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Shareholder Access to Manager-Biased Courts and the Monitoring/ Litigation Tradeoff

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Abstract

Adequate access to courts by minority shareholders is commonly viewed as an important element of a good corporate governance system. Should shareholders be provided with easy access to courts when judges are unlikely to punish opportunistic managers? It might seem that having an extra instrument of protection is always better as long as it provides *some* protection against managerial self-dealing. We present a model, which shows that facilitating shareholder litigation in a system where courts are biased towards managers can actually lower efficiency, as it can lead to either excessive litigation or excessive monitoring of managers by shareholders. The latter effect arises when litigation is very costly for the firm, but cheap for an individual shareholder. In this case, easy litigation does not lead to a greater reliance on the judiciary and results in more, rather than less, concentrated ownership. This is the effect of the optimal adjustment of the ownership structure to an increase in shareholders' willingness to bring suits when courts are manager-biased. Our model implies that removing impediments to shareholder litigation in countries where courts are reluctant to protect shareholders may increase the cost of corporate governance there.

JEL classification: G32, G34, K41

Keywords: corporate governance, shareholder protection, shareholder litigation, monitoring, biased courts.

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1 Introduction

Adequate access to courts by minority shareholders is commonly viewed as an important element of a good corporate governance system. The right to the "judicial venue to challenge the decisions of management or of the assembly" was one of the components of the shareholder protection index (anti-director rights) in La Porta et al (1997, 1998), which has been widely used in the empirical law and finance literature ever since. A recent empirical study by La Porta et al (2006) examines securities laws in 49 countries and finds that facilitating private enforcement of securities law in courts is crucial for stock market development.

Access to courts by oppressed shareholders is supposed to be good as it disciplines managers and, in cases when misconduct happens, provides a mechanism for compensating expropriated shareholders. As a consequence, the agency cost is reduced, and outside investors are more willing to provide finance in the first place.

Should shareholders be provided with access to courts when judges are unlikely to protect them from expropriation by insiders? A pro-insider bias in court decisions regarding self-dealing transactions is not a rare phenomenon. This problem is likely to exist in developing and transition countries, where insiders sometimes even use bribery and threats to exert pressure on judges.[1] However, there is also evidence that in some developed Continental European countries courts often tolerate certain types of self-dealing by insiders. Johnson et al (2000) describe three legal cases from Continental Europe in which expropriation of minority shareholders was "explicitly blessed by courts". They argue that these cases are indicative of situations in many civil law countries. Enriques (2002), after studying a sample of decisions by Italian courts, concludes that Italian judges are ineffective in protecting shareholders because they are incompetent in business matters, formalistic and *deferential* to corporate insiders. Moreover, pursuing the interests of shareholders, as opposed to other stakeholders, is not a prevailing principle of corporate decision-making in Continental Europe and, thus, courts can sometimes support insiders on the grounds of defending some category of stakeholders (e.g. workers).[2]

At the same time, Continental Europe has recently seen some reforms and initiatives aiming to encourage shareholder suits.[3] While there is little doubt that insider-biased courts cannot

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[1] For example, Black (1998) describes a case of evident influence on court decisions by the controlling shareholder of one of the Russian companies. His story is indicative of the situation in Russia during 1990s.

[2] The problem of the bias may also exist in the US. While there is no common agreement, some scholars argue that, actually, Delaware courts are biased towards managers, especially in cases that concern takeover defences (Bebchuk and Ferrell (2001), Subramanian (2004)).

[3] In Germany, rules introduced in 2005 make it possible for shareholders, representing at least 1 percent of shares or shares worth at least 100,000 euros, to bring a derivative suit against directors (Enriques and Volpin (2007)). The 1998 reform in Italy introduced a derivative suit with a 5% threshold, which was further reduced to 2.5% in 2005. Moreover, contingency fees were made legal in Italy in 2006 (Enriques and Volpin (2007)). Sweden introduced class-action suits in January 2003.

Similar reforms are being discussed and already occuring in Asia as well. For example, in Korea a class actions

provide strong protection, it may seem that easy access to courts can partially substitute for the "unbiasedness", thereby restoring the effectiveness of the litigation mechanism of shareholder protection to some extent. That is, one could argue, the low cost of suing could offset (at least partially) the low probability of obtaining decent compensation and the lack of deterrence. Regardless of how strong the bias is, easy access to courts should then improve shareholder protection, as long as litigation provides at least *some* compensation for damages or *some* deterrence.

Our model qualifies the view that providing shareholders with access to courts lowers the agency cost and, consequently, reduces the need for shareholder monitoring of managers. We argue that facilitating access to courts can both decrease and *increase* the cost of corporate governance, depending on the degree of the *pro-manager bias*[4] in courts' decisions. We show that, while facilitating shareholders access to courts provides an efficient deterrence mechanism under unbiased courts, it provokes either excessive litigation or excessive monitoring of managers when courts are manager-biased; the latter effect is associated with an increase in the outside (as well as total) ownership concentration. Therefore, reforms that encourage shareholder litigation in this situation are not just ineffective, but potentially harmful. Hence, our result raises caution against introducing shareholder-friendly litigation rules without eliminating the pro-manager bias first. Thus, our model contributes to the arguments against "cut and paste" transplantation of legal rules from one country to another, as it illustrates that similar reforms can have drastically different outcomes in different environments.[5]

Our analysis builds on two ideas: 1) the interdependence between shareholder monitoring and shareholder litigation[6] and 2) the commitment problem of shareholders who cannot

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suit system took effect in January 2005. Earlier on, in 1997, a minimum ownership requirement for bringing a derivative suit was lowered from 3% to 0.01%.

[4] The pro-manager bias in court decisions can depend on both judges' characteristics and the substance of law, especially when judges are formalistic (i.e. ignoring real "rights" and "wrongs" behind the case and simply following the letter of the law) and the law does not explicitly prohibit certain ways of self-dealing. In subsection 2.2 we will discuss this issue in more detail.

[5] Berkowitz, Pistor and Richard (2003) empirically find strong evidence of the "transplant effect" – laws that have originated in a certain environment often work badly, when transplanted to other countries. There are also a number of papers that refute the "one-size-fits-all" approach specifically in a corporate governance setting. For example, Bhattacharya and Daouk (2004) argue, both theoretically and empirically, that no security law may be better than a good security law that is not enforced. Therefore, simply copying a security law can be harmful. Immordino and Pagano (2007) construct a model, which suggests that the level of optimal audit standards is complementary to the efficiency of the enforcement technology. Östberg (2006), by means of a theoretical model, argues that optimal disclosure standards are higher when shareholder protection is better, and, thus, harmonization of disclosure standards may be harmful.

[6] Interdependence between corporate governance mechanisms takes a significant part in the current debate on convergence of corporate governance systems and desirability of legal reforms. In the "path dependence" literature, interdependence is considered as one of the main sources of differences among the corporate governance systems (Bebchuk and Roe (1999), Bratton and McCahery (1999), Schmidt and Spindler (2002)). Due to various complementarities (or substitutabilities) different rules and mechanisms take roots in different legal and institutional environments (e.g. because of their social optimality or due to the interest group influence or,

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abstain from suing the manager. We consider ex-ante monitoring of the manager by a large outside shareholder (the blockholder) and ex-post shareholder litigation against the manager as substitute mechanisms of shareholder protection. Active ex-ante monitoring reduces the need for ex-post litigation. At the same time, the possibility either to deter the manager through the threat of litigation or to effectively recover damages ex-post reduces the need for ex-ante blockholder activism.

Our story is as follows. A manager in search of outside equity finance tries to mitigate the agency problem (Jensen and Meckling (1976)) by means of the above two mechanisms, each of them involving a cost. Ex-ante, the manager fully internalizes the cost, associated with the use of the mechanisms; his task is to minimize this cost subject to the investors' break-even condition. Given the judiciary system, the shareholders' use of the mechanisms depends on the ownership structure that the manager offers. The judiciary system in our model is characterized by the total cost of a lawsuit, the distribution of this cost (how much of the total cost is borne by the initiator of the litigation) and the degree of the pro-manager bias in courts. The latter is parametrized by the probability of finding a guilty verdict for a manager, who has benefited at the expense of shareholders.

When courts are unbiased, a combination of a large enough managerial equity share with a credible threat of ex-post litigation deters managerial misconduct altogether, so that litigation does not even happen in equilibrium. In such a case, the total cost of a lawsuit for the firm must be low enough to ensure credibility of litigation. This solution is obviously first-best as it involves no cost. Additionally, when the procedural rules provide for sharing of the litigation cost, the collective action problem among the shareholders in litigation is alleviated and no outside ownership concentration is needed.

