise of the options. The automatic nature of the sanction is very important, because it ensures minimal implementation costs and prevents opportunistic behavior on the part of minority shareholders, who would otherwise punish the blockholder too often.

The implementation of this type of contract in practice requires making explicit the following things:

¹⁹Notice that the put should be exercised under the condition that the increased stake will be maintained in the second period.

1. The contract can be applied to all self-dealing transactions undertaken during a given time period, or until the total investment in self-dealing transactions surpasses an established threshold. It may include exceptions for some types of transactions or for transactions exceeding a given amount of required investment.
2. The amount γ must be specified in the contract.
3. The blockholder must inform the corporation whenever he is an interested party in a transaction undertaken by the corporation.
4. Once the time period elapses or the threshold is reached the performance of these transactions will be reviewed under pre-specified criteria. The criteria for review must be specified in the contract.
5. If the transactions do not meet the required criteria, the options can be exercised at the prevalent market price. The choice on whether to exercise the call or the put can be made by the managers, by the board or by the minority shareholders voting at a shareholders meeting.

The critical issues are the last two points. First, it is necessary to define the criteria for reviewing self-dealing transactions. Simplicity appears to us as a crucial property in the review process. Comparison of the period returns with a minimum required industry adjusted ROA would be the simplest possibility, and it is available for all firms. If self-dealing transactions are undertaken above or below market prices, this will result in either lower revenues or higher costs, resulting in lower ROA. For listed firms, industry adjusted market returns could be used alongside ROA if one believes that there is a risk of ex-ante minority expropriation. Our solution may be criticised for being too crude. However, it ensures minimal informational and procedural costs and it leaves no room for strategic minority behaviour. Obviously it increases the exposure of the blockholder to additional market risk, and possibly also to additional firm specific risk. Notice however that the blockholder is likely to be in a better position to hedge or diversify away these risks than the managers, who are routinely compensated in this way. Moreover, for some specific transactions it may be possible to agree to measure performance in an objective way (e.g. number of units sold or quality indicators met) that would reduce these risks.

The second critical issue is the determination of the market price for non-listed firms or illiquid shares. In these cases we propose that the fair price be proposed by a third party previously agreed on. Notice that whether the final price seems too high or too low is not an important problem because the minority is free to choose whether to buy or sell at the stated price. The only important thing is that in expectation the price will be fair.

7.2 Ostracism

Our solution competes with a different mechanism proposed by the literature, the so called "ostracism" of an undesirable controller (Dammann, 2008). Ostracism would allow minority shareholders to get rid of controllers whose presence the minority shareholders believe to be harmful to the corporation. This proposed legal regime would be structured as a two-step mechanism: first, the right to ostracize the controlling shareholder; second, the right to opt out of the current legal regime concerning self-dealing.

Technically, such a regime should be implemented as follows. At every shareholders' meeting, a vote would be taken on whether or not to initiate the right to expel the controller. If a certain percentage of the outstanding minority shareholders vote in favour, then a special shareholder meeting has to be called. Once the mechanism is set in motion, in the second meeting, if a simple majority of the minority shares votes in favour of expelling the shareholder, ostracism is adopted. The consequences of the success of the mechanism would be double: the controller immediately loses his voting and control rights, and subsequently he will be subject to an obligation to sell his shares within a given time frame.

The outcome of ostracism is included as a particular case in our mechanism. It would be equivalent to setting $j = 1$, i.e. the minority always exercises the call. However we believe that our mechanism is superior to ostracism for several reasons.

First, implementing ostracism by using a call option facilitates the procedure and has lower implementation costs. In contrast with the solution in our model, with ostracism the decision to expel a controlling shareholder is not automatic, but depends on the decision of the minority shareholders. But if in the real world it is far from easy to remove directors (Bebchuk 2005 and 2003), it would seem even more difficult to expel a controlling shareholders. And the key here is that private benefits are not observable, which increases

the chances of making badly informed choices. Thus, a likely outcome is that minority shareholders would tend to abstain, or to support the existing controller.