The first-best solution is not feasible, however, when courts are manager-biased. In this case, litigation becomes ineffective. As a consequence, the managerial share needed to discourage self-dealing becomes too big for the investors to break-even. Thus, the deterrence cannot be achieved and, moreover, monitoring becomes more cost-effective than the ex-post compensation via litigation. Hence, only monitoring should be used, and outside ownership concentration is therefore required to solve the collective action problem in monitoring. Why would easy access to courts be harmful in this situation? Would not the parties themselves avoid the inefficient

mechanism and choose the efficient one? The answer is: not necessarily. The crucial problem here is the commitment problem of the shareholders, who cannot abstain from suing the manager ex-post. We will call it the "excessive willingness to litigate" problem. If litigation is cheap for an individual shareholder, only a sufficiently dispersed ownership structure can discourage it. But, in such a case, there will be a lack of monitoring and, consequently, the investors will not provide finance in the first place.

Hence, when courts are manager-biased and barriers to litigation are low, the manager, offering the ownership structure, is faced with a tradeoff between permitting litigation and inducing excessive monitoring in order to minimize the number of occasions to sue. When the total cost of litigation for the firm is large relative to the monitoring cost, the optimal ownership structure is the one that induces excessive monitoring, otherwise it does not pay to prevent litigation via more monitoring and the ownership structure is chosen to allow for litigation. Either way, under manager-biased courts and low barriers to litigation, *inefficiency arises*. The former case is especially interesting. It shows that making litigation cheap for an individual shareholder does not have to result in a greater reliance on courts and may instead lead to *more monitoring*, which is necessary to avoid costly litigation. More monitoring, in turn, requires a larger blockholder's share. In this case, the total ownership concentration increases as well.

Thus, our model shows that providing shareholders with access to courts may lower efficiency rather than mitigate the agency problem and may lead to more rather than less shareholder monitoring of managers. The outcome of facilitating shareholder suits depends crucially on the degree of the pro-manager bias.

Our results can be paralleled to the empirical findings of Franks, Mayer, and Rossi (2003) and Aganin and Volpin (2003). These papers look at the evolution of ownership and stock market development over the 20th century in the UK and Italy respectively. Both studies find that strong legal shareholder protection is not necessarily a precondition for ownership dispersion and financial development. However, differently from our argument, their explanations are not based on recognizing complexity of the effects of a legal system. Instead, Franks, Mayer and Rossi (2003) emphasize the role of trust, while Aganin and Volpin (2003) stress the role of state intervention in business.[7]

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[7]Franks, Mayer and Rossi (2003) document that despite little legal investor protection at the beginning of the 20th century, the UK had an active stock market and high ownership dispersion in firms. Formal regulation emerged only in the second half of the century; instead, the authors argue, informal relations of trust were the driving force behind the UK financial development.

Aganin and Volpin (2003) find that, despite gradual strengthening of investor protection in Italy over the 20th century, stock market development and ownership concentration evolved non-monotonically, with a more developed stock market at the beginning of the century than at the middle. The authors suggest that the state intervention that started during the Great Depression played the key role in the concentration of ownership and emergence of family firms.

Two theoretical papers closely related to ours are Burkart and Panunzi (2006) and Stepanov (2005). Both papers look at the link between legal protection and blockholder monitoring and find that the effect of shareholder protection on the outside ownership concentration can be both negative and positive. The papers, however, do not examine the efficiency implications of law. More importantly, they do not specify legal protection in any detailed way, modeling it simply via a cost function of private benefit extraction.[8] On the contrary, our paper disentangles the two particular dimensions of law (court "unbiasedness" and litigation rules) and illustrates that the effects of legal protection can critically depend on what exactly is meant by "protection".[9] Both a decrease in the bias towards managers and a facilitation of shareholder suits can be considered a rise in protection. If countries optimally choose their litigation rules our model predicts a decline in the outside ownership concentration and the use of monitoring as the bias disappears. At the same time, efficiency rises. Improving access to courts has a similar effect under unbiased courts, but can have an *opposite* effect when courts are manager-biased. The reason is that favorable procedural rules for litigation are *not* a substitute for the "unbiasedness" of courts in the latter case. As a consequence, in this situation such rules cannot make litigation an efficient substitute for blockholder monitoring.

There are two other theory papers related to ours. Grechenig and Sekyra (2007) argue that percentage limits (minimum ownership requirements for bringing a derivative suit) encourage collusion between would-be litigants and managers (and discourage shareholder monitoring) because they reduce the aggregate stake of the shareholders with whom the manager have to collude in order to avoid being sued. Thus, contrary to our model, the authors allow for collusion between a litigant and the manager. However, the authors do not allow for the ex-ante preventive role of monitoring. Moreover, the ownership structure in their paper is exogenous, while in ours it is determined in equilibrium. Gutiérrez (2001) presents a model that examines incentives for shareholder litigation from the point of view of ex-ante efficiency. She studies the rationale for liability insurance and limited liability provisions for directors and shows that such provisions can be optimally chosen by shareholders, because they allow them to commit to ex-ante optimal suing strategies. However, the paper does not consider the mechanism of monitoring, instead it looks at the classical moral hazard tradeoff between inducing high managerial effort and reducing managerial rent. The introduction of a costly litigation mechanism with a possibility to contract on the outcome of litigation leads to the mentioned results.

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[8]In Burkart and Panunzi (2006) the effect of law critically depends on which type of interdependence (complementarity or substitutability) between legal protection and monitoring is exogenously assumed. In Stepanov (2005) the threat of collusion between the manager and the blockholder determines the non-monotonic character of the effect of law.

[9]It may also be worth mentioning that in Burkart and Panunzi (2006), despite an ambiguous link between the law and outside ownership concentration, monitoring unambiguously decreases as legal protection improves, while in our model it can go up as access to courts becomes easier under manager-biased courts.

Our work can be also related to the vast literature on the economics of law enforcement through litigation (see Shavell (2003) for a summary and references). One of the key focuses of this literature is on the divergence between the private and socially desirable levels of suit and the ways to correct this problem. In a broad sense, our paper can be viewed as an application of this literature to the issue of shareholder litigation: we argue that shareholder litigation rules should be designed so that the *ex-post* incentives to sue induce litigation that is optimal from the *ex-ante* point of view. Our result can also be related to the "least-cost avoider" principle in the law and economics literature (see e.g. Dari-Mattiacci (2003) or Landes and Posner (1987)). Deterrence achieves managerial precaution (no self-dealing) which is the least costly option, as long as it is consistent with the investors' participation constraint. When courts are manager-biased, an excessively large manager's share is needed to induce his precaution. Consequently, it becomes too costly in the sense of underinvestment (investors simply refuse to provide funds), and victim precaution (shareholder monitoring) becomes the least costly option.

Our paper proceeds as follows. Section 2 sets up the model. Section 3 analyzes the "ex-ante efficient solution", by which we mean the solution that takes the commitment of the shareholders to the ex-ante efficient monitoring and litigation decisions for granted. Section 4 examines the conditions under which this solution can be achieved in equilibrium via the choice of the ownership structure for different degrees of the pro-manager bias. Furthermore, it examines the ways of solving the "excessive willingness to litigate" problem, when courts are manager-biased. Section 5 discusses the relation of our results to the desirability/undesirability of reforming litigation rules under manager-biased courts. It also compares our analysis with the related law and economics literature. Section 6 discusses the robustness of our results with respect to the model's assumptions. Section 7 concludes.

2   The model

A penniless manager raises funds from outside investors to finance his investment opportunities.[10] He needs to raise at least amount I. Once the funds are raised, the manager can choose among a number of projects, each of them bringing certain security benefits (profits) and private benefits. An alternative interpretation is that the manager has one project that involves certain transactions, and he can choose parties to transact with and the terms of transactions (prices). What we want to have is that the manager's choice can be summarized by the choice between profit maximization and self-dealing (private benefit extraction, stealing). We assume that self-dealing does not involve ex-post inefficiency, that is it is equivalent to a pure transfer

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[10]The manager can also be interpreted as the initial owner of a firm without internal funds, who keeps operating control after raising funds from outside investors.

of profits from the investors to the manager.[11]

When the manager does not self-deal, the profit of the firm is $\Pi > I$, deterministic for simplicity. Without loss of generality we can set $\Pi = 1$ (implying $I < 1$). By self-dealing the manager can divert a fraction d of the profit. For simplicity we assume that the manager's choice is binary: he can either abstain from diversion or divert everything, i.e. $d \in \{0, 1\}$.

We will assume that all funds are raised by selling equity.[12] Shareholders can use two ways to reduce the harm from self-dealing: monitoring and litigation. The monitoring mechanism suffers from the collective action problem. Therefore, this mechanism requires a large outside shareholder (blockholder) who could bear the monitoring costs. The litigation mechanism may or may not require ownership concentration, depending on the legal rules. How the mechanisms are used will be clear from the game below.

2.1 The game (see also Figure 1)

$t = 0$. The manager chooses the ownership structure $(\alpha, \ \beta)$, where α is the outside blockholder's share and β is the manager's share. The rest, $1 - \alpha - \beta$, is the dispersed equity share that will be sold to a continuum of atomistic shareholders. The manager offers $1 - \beta$ to the blockholder and dispersed shareholders for at least I. The shareholders decide whether to buy shares or not.[13] The outside options of all the parties are zero for simplicity.

$t = 1$. The shareholders take their monitoring decision. Similarly to Pagano and Röell (1998) or Burkart, Panunzi and Shleifer (2003), we assume that monitoring decreases private benefit extraction. The only way in which we depart from these papers is that we make this link stochastic. The monitoring cost is determined by parameter c. Having invested cp in monitoring, shareholders decrease the *probability* that a self-dealing opportunity arises by p, for example, by identifying some potential ways of self-dealing and blocking them (see more on the interpretation of monitoring in *infra* footnote 15). Specifically, a self-dealing opportunity arises with probability $1 - p$ and does not arise with probability p.

We assume that due to the collective action problem the monitoring cost cannot be fully shared among shareholders so that only the blockholder can rationally decide to monitor the manager. We also assume that, even though monitoring decision is taken by the blockholder, she bears $\delta p < cp$, i.e. less than the whole monitoring cost, and δ is randomly distributed on

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[11] The same assumption can be found in Burkart, Panunzi and Shleifer (2003) and Burkart and Panunzi (2006).

[12] Since the profit can be only either 0 or 1, our model equally allows to interpret the contract between the investors and the manager as debt with limited liability for the manager. However, our focus is on the link between shareholder protection mechanisms and the cost of equity financing. Hence, we assume equity financing in the model.

[13] For the sake of brevity, whenever speaking about outside shareholders we will simply say "shareholders", meaning just the providers of finance, but not the manager, even though he may have shares in the company as well.

$[c - \xi, c]$ according to the uniform distribution, where $\xi \in (0, c)$. The rest, $(c - \delta)p$, is spread among other shareholders in proportion to their shares.[14] The distribution of δ is common knowledge ex-ante, but its actual realization is learned by the blockholder only at $t = 1$, prior to her monitoring decision. Given δ, the blockholder chooses intensity of monitoring $p \in [0, 1]$. We will say that monitoring is successful (ex-post) if an opportunity to self-deal does not arise.

$t = 2$. A self-dealing opportunity arises with probability $1 - p$, and the manager decides whether to self-deal or not, i.e. he chooses $d \in \{0, 1\}$. The resulting profit is $1 - d$.[15]

$t = 3$. If the profit is 0, the shareholders sue the manager with probability q, which they choose.[16] Litigation involves cost k for the shareholders. With exogenous probability μ the court rules in favor of shareholders. In this case, the whole stolen profit is paid back by the manager to the firm. Additionally the manager has to transfer his shares to the shareholders. These shares are distributed among shareholders proportionally to their initial shares.[17] With complementary probability $1 - \mu$, the court decides in favor of the manager. In this case, the manager keeps the stolen profits, and the shareholders are left with zero.

Depending on the legal rules, the distribution of the litigation cost k among shareholders can be different. Similarly to monitoring, litigation can be subject to the collective action problem. The law can provide for mechanisms to solve this problem, like a derivative or class-action suit mechanism, and, hence, determines the distribution of k. We parametrize the extent to which

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[14]The introduction of δ may look like an unnecessary complication – at first sight it seems easier to make the blockholder bear all the (non-random) cost c. However, it will allow us to avoid indeterminacy in the blockholder's choice: due to the continuity of the distribution of δ, for any blockholder's share, the situation when she is indifferent between monitoring and not monitoring occurs with probability zero. At the same time, keeping c non-random ensures that the ex-ante optimal monitoring decisions do not have a state contingent character, which greatly simplifies the model.

Actually, it is rather plausible that the blockholder shares the monitoring cost with other shareholders to some extent. For example, audit services demanded by the blockholder may well be provided at the expence of the company, not the blockholder. Furthermore, the success of monitoring may depend on certain voting decisions of other shareholders at a shareholder meeting, meaning that they need to spent time on participating in voting.

[15]We present only one possible variant of the game. The key needed thing is that the ex-ante mechanism (monitoring) can fail to prevent self-dealing with some probability and, in such a case, litigation can be used ex-post. But the specific sequence of actions taken at $t = 1$ and $t = 2$ and their interpretation can be modified in various ways without changing the essence of our model.

For example, a decision whether to search for a self-dealing opportunity or not can be explicitly included in the manager's strategy (in our variant of the game, once the blockholder has made her monitoring decision, a self-dealing opportunity arises automatically with probability p).

Blockholder monitoring can be assumed to happen simultaneously with the managerial self-dealing decision and can be alternatively interpreted as "interference" in the course of actions chosen by the manager with c being the "interference cost". With probability p interference is successful and self-dealing is prevented. In such a case, cost c can include e.g. the costs of calling an extraordinary shareholder meeting and collecting proxies from small shareholders, or the cost of convincing the board to reject the manager's proposal.

We will simply use the term "monitoring", though we will keep in mind the general interpretation of monitoring as "monitoring + interference".

[16]Since our focus is on the *pro-manager* bias, we assume the absence of "false positive errors", i.e. when a court finds a blameless manager guilty. Thus, when the profit is 1, shareholders have no reasons to litigate.

[17]Due to the transfer of the shares, the punishment has a "punitive" character. We need it to create the "deterrence effect" that will discipline the manager in some cases.

the law provides for the cost sharing by the amount $x \in [0, k]$, not shared by the shareholders, but born solely by the litigant.[18] The rest, $k - x$, is spread among all the outside shareholders (including the litigant) in proportion to their shares. When $x > 0$, there is the same collective action problem as with monitoring and only the blockholder can rationally decide to litigate. When $x = 0$, the collective action problem disappears and any shareholder has an incentive to bring a suit, provided that the shareholders collectively gain from litigating.
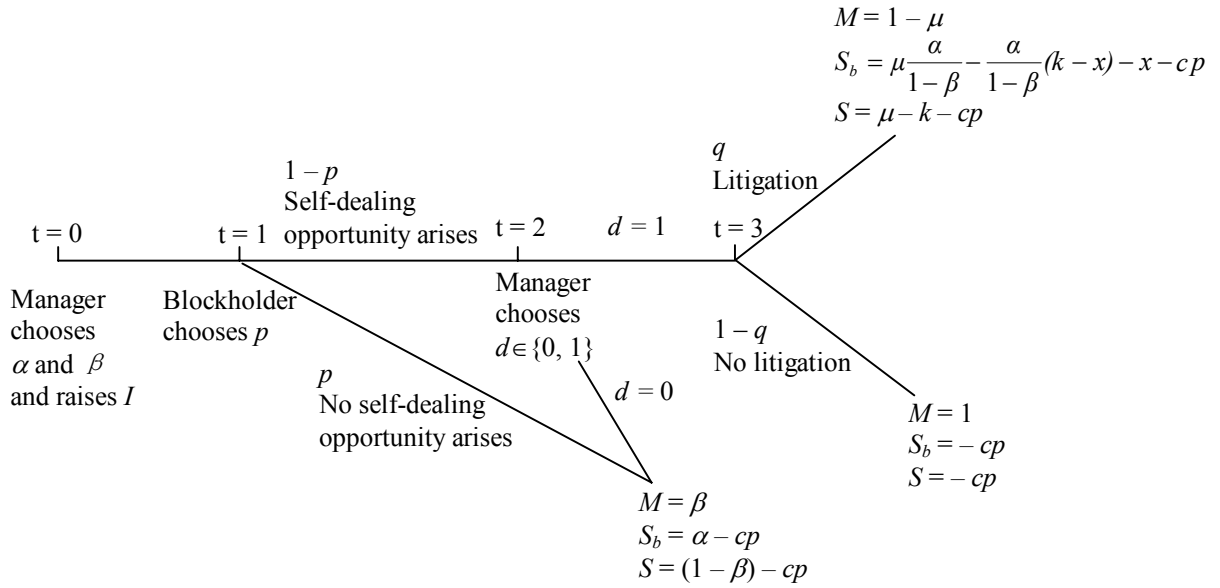

Figure 1: The game. M is the manager's payoff, S is the shareholders' payoff (after investment), S_b is the blockholder's payoff (after investment).

Of course, our model has a number of simplifying assumptions that may seem extreme at first sight. However, our aim is to deliver the main ideas, while keeping the model as simple as possible. First, our setup implies that zero profit provides hard evidence of managerial self-dealing, which may look difficult to reconcile with the assumption that courts may rule in favor of managers. Technically, this problem can be resolved by allowing the profit to be zero with a tiny probability even if the manager has not self-dealt. This tiny probability can simply be neglected as it will only marginally affect the parties' behavior. Allowing this probability to be

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[18] See more on the interpretation of the legal parameters in subsection 2.2 below.

non-negligible complicates the solution considerably, as then the shareholders will sometimes litigate even if the manager has not engaged in self-dealing. We argue in section 6 that such modification would leave our main result unchanged and would even reinforce it.