Moreover, legal costs are higher with ostracism, because it is a case of "taking" of property rights: the controlling shareholder is forced against his will to sell his stake in the corporation, and therefore he may incur significant losses. This feature also makes the decision a costly one for the shareholders. The problem, again, is that if adopting the decision is too costly, shareholders would refuse to go forward with it. On the other hand, to avoid the risk of being ostracized, the controllers have incentives to lobby the minority shareholders, again a wasteful activity from the point of view of productive efficiency.

Second, combining the call with the put eliminates some of the restrictions implicit in the ostracism regime. In particular, the ostracising regime needs to satisfy two conditions in order to attain some level of functionality: i) a liquid market for shares, and/or ii) private benefits b must differ across blockholders, but they must be constant for each blockholder.

Regarding liquidity, ostracism assumes as a necessary precondition a liquid market for controlling shareholders (that is, people who are willing to invest a controlling stake in a corporation). Moreover, the market for controlling shareholders must be competitive and transparent enough to be able to screen the potential controllers so as to exclude the expropriators and allow only the more or less "nice" controllers in. This is difficult to achieve, given the large and concentrated nature of such an investment. Using both a call and a put it is possible to discipline the blockholder even in the absence of a liquid market by exercising the put. Furthermore, ostracism forces the controlling shareholder to sell, but the shareholders have no influence in the selection of the new controller, this disadvantage can be overcome by using the call.

Regarding private benefits, we believe ostracism may be interesting even in illiquid markets if the size of private benefits is constant but differs across blockholders. In our view, ostracism would only happen in reality in extreme cases, when the controller is a obvious expropriator, so that there are undisputed and clear large benefits of getting rid of him. For these extreme cases, the call in our model can be used to ostracise the "bad" blockholder. This situation does not arise in the formal analysis that we have conducted because we have assumed that b is constant and equal across blockholders. However, it is straight forward to repeat the analysis assuming different b 's for different blockholders. In this situation, it may be desirable for

the minority to exercise the call and move towards a more dispersed ownership structure, selling the shares through an IPO or selling part of the stake to a smaller blockholder if his b is low enough.

Third, our proposal allows the shareholders to move the capital structure in the direction they deem more efficient in the spirit of Zingales (1995). Either towards more concentration, by exercising the put or exercising the call and selling the stake to a new blockholder. Or towards more dispersion, by exercising the call as discussed above.

7.3 Differences across firms

Our solution suits well a wide spectrum of real-world cases, but we do not claim that it is the most desirable solution for all corporations. The other two well known mechanisms -minority approval or judicial review- may, under some circumstances, be better tailored to the interests of the minority.

However, we believe that our solution represents the appropriate default rule for most corporations, particularly the ones that go public. The alternative -that the corporations, using their freedom of contract would adopt innovative governance arrangements- is not realistic. The obstacles to innovative charter arrangements are well known in the legal literature. This is especially true in the case of charter amendments that are against the interests of the controllers (Bebchuk and Hamdani, 2002). However there may be reasons why some closed or public corporations may prefer to opt out. We now discuss each one in turn.

In the case of closed corporations, with a limited number of shareholders, the mechanism of the minority approval may be suitable, for two reasons: first, because the costs of collective action and monitoring are lower, and second, because there is not real specialization between property and control. The counterpart is that to create good rules is costly. In the case in which the legal regime has already a well-defined set of rules anti-self dealing for closed corporation, the best solution may well be to impose them as defaults. Otherwise, our solution would become the default rule. In closed corporations, the parties -via charter arrangement or shareholders' agreements- have more room for contracting, and therefore, for reaching the appropriate solution on their own. The conditions for the minority to enter the corporation are well established at the beginning (they enjoy some bargaining power), and most of them concern safeguards against expropriation. Thus, shareholders may adopt the legal default rule, modify it, or even arrange a mixture of both strategies

depending on the the nature of the issues. To have a good "anti-expropriation plan" is the best policy to protect minority shareholders who are locked-in, instead of other legal strategies such as dissolving the corporation (Rock and Wachter, 2000). In this sense, it could be useful : (i) identifying properly the risky cases - rules would try to avoid actions that have typically been shown in the past to be a source of private benefits for the controlling shareholder- and (ii) designing and formulating simple and clear rules. On the other hand, the existence of a rule makes accountability easier, so its enforcement is not very costly and leaves relatively small room for discretion.