Secondly, it would be more natural, of course, to assume that the manager can do partial diversion, not just "all" or "nothing". In section 6 we present a more general model in which self-dealing is a continuous variable and argue that it produces qualitatively the same results.

2.2 Legal parameters

The parameters of the legal system are μ, k, x and c. The magnitude of μ reflects the degree of "biasedness" of judiciary decisions towards managers, which we will call the pro-manager bias.[19] It will be exogenous in our model. However, it is worthwhile to discuss its origins briefly.

In principle, both judges' characteristics and the substance of law can affect μ. Judges can be deliberately partial, e.g. due to corruption or past business ties. Even if judges are not systematically biased initially, the law can become biased in the process of precedents' evolution. It can happen when a judge takes a biased decision at some point and other judges find it too costly to overrule the precedent (Gennaioli and Shleifer (2005)).

In civil law societies, the bias, if it exists, is more likely to stem from legal codes. If the code is biased, courts, having to stay within the limits of the law, will be likely to make biased rulings. A bias in the code can be an outcome of history (see e.g. Glaeser and Shleifer (2002)) as well as of various interest groups' influences. For example, Pagano and Volpin (2005) argue that in political systems, favoring formation of party coalitions, firms' controlling shareholders are likely to cooperate with workers in order to set the law that would favor the interests of the two constituencies at the expense of outside shareholders.

Judicial formalism can reinforce the bias of the code. If the law does not explicitly prohibit certain ways of self-dealing, and the manager uses them, a formalistic judge will ignore real "rights" and "wrongs" behind the case and will be unlikely to find this manager guilty (Johnson et al (2000), Enriques (2002)).[20]

The magnitude of c in our framework reflects how difficult it is for shareholders to obtain information about potential ways of managerial self-dealing. In other variants of the game (see

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[19] Instead of the probability of favoring the manager, the bias could also be modelled via the allocation of the burden of proof. Then the bias could be parametrized by the extent of shifting the cost k of legal action from the shareholders to the manager, while still keeping x the cost of suing that is born solely by the initiator of litigation. We believe such a model would produce the same principal results as ours.

[20] Incompetence may also affect the bias. Arguably, if a judge is simply incompetent and the disputed self-dealing transaction does not explicitly contradict the law, his decision will more likely be biased towards the manager. The shareholders are the injured party, to satisfy their claim the judge has to invest in understanding the particulars of the case in order to establish whether the transaction was unfair. An incompetent judge, unable to consider the case properly, may simply prefer to follow the letter of the law and dismiss it, thereby benefiting the manager.

supra footnote 15), c could also be interpreted as the cost of acquiring information about transactions proposed or being implemented by the manager and, if the interpretation of interference is used, the cost of blocking self-dealing transactions or implementing ones, preferred by shareholders. Presumably, c is lower the stricter disclosure requirements, the more favorable proxy rules for dissident shareholders and, perhaps, the higher the number of independent directors on the board required by the law (the last point is arguable, though, because the evidence on the role of independent directors is rather mixed).

Values of k and x are defined by procedural rules for bringing and pursuing lawsuits against managers. These parameters will be exogenous for the determination of the parties' behavior and the ownership structure. The focus of our analysis is on the examination of the effects of these parameters on the equilibrium outcome and the determination of the optimal x and k, given μ and c.

The value of μ will crucially affect the character of the solution as well as the optimal values of x and k. As far as the monitoring cost is concerned, we will not focus on the effects of changing c *per se*, because they will be rather trivial – other parameters being fixed, lowering c will always (weakly) raise efficiency and (weakly) reduce reliance on litigation in equilibrium. However, the magnitude of c will have an impact on the effects of changing x and k, as we will illustrate in subsection 4.2.

The lower x and k are, the less costly it is to bring a suit for a litigant. While k captures the cost of litigation for shareholders as a whole, x (given k) measures the extent to which the litigation rules solve the collective action problem. Values x and k can include both monetary (fees to lawyers and courts) and non-monetary (time, effort) components. Some rules have mostly an effect on x, while others mostly affect k, or both x and k. For example, the mechanisms of a derivative suit or a class-action suit affect primarily x. Filing fees paid solely by the litigant affect mostly x as well (they change k by the same value as x in absolute terms, but by a smaller value in relative terms). In many countries, if the litigant loses the case, he has to pay all the costs; such a rule obviously increases expected x.[21] Demand rules[22] and rules, requiring support by the shareholder meeting, also increase x (and k as well, but to a smaller extent in relative terms). The courts' practices of deciding the size of the attorney fees, paid by a corporation in a derivative litigation, affect k, but should not have a significant impact on x. Time needed to pursue a lawsuit can affect both k and x; its cost can be measured as forgone opportunities in the course of litigation.

We will also consider a rule, which sets a minimum ownership requirement for bringing a

[21] To be rigorous, this example does not perfectly fit our model since x does not depend on the probability of winning μ.

[22] Demand rules, typical of the US, require that a shareholder, who wants to sue first, ask the board to proceed with the suit.

lawsuit; many legal systems contain such a provision. It can be easily introduced into our game by requiring that at $t = 3$ a lawsuit can be brought only by an owner of at least a certain share $\widehat{\alpha}$ of equity. Normally, such a rule allows for a collective suit by shareholders owning jointly at least $\widehat{\alpha}$. Therefore, a shareholder with $\widehat{\alpha}$ is not formally required, but gathering support from other shareholders involves a cost for the initiator of litigation, i.e. it increases x (and k).

Some countries have more hurdles to shareholder litigation than others. For example, it is often mentioned that it is much more costly and difficult for an individual (especially small) shareholder to pursue a lawsuit in Continental Europe than in the US. Section 5 will discuss our results in relation to reforms that aim at removing hurdles to shareholder litigation.

Before moving on to the solution of the model, we introduce two restrictions on the parameters, which will simplify our analysis but are not essential for our conclusions.

Assumption 1. $1 - c > I$.

This assumption implies that monitoring is sufficient to satisfy the shareholders' participation constraint, i.e. if all the shares are sold to the shareholders and monitoring occurs with full intensity, the aggregate shareholders' net profit is positive.

Assumption 2. k is bounded from below by $\underline{k} > cI$.

No legal system has $k = 0$, as suits always take time, money and efforts. Raising the lower bound on k above cI will rule out the solution of a certain type that adds nothing essential to our analysis.

We will look for the subgame perfect equilibrium of the game, which is determined by:
- a pair (α, β), an investment decision of the outside shareholders,
- a blockholder's monitoring effort, i.e. probability p,
- a manager's decision whether to self-deal or not,
- a litigation decision in case of unsuccessful monitoring, i.e. probability q of litigation.

We will proceed as follows. First, we will assume that the shareholders can commit to the ex-ante efficient choice of monitoring and litigation and will derive the ex-ante efficient p and q, as a function of the pro-manager bias μ.

Then, given μ, we will derive conditions on x and k under which this ex-ante efficient solution achievable in the equilibrium through the choice of the ownership structure. We will discuss the implication of these conditions for legal reforms under different degrees of the pro-manager bias, as well as the outcome of the game when these conditions are not satisfied.

Our efficiency criterion is the minimization of the aggregate expected cost of monitoring and litigation (there are no other costs in the model). In addition to spent time and effort, these

costs partly represent transfers to lawyers, consultants and auditors. Thus, strictly speaking, in our framework greater efficiency does not directly imply greater social welfare. However, one should keep in mind that these transfers are payments for efforts of lawyers, consultants and auditors. Hence, at least as an approximation, it is reasonable to consider both the monitoring and litigation costs deadweight losses for the society.

3　The ex-ante efficient solution

We now will solve the game *as if* the shareholders were able to commit to the ex-ante efficient litigation and monitoring decisions. More precisely, we look for the couple (p, q), the managerial share β, and the manager's optimal decision about self-dealing, given q and β, such that the aggregate expected payoff of the manager and the shareholders is maximized (equivalently, the aggregate expected loss is minimized) subject to the shareholders' participation constraint . It may or may not be achieved through the choice of α and β in the actual equilibrium.

Let us first solve for the managerial choice, given q and β (monitoring does not have an effect on the managerial decision – it just reduces the likelihood that a self-dealing opportunity arises). Assume that the shareholders sue with probability q. In case a self-dealing opportunity arises the manager's payoff from stealing at $t = 2$ is $q[\mu \cdot 0 + (1 - \mu) \cdot 1] + (1 - q) \cdot 1$. He compares it with what he gets if he does not self-deal, β. Assume that when he is indifferent, the manager does not steal. Then the comparison yields that the manager is deterred from stealing if and only if

$$\beta \geq 1 - q\mu \tag{1}$$

Let $J = 1$ if the manager steals and $J = 0$ otherwise. Then, the investor's participation constraint is

$$S \equiv J[p(1 - \beta) + (1 - p)q(\mu - k) - cp] + (1 - J)[(1 - \beta) - cp] \geq I \tag{PC}$$

The ex-ante efficient monitoring and litigation solve:

$$\max_{p,q,\beta} J[p + (1 - p)(1 - qk) - cp] + (1 - J)[1 - cp]$$

subject to (PC) and the manager's self-dealing decision.

This problem is equivalent to the minimization of the aggregate loss:

$$\min_{p,q,\beta} L \equiv J(1 - p)qk + pc$$

subject to (PC) and the manager's self-dealing decision.

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Obviously, the solution with deterrence and no monitoring, i.e. when $J = 0$ ((1) holds) and $p = 0$, would be the preferred one since it involves no costs (litigation does not occur when the manager does not steal). However, it is not always possible, as we will show below. Because of that there will be two zones, in which the ex-ante efficient solution will have a qualitatively different character: the "deterrence zone" and the "monitoring zone".

Let us start from the "deterrence zone". To achieve deterrence we need that both (1) and (PC) hold. Under deterrence (PC) is $1 - \beta \geq I$ or

$$\beta \leq 1 - I \tag{PC$_\mathrm{d}$}$$

The solution with deterrence will only be possible if (1) and (PC$_\mathrm{d}$) are jointly satisfied. We should consider (1) for $q = 1$ because then the manager has the greatest freedom of choosing his share subject to (1). Thus, deterrence is possible whenever

$$\mu \geq I \tag{2}$$

This condition says that deterrence is achievable only if courts are sufficiently unbiased. Thus, under (2) the ex-ante efficient solution is $p^* = 0$ and any q^* and β^* such that (1) and (PC$_\mathrm{d}$) hold.

When (2) does not hold the manager always steals 1, and the investors' participation constraint is satisfied if monitoring and the net expected recovery in case of litigation make the net investors' payoff exceed I, that is $p(1 - \beta) + (1 - p)q(\mu - k) - cp \geq I$. It is rather obvious that $\beta = 0$ in the optimum, because then the participation constraint can be satisfied at the lowest cost.[23] Thus, the ex-ante efficient solution is obtained from:

$$\min_{p,q} L \equiv (1 - p)qk + pc$$
$$\text{subject to: } p + (1 - p)q(\mu - k) - pc \geq I \tag{PC$_\mathrm{m}$}$$

It is rather easy to obtain that the solution (p^*, q^*) is as follows:

When the monitoring mechanism is more efficient (less costly) than the litigation mechanism, i.e. $1/c > \mu/k$ or $\mu < k/c$, then only monitoring should be used and its intensity must be just enough to satisfy (PC$_\mathrm{m}$), which is possible due to Assumption 1. That is, $p^* = I/(1 - c) < 1$, $q^* = 0$, and the associated loss is $L^* = Ic/(1 - c)$.

When the litigation mechanism is more efficient than the monitoring mechanism, i.e. $1/c < \mu/k$ or $\mu > k/c$, then litigation should be used as much as possible. However, when (2) does

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[23]Simply notice that if (PC) is binding and $\beta > 0$, then the aggregate loss can be diminished via a decrease in β and a decrease in q, if $q > 0$, or in p, if $q = 0$, without violating (PC).

not hold, litigation alone is not enough to satisfy (PC_m), $\mu - k < I$, therefore, monitoring is additionally needed such that (PC_m) binds. That is, $p^* = \frac{I-\mu+k}{1-\mu+k-c}$, $q^* = 1$ and the associated loss is $L^* = c + \frac{(k-c)(1-c-I)}{1-\mu+k-c}$, which is smaller than $Ic/(1-c)$ precisely whenever $\mu > k/c$.

Our Assumption 2 rules out the latter type of the solution. Under this assumption $\mu > k/c$ implies $\mu > I$, i.e. condition (2) is satisfied and, hence, when $\mu > k/c$ the solution with deterrence is ex-ante efficient.

Thus, we will have two zones with qualitatively different types of solution. When $\mu < I$ deterrence does not work and efficiency calls for (partial) monitoring $p^* = I/(1-c)$ and no litigation $q^* = 0$ in case monitoring fails to prevent self-dealing. When $\mu \geq I$ the ex-ante efficient solution is achieved by providing managers with a share in the firm that ensures the no-stealing incentive (deterrence effect).

The type of solution, ruled out by Assumption 2, does not add anything interesting to our analysis.[24] We will come back to the discussion of its meaning in subsection 4.2, *infra* footnote 28.

To sum up, the ex-ante efficient solution is:

When $\mu < I$, the manager self-deals $(d = 1)$, $p^* = I/(1-c)$, $q^* = 0$, $\beta^* = 0$.

When $\mu \geq I$, the manager does not self-deal $(d = 0)$, $p^* = 0$, q^* and β^* are such that (1) and (PC_d) hold.

Now we will examine whether this solution can be achieved by the proper choice of α and β and discuss what happens when it cannot.

4 The equilibrium solution

In the previous section we assumed that the shareholders can commit to choosing the ex-ante efficient p and q. The principal questions of our subsequent analysis are as follows. Can the manager induce the ex-ante efficient solution via the choice of the ownership structure? If he cannot, which changes in the parameters (legal reforms) can help achieve it? How do the answers to these questions depend on the court bias μ?

First of all, notice that the manager will always choose the ownership structure that maximizes the aggregate welfare (minimizes the aggregate loss) subject to the investors' participation constraint.[25] Thus, by choosing α and β, the manager will try to induce the ex-ante efficient

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[24] If Assumption 2 is not satisfied, a third zone appears: for $k/c < \mu < I$, the efficiency calls for litigation with preceding monitoring, as our analysis yields for $\mu > k/c$. In this zone litigation plays only a compensatory role, it cannot deter managerial wrongs but is more efficient in providing shareholders with an adequate return than monitoring. Having this zone complicates the analysis but does not contribute to the main points of our paper (see *infra* footnote 28). Therefore, we have decided to eliminate it by Assumption 2.

[25] Simply notice that the utilities of the parties are transferable in our model.

values of p and q if possible. The choice of p by the blockholder will be stochastic, because it will depend on the realization of δ. However, it does not matter from the ex-ante point of view, because at $t = 0$ only expected p matters for ex-ante efficiency (i.e. the ex-ante probability that a self-dealing opportunity arises). Therefore, with a slight abuse of notation, in our subsequent analysis we will speak about inducing the optimal *expected* monitoring.

We will separately consider the two familiar zones: the monitoring zone, $\mu < I$, and the deterrence zone, $\mu \geq I$. We will start from the deterrence zone.

4.1 Deterrence zone $(\mu \geq I)$

The analysis of the solution in the deterrence zone produces results that are consistent with the widely accepted view that improving shareholder protection disciplines managers and, consequently, allows companies to have less concentrated ownership.

According to (1) and (PC$_d$), and assuming that $q = 1$, to achieve the ex-ante efficient solution, the manager has to keep:

$$1 - \mu \leq \beta \leq 1 - I \tag{3}$$

However, this is not enough. The second condition is that the threat of litigation must be credible. The condition for this is that a litigant's payoff from suing at $t = 3$ is higher than the cost she bears. An arbitrary shareholder with share γ gets 0, if nobody litigates and $\frac{\gamma}{1-\beta}(\mu - k + x) - x$ if she litigates, since she bears x plus the part $\frac{\gamma}{1-\beta}(k - x)$ of the common component of the cost and receives her fraction of the manager's share, $\frac{\gamma}{1-\beta}$, in case of successful litigation. For any atomistic shareholder, γ is essentially zero. In this way, if $x > 0$ only the blockholder can have an incentive to litigate and, assuming no litigation in case of indifference, she will do so whenever $\frac{\alpha}{1-\beta}(\mu - k + x) - x > 0$ or

$$\alpha > \frac{x(1-\beta)}{\mu - k + x} \tag{4}$$

Obviously, $1 - \alpha$ must be no less than β $(\alpha + \beta \leq 1)$. Together with condition (4), it implies that

$$k < \mu, \tag{5}$$

which is a necessary and sufficient condition for the equilibrium solution with deterrence.

That is, there exist $\beta \in [1 - \mu,\ 1 - I]$ and $\alpha \in \left(\frac{x(1-\beta)}{\mu - k + x},\ 1 - \beta \right]$, such that the manager is deterred from self-dealing and the investors break-even if and only if (5) is satisfied. Thus, when courts are sufficiently unbiased $(\mu \geq I)$ deterrence works only if the total cost of litigation is

small enough.[26]

While x does not enter condition (5), it affects the litigation decision for given α and β, as seen from (4). The smaller x is, the smaller α and β are needed to ensure litigation (for any fixed β, smaller α becomes enough and vise versa). It means that if, for some reasons beyond the scope of our model (such as liquidity, risk-aversion, or the blockholder's wealth constraints), lower ownership concentration is preferred, then lowering x helps to achieve it. Reducing k has the same effect.

If (5) does not hold, the inefficiency unambiguously arises. Deterrence does not work and monitoring is needed to ensure that the investors get their money back. A positive block is obviously required to induce monitoring (it is straightforward to see that a positive expected p requires at least $\alpha \geq c - \xi$, otherwise the return to the blockholder from monitoring is negative for any realization of δ).