On the contrary, judicial review may sometimes be better suited for the setting of widely disperse ownership, with separation of property and control. This is the typical situation in public corporations, in which directors are expected to act as agents of the shareholders. Fiduciary relationships are based on trust. So standards seem to be a better strategy to preserve the necessary discretion of the agent, and at the same time, to effectively deal with the agency problem. Regarding controlling shareholders, judicial review may be appropriate to handle very specialized and highly visible transactions, which require more personalized decision-making: sale of control, sale of important corporate assets, some parent -subsidiary transactions, mergers and acquisitions. Then, it makes sense to proceed case by case and ex post (it is difficult to write a rule to cover different particular situations or outcomes). In this sense, standards may be more likely to produce results that are satisfactory for all participants, albeit standards also make outcomes less predictable and, thus, cases harder to settle. To enforce standards is typically more expensive than to enforce rules, and for this reason standards may be suitable for "exceptional" operations in business, but not for the day-to-day opportunities for self-dealing. Using rules rather than standards, in turn, would imply an increase in the number of rules (since they need to apply to a variety of situations with differentiated factors and circumstances). And this increased number would probably imply that they would be less intuitive than a simpler set, and will involve more cumbersome procedures for their application, with a substantial rise of administrative costs inside the corporation. Moreover, they would need to be rewritten relatively often, in order to keep pace with changes in the relevant environment.

8 Conclusions

In this paper we have explained why existing legal remedies -based in a pro-rata distribution of benefits, which must be verified in every singular transaction- are not efficient for regulating self-dealing by controlling shareholders. Likewise, the regulatory strategies that seek to reduce the total amount of private benefits affecting the ownership structure go in the wrong direction. Therefore, we have developed an alternative regime -the "carrot and stick" regime- based on the idea that the controller should only be punished if he extracts an amount of private benefits that is larger than the optimal level from an economic point of view, and that this amount and the corresponding penalty can be freely contracted inside the corporation at a low cost.

Specifically the "carrot and stick" regime consists of a contract between the controlling shareholder and the minority shareholders. The contract can be applied to all self-dealing transactions undertaken during a given time period, or until the total investment in self-dealing transactions surpasses an established threshold. During this time period (or for all self-dealing transactions below the threshold) the blockholder is free to make investment decisions and to engage in self-dealing transactions (the *carrot*). However, once the time period elapses or the threshold is reached the performance of these transactions will be reviewed under pre-specified criteria. The contract grants the minority the right to exercise either a call or a put option if performance is low (the *stick*). The call gives the minority the right to buy back the stake from the blockholder at current market price. The put gives the minority the right to sell to the blockholder an additional stake γ at current market price.

We develop a simple model that allows us to carefully analyze the main current regimes (a rule-based regime that leaves the choice of project solely to disinterested shareholders, and a standard-based regime that imposes Court-determined liability if the controlling shareholder has violated a legal duty in the choice of project) and compare them to our alternative, which is shown to be more efficient.

This increase in efficiency relative to existing regulation is the result of the two main characteristics of our proposal. First, the "carrot and stick" regime, unlike existing regulation, takes advantage of the repeated nature of the relationship between the controller and the corporation. By doing this, we can provide at no

cost an additional incentive that aligns the interest of the blockholder and the small shareholders: obtaining future private benefits requires limiting current private benefits. Second, we allow the controller to determine the level of private benefits that he will extract in each period and apply an automatic penalty for excessive levels. By doing this we eliminate both the costs of collective action and the costs of legal action that critically affect the outcome of the existing regulatory regimes.

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