The above analysis can be summarized in a proposition:

Proposition 1 *When courts are sufficiently unbiased ($\mu \geq I$), facilitating shareholder access to courts makes deterrence more likely to work, which reduces the aggregate cost of corporate governance. Thus, removing barriers to litigation raises efficiency under unbiased courts. Furthermore, the lower these barriers, the lower ownership concetration (both total and outside) is needed to ensure deterrence.*

These results are consistent with both the view that better shareholder protection is beneficial because it has a disciplining effect on managers (Shleifer and Wolfenzon (2002), La Porta et al (2002)) and the view that outside blockholders are a substitute for legal protection (the latter point has been informally made in various papers, see e.g. Berglöf and von Thadden (2000), Shleifer and Vishny (1997); Burkart, Panunzi and Shleifer (2003) obtain this result in a theoretical model).

Proposition 1 alone does not present a novelty in the literature. The value added of our analysis will be in the contrast between the results of the next subsection and Proposition 1. We will show now that the effects of litigation rules change radically, when the courts are sufficiently biased towards managers.

4.2 Monitoring zone ($\mu < I$)

In this zone, courts are no longer able to provide deterrence, which means that the manager will self-deal at $t = 2$ whenever there is a self-dealing opportunity. To achieve the ex-ante efficiency,

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[26]Condition (5) just sets an upper bound and does not provide a specific value of k. In a more general model, where even in the absence of self-dealing suits can still occur, the efficient deterrence solution would call for a precise value of k – the smallest possible one, i.e. $\underline{k}$, in order to minimize the total expected cost of suits.

litigation has to be discouraged and expected monitoring intensity $p^* = I/(1-c)$ has to be induced. Obviously, β has to be set at 0, otherwise $p^* = I/(1-c)$ is not enough to satisfy the investor's participation constraint.

We are going to show that the ex-ante efficient solution can only be achieved, when the barriers to litigation are high enough. Otherwise, either excessive litigation or excessive monitoring occurs in equilibrium, the latter effect being associated with an increase in the blockholder's share. Which of the two effects will arise depends on the relative magnitudes of the total litigation cost k and the monitoring cost c.

Assume that a self-dealing opportunity arose at $t = 2$ and consider period $t = 3$. The condition for litigation is (4) with $\beta = 0$. Then the blockholder's expected payoff at the beginning of $t = 1$ is

$$
\begin{aligned}
S_b &= p\alpha + (1-p)\max\{q[\alpha(\mu - k + x) - x], 0\} - \delta p = \\
&= p(\alpha - \delta - \max\{q[\alpha(\mu - k + x) - x], 0\}) + \max\{q[\alpha(\mu - k + x) - x], 0\}
\end{aligned}
$$

Taking into account (4), the choice of p and q depends on α and is determined by the following shareholders' decision rule:

1) $\alpha > x/(\mu - k + x)$. In such a case, $q = 1$.

$$
\begin{aligned}
\text{if } \alpha &> \frac{\delta - x}{1 - \mu + k - x}, \text{ then } p = 1, \\
\text{if } \alpha &< \frac{\delta - x}{1 - \mu + k - x}, \text{ then } p = 0, \\
\text{if } \alpha &= \frac{\delta - x}{1 - \mu + k - x}, \text{ then } p \in [0, 1]
\end{aligned}
$$

2) $\alpha \leq x/(\mu - k + x)$. In such a case, $q = 0$ (assuming no suing in case of indifference).

$$
\begin{aligned}
\text{if } \alpha &> \delta, \text{ then } p = 1, \\
\text{if } \alpha &< \delta, \text{ then } p = 0, \\
\text{if } \alpha &= \delta, \text{ then } p \in [0, 1]
\end{aligned}
$$

Recalling that the manager maximizes the aggregate welfare (minimizes the aggregate loss) subject to the investors' participation constraint, the manager's problem for finding the optimal

ownership structure can be written as

$$\min_{p,q} L \equiv (1-p)qk + pc$$

subject to:

- the shareholders' decision rule (above),

- and $p + (1-p)q(\mu - k) - cp \geq I$ (PC$_\text{m}$)

This problem looks like the problem for finding the ex-ante efficient solution, except that one more constraint, the shareholders' decision rule, is added. We are interested in the question as to whether the ex-ante efficient solution can be replicated under this additional constraint. First, we need that the shareholders do not litigate – the corresponding condition is $\alpha \leq x/(\mu - k + x)$ (i.e. opposite to (4) with $\beta = 0$). Then, according to the shareholders' decision rule, monitoring occurs whenever $\alpha \geq \delta$. Since δ is distributed uniformly on $[c - \xi, c]$, in order to induce the ex-ante efficient monitoring intensity p^* in expectation, we need $(\alpha - c + \xi)/\xi = p^*$, which implies $\alpha^* = p^*\xi + c - \xi = \frac{I\xi + (1-c)(c-\xi)}{1-c}$. Thus, in order to achieve the ex-ante efficiency we need:

$$\frac{I\xi + (1-c)(c-\xi)}{1-c} \leq \frac{x}{\mu - k + x} \tag{6}$$

or

$$x \geq \frac{(\mu - k)(\frac{I}{1-c}\xi + c - \xi)}{1 - (\frac{I}{1-c}\xi + c - \xi)} \equiv x_m(k) \tag{7}$$

It can be easily shown that for $\mu < I$, there always exists $x < k$ such that (7) is satisfied (it is sufficient to check this condition for $\mu = I$). This inequality can be also written as a condition on k, given x: $k \geq \mu - \frac{x[1 - (\frac{I}{1-c}\xi + c - \xi)]}{\frac{I}{1-c}\xi + c - \xi} \equiv k_m(x)$. As we can see, condition (7) holds when barriers to litigation, i.e. x and/or k, are high enough.

When (7) does not hold there arises a problem, which can be called "excessive willingness to litigate": the block that induces ex-ante efficient monitoring under no litigation is too large to abstain from litigation. As we will see, depending on the magnitude of k with respect to c, the response to this problem will be either allowing for excessive litigation[27] or inducing excessive monitoring. Either way, the ex-ante efficient solution is not achieved. Let us state now the key proposition of our paper and then discuss it in detail.

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[27]Saying "excessive" is equivalent to saying "positive" in our model. Any positive probability of a suit, occurring in equilibrium, is excessive with respect to the second-best. The word "excessive" emphasizes the inefficiency of the solution.

Proposition 2 *When courts are sufficiently manager-biased ($\mu < I$), then:*

1) If barriers to litigation are low (i.e. if condition (7) is violated), there arises excessive litigation (excessive monitoring) with respect to the ex-ante efficient solution, when the total cost k of pursuing a lawsuit is lower (higher) than the cost of monitoring c; thus, high barriers to litigation are necessary to achieve the ex-ante efficient choice of the corporate governance mechanisms under manager-biased courts.

2) If barriers to litigation are low and $k > c$, the outside ownership concentration is higher than in the case when barriers to litigation are high (i.e. when condition (7) holds).

Proof. See the appendix. ∎

Raising x and/or k makes litigation less attractive for a litigant. When x and/or k are sufficiently high, so that (7) is satisfied, suing becomes completely unattractive. In this case, the "excessive willingness to litigate" problem is solved and the ex-ante efficient solution is achieved in the equilibrium. Figure 2 provides a graphical interpretation of Proposition 2.

The grey area is the inefficiency zone; it is bounded by condition (7), taken as an equality ($x = x_m(k)$), the lower bound $\underline{k}$ on k, and the horizontal axis. Assumption 2, $\underline{k} > cI$, under $\mu < I$ implies $\underline{k} > \mu c$. Depending on whether $k < c$ or $k > c$, lowering x below the line $x_m(k)$ results in either excessive litigation or excessive monitoring.

The effect of lowering k for given x is more complicated. If $\underline{k} < c$ and for sufficiently small x, e.g. $x = x'$, lowering k affects efficiency non-monotonically. Starting from the ex-ante efficiency zone and moving along the line $x = x'$ to the left, efficiency drops as we cross $x_m(k)$ line, and the aggregate loss stays constant ($L = c$) in the whole excessive monitoring zone. However, crossing the point, at which $k = c$, by moving further to the left allows a switch to a less costly solution – excessive litigation, and the aggregate loss ($L = c + \frac{(k-c)(1-c-I)}{1-\mu+k-c} < c$) decreases gradually until $k = \underline{k}$. Still, even for $k = \underline{k}$, the ex-ante efficient solution is not achieved in the equilibrium ($L = c + \frac{(k-c)(1-c-I)}{1-\mu+\underline{k}-c} > Ic/(1-c) \equiv L^*$).[28]

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[28] One could think that it is Assumption 2 that prevents the achievement of a better than our ex-ante efficient solution with monitoring by lowering the litigation cost below μc. It is true, but only partly. If $\underline{k}$ could be below cI, the third zone would appear in our analysis, $k/c < \mu < I$, where the ex-ante efficiency would call for litigation with probability one with preceding monitoring, needed to satisfy the participation constraint (see the end of section 3 and *supra* footnote 24). Though litigation would provide no deterrence, it would have a compensatory function.

However, for *any* $\underline{k} > 0$, there is μ such that $\underline{k} > \mu c$. Thus, the zone of our primary interest, the monitoring zone (i.e. the zone with biased enough courts, $\mu < \underline{k}/c$, where the ex-ante efficiency calls only for monitoring) always exists, and all the reasoning of this section holds there.

For the third zone, described above, the efficiency implication in terms of k would be to make the total litigation cost as small as possible, i.e. lower it to $\underline{k}$. The magnitude of x would have to be set small enough in order to ensure suing by a blockholder with the share that induces monitoring, optimal for this zone, $p^* = \frac{I-\mu+k}{1-\mu+k-c}$ (see the end of section 3). Thus, overall, the implications for this zone would have the same spirit as those for the deterrence zone – lowering barriers to litigation is good (not harmful, at least). Thus, this zone is of little interest for us and eliminating it by Assumption 2 does not qualitatively change our analysis.
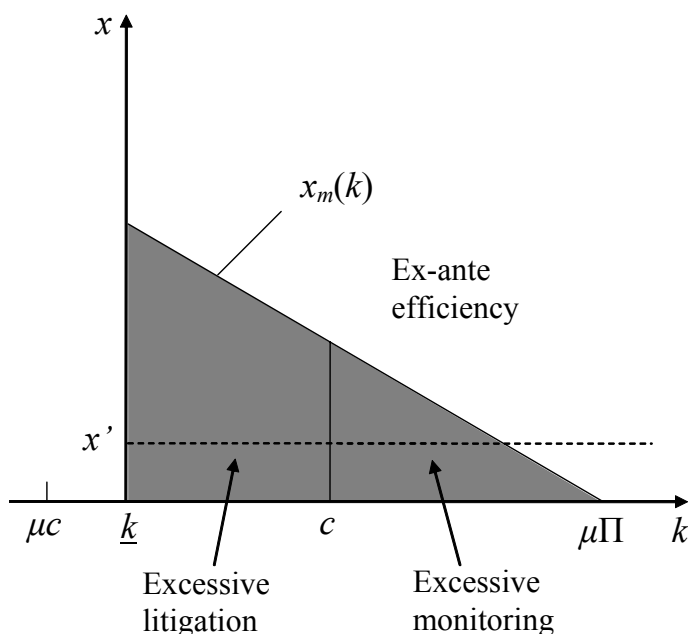
Figure 2: Graphical interpretation.

It is widely believed that improving shareholder protection is desirable. Removing hurdles to shareholder litigation is often considered a rise in shareholder protection. However, we have shown that, when courts are biased towards managers, providing a shareholder with easy access to judicial review is *not a substitute* for the "unbiasedness" of courts. Quite the contrary, such a reform, corresponding to a decrease in x or/and k, brings about an *adverse* effect, as it leads to either excessive litigation or excessive monitoring.

Which of the two effects will arise in the equilibrium depends on the relative magnitudes of the monitoring and litigation costs. If the total litigation cost is small relative to the monitoring cost, it does not pay to prevent litigation via more monitoring. Therefore, in this case, the manager chooses to allow for litigation, and monitoring is only needed to satisfy the investors' participation constraint. Imagine, however, that, in addition to being manager-biased, courts have a lengthy and cumbersome procedure that costs quite a lot to the firm in terms of time and money (e.g. lawyer fees), but an individual shareholder bears just a small fraction of this cost, so that she cannot avoid suing. Then the excessive monitoring solution is chosen in order to avoid high litigation costs, provided that monitoring itself is not too costly. In the latter case, in order to induce high monitoring, the firm reacts to easy suits by an *increase* in the outside ownership concentration. Thus, when courts are manager-biased and the aggregate cost of litigation is high relative to the monitoring cost, easy access to courts leads *neither to higher*

reliance on the judiciary nor to greater dispersion of ownership.

Apart from raising the magnitudes of x and k, there is another way to discourage litigation, namely, a minimal ownership requirement for bringing a suit. Assume that only a shareholder with a share larger than $\widehat{\alpha}$ can bring a suit, where $\widehat{\alpha} > \frac{I\xi+(1-c)(c-\xi)}{1-c}$. Then providing the blockholder with $\alpha = \frac{I\xi+(1-c)(c-\xi)}{1-c}$ cannot trigger litigation and the blockholder's problem becomes like the one when $\alpha < x/(\mu - k + x)$. Hence, the ex-ante efficient expected monitoring will be achieved. This result is in line with Proposition 2 as well.[29]

4.3   Empirical implications

To our knowledge, there are no empirical studies that either look at the effects of litigation reforms on the choice of ownership structures or compare ownership structures in countries with different litigation rules and court characteristics. Therefore, formulating testable hypotheses would be already an important step in this direction. The hypotheses below are essentially a rewording of our propositions. Since it is difficult to obtain a direct measure for the monitoring intensity, we formulate them with respect to ownership concentration, rather then the monitoring intensity.

All other things being equal, the following regularities should be observed:

- when the pro-manager bias is low, lower barriers to bringing suits against managers should be associated with lower ownership concentration.

- when the pro-manager bias is high, lower barriers to bringing suits against managers should be associated with:

- higher frequency of shareholder suits if the cost of litigation for the company is low,

- higher ownership concentration and little change in the frequency of shareholder suits if the cost of litigation for the company is high.

We should note that our predictions have an equilibrium character. Therefore, they may be inconsistent with a short run reaction on a litigation reform of already established companies with little need for external funds. In such firms, existing ownership structures can be quite

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[29]Our model is not meant to explain how high exactly the barriers to litigation must be when courts are biased. According to our analysis, shareholder suits can simply be entirely prohibited. That seems the simplest solution for a country with manager-biased courts. However, we do not observe such extreme laws in reality. We realize that there may well be reasons against setting too high obstacles to shareholder suits. Some litigation can well be optimal for reasons beyond the scope of our model. For example, if we assumed different μ or k for different firms in a country, with low μ or k for some firms, too high barriers would, probably, be suboptimal. In our model, we just provide a reason why lowering these barriers can be dangerous.

rigid, therefore the most likely reaction to facilitating suits would be an *increase* in their number, independently of the total cost of litigation.[30] One should keep this in mind when selecting the data and designing empirical tests.[31]

In the next section we are going to discuss the implication of our results to potential effects of litigation reforms in and speak about the relation of our model to the economics of law literature.

5   Discussion

Our main result is that the effects of facilitating shareholder litigation on the efficiency of a firm's governance, the choice of ownership structure and the corporate governance mechanisms crucially depend on how biased the courts are towards managers. At the same time, if countries choose their litigation rules efficiently, our model is consistent with the view that better shareholder protection (smaller bias) leads to less monitoring and lower outside ownership concentration (Burkart, Panunzi and Shleifer (2003)). Thus, our model illustrates that speaking about the effects of shareholder protection "in general" can be too simplistic, as changing shareholder protection along different dimensions of law can produce strikingly different outcomes.

Our framework helps to analyze the potential effects of litigation reform. There are certainly places in the world where courts are deferential towards insiders. Many commentators agree that this problem seems to be present in developing and transition countries, where insiders sometimes even use bribery and threats to exert pressure on judges (see *supra* footnote 1). However, there is also evidence that in some developed Continental European countries, courts often tolerate certain types of self-dealing by insiders (Johnson et al (2000), Enriques (2002)). Moreover, the interests of stakeholders, other than shareholders, traditionally weigh significantly in business decisions in Continental Europe (e.g. in Germany insiders *must* take into account the interests of various stakeholders) and, therefore, a court is likely to defend the manager if the disputed transaction can be justified on such grounds. In terms of our model it implies low μ. At the same time, many observers note that hurdles to shareholder litigation are considerable in Continental Europe. Unsurprisingly, a shareholder suit has been a rare phenomenon there relative to the US, where litigation is relatively easy. Instead, monitoring by blockholders has prevailed and their holdings have been much larger than those of their US or UK counterparts (see e.g. Barca and Becht (2001)).

We do not claim that Continental European courts are "worse" than, say, US ones. The

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[30]In fact such result was empirically documented by West (2001) for Japan, see *infra* footnote 33.

[31]There is an obvious problem of measuring the pro-manager bias in a given country. One way to do it, is to look at the sample of court cases and the stock price reaction to filing a case and the final ruling. This information can help figure out the degree of the bias.

US system is often accused of an excessive litigation.[32] Moreover, some scholars argue that in Delaware, where more than half of all American publicly traded companies are incorporated, courts exhibit a pro-manager bias in cases that concern takeover defences (Bebchuk and Ferrell (2001), Subramanian (2004)).

Our paper just comes up with a caution that any initiative that aims to encourage shareholder litigation should be carefully scrutinized – as our model suggests, such a reform can bring about inefficiency. In recent years there has been a tendency towards facilitating access to courts for minority shareholders in Europe and Asia. Specific examples include the recent reforms in Germany, Italy, Sweden and Korea (see *supra* footnote 3). But is promoting shareholder litigation there necessarily desirable? The problem is that, even if the barriers to suing managers disappear, the pro-manager bias, if there is any, will still be present. As our model shows, procedural rules that favor suing cannot substitute for the court "unbiasedness" and may result in an inefficient outcome.[33]

We do not want to say that shareholder recourse to courts can never be made an efficient mechanism in countries with manager-biased courts. We simply argue that before encouraging shareholder suits the pro-manager bias should be eliminated. The way to do it is either through proper changes in the law statutes or via correcting judges' incentives. A detailed discussion of possible legal reforms is, however, outside the scope of this paper. Overall, our results support the view (Berglöf and Claessens (2004), Pistor and Xu (2002)) that complementary reforms are important to make the litigation mechanism work efficiently.

In the introduction we mentioned the relation of our model to the law and economics literature that seeks for conditions inducing optimal litigation incentives and optimal precaution

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[32]Frequent occurrence of shareholder suits "without merit" in the US has raised suspicions that the US system suffers from excessive litigation. The Private Securities Litigation Reform Act of 1995, which raised the burden of proof for plaintiffs in securities litigation, was actually meant to reduce the occurrence of such suits.

On the one hand, frivolous litigation may indeed pose a problem. For example, it has been empirically shown that many suits in the US are nuisance or frivolous in character and on average do not create significant value for shareholders, with attorneys being the principal beneficiaries of litigation (see e.g. Romano (1991), see also the survey of empirical studies on corporate law by Bhagat and Romano (2002)). Roughly speaking, their occurrence can be explained by the mixture of various attorneys' incentives and a low cost of suing for an individual shareholder.

On the other hand, if shareholder suits in the US have little to do with serious expropriation of shareholders by managers, then it is possible that the US system can indeed effectively deter managers. Anyway, suboptimality of shareholder litigation rules in the US is debatable. The cost of frivolous litigation may be an unavoidable side-effect of ensuring the ex-ante efficient deterrence.

The problems of frivolous litigation are beyond the scope of our paper. However, introducing the possibility of suits in situations, when the manager has not engaged in self-dealing, would not qualitatively affect our results, as we argue in section 6.

[33]Another example is the 1993 reform in Japan, which lowered the filing fee. An empirical study by West (2000) documents a remarkable rise in the number of derivative suits in Japan after the reform. However, the paper finds that, on average, shareholders have benefited very little from litigation. Though we do not know whether Japanese courts are manager-biased or not, this finding suggests that the reform might have actually been inefficient.

(by either injurer or victim) in a costly legal system. Though this literature is huge (see e.g. Shavell (2003), Dari-Mattiacci (2003) for summaries and references), we can identify a couple of important differences between our model and this literature, arising from the specificities of our setup. These differences stem from the fact that the manager (the injurer) and the shareholders (the victims) have contractual relationships, something that does not normally exist in law and economics papers.

The first difference is the presence of the investors' (victims') participation constraint, the satisfaction of which creates value (investment is needed to produce). The requirement to meet this constraint changes the notion of the cost of avoidance[34] (or precaution) by the injurer due to introducing an underinvestment consideration. On the one hand, simply avoiding self-dealing is the least costly precaution, since it is costless ex-post, in contrast to monitoring. However, the incentive not to self-deal is determined by the contract. When this incentive calls for an excessively large managerial share (it happens when the courts are too manager-biased), the participation constraint cannot be satisfied. Hence, in fact, the true cost of avoiding self-dealing in such situation is underinvestment (no investment in our model). Consequently, monitoring (victim precaution) becomes the least-cost precaution.

The second difference arises due to an endogenous contract (ownership structure) adjustment to changes in the law in order to ensure the optimal choice of monitoring and litigation. This adjustment is an important determinant of the choice of the mechanisms – without it, facilitating litigation would unambiguously raise the suit frequency and discourage monitoring. Such effect, a rise in litigation and a drop in victim precaution in response to less costly lawsuits, is what one would expect from the law and economics literature, the reason being precisely the absence of contracting between an injurer and a victim.

6   Robustness

As we mentioned, our model has a number of simplifying assumptions. The purpose of this section is to show that our results survive in a more general model.

6.1   Zero profit in the absence of self-dealing

Our setup implies that zero profit provides hard evidence of managerial self-dealing, which may look difficult to reconcile with the assumption that courts may rule in favor of managers. It is more plausible to assume that the profit can be zero with some non-negligible probability

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[34]For the notion of the "least-cost avoidance" principle see e.g. Dari-Mattiacci (2003) or Landes and Posner (1987). Briefly put, it states that liability rules should be designed so that precaution to avoid injury is taken by the party with the lowest cost of precaution (either injurer or victim).

even when the manager behaves. In this case it would be easier for a biased court to justify its pro-managerial verdict by arguing that the manager was simply unlucky.

We assume that the shareholders observe only the realization of the profit but not the manager's behavior. Then, there arises a possibility for suits "without merit", i.e. suits when the manager has done nothing wrong but the profit is zero. We still assume the absence of false positive errors, meaning that even if the profit is zero but the manager behaved, a court cannot rule against him.

In this setting, the solution with *perfect* deterrence cannot be achieved in the subgame-perfect equilibrium. Indeed, deterrence requires that the shareholders sue with a positive probability when they observe zero profit. Assume the manager is totally deterred from self-dealing by such shareholders' behavior. But then, suing after observing zero profit is irrational, since the shareholders know that the manager has behaved.

Nevertheless, an equilibrium with *partial* deterrence is possible. That is, the manager abstains from self-dealing with probability strictly between zero and one. Since the manager misbehaves with a positive probability, a prospective litigant may find it rational to file a suit. In such equilibrium the manager must be indifferent between self-dealing and behaving, while the litigant's share has to be sufficiently large or/and the cost of a suit for him has to be sufficiently low so that he decides to sue despite the fact that the manager may have done nothing wrong.[35]

The partial deterrence equilibrium will inevitably result in some actual litigation. Moreover, in such equilibrium, some monitoring will take place as well, unless the blockholder's share is zero, since the blockholder will want to prevent some unavoidable losses he will suffer due to the self-dealing and subsequent litigation.

However, the characteristics of the main tradeoff between litigation and monitoring would stay the same as in our basic model. If courts are unbiased, and, provided that the probability of zero profit in the case of no self-dealing is not too large, the partial deterrence solution will be ex-ante efficient (notice that not only deterrence but also ex-post compensation via litigation is more efficient under unbiased courts). As courts become more pro-manager biased, the efficiency of litigation, either as a deterrence mechanism or as a compensation mechanism, falls relative to monitoring, and, finally, using only monitoring becomes ex-ante efficient. Then, the same "excessive willingness to litigate" problem arises, and high barriers to litigation become necessary to solve it.

Thus, the conclusions in this more general framework remain qualitatively the same. In fact, the case against easy access to manager-biased courts becomes even stronger, as suits without

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[35] It might be the case that the litigant is indifferent between suing or not in equilibrium: he sues with some probability that makes the manager indifferent between self-dealing and not.

merit make the litigation mechanism more costly.

6.2 Continuous choice of diversion

So far, we assumed that the manager can steal either everything or nothing. Allowing for partial diversion is more plausible, however. In this subsection, we let the manager derive any amount of private benefits $d \in [0, 1]$, where d is deterministic as before for simplicity. We still assume that the profit can be either 0 or 1, but d affects the probability $\nu(d)$ of the profit being 1. Specifically, we assume that $\nu(d) = 1 - d$. Similarly to the basic model, we assume that upon successful litigation, the entire value of d goes to the shareholders, while if a court rules in favor of the manager, the shareholders are left with zero profit and the manager keeps his d.

The solution of the model involves rather complicated derivations. However, we do not need to search for the complete solution. For our purposes, it is sufficient to show that under too biased courts, the litigation should be prevented. To simplify matters, we are going to look for the values of the parameters under which it is impossible to avoid full diversion ($d = 1$) in equilibrium. In this range of parameters, we can apply our basic analysis for the monitoring zone without any changes.

Lemma 1 There exist $\widehat{\mu}$ such that for all $\mu < \widehat{\mu}$, $d = 1$ in any equilibrium in which the manager raises funds.

Proof. See the Appendix. ∎

Given $d = 1$, for $\mu < \min\{\widehat{\mu}, \ k/c\}$ the ex-ante efficient solution will be $p^* = I/(1-c)$, $q^* = 0$, $\beta^* = 0$, exactly as in our basic analysis for $\mu < I$. Rather obviously, for $\mu < \min\{\widehat{\mu}, \ \underline{k}/c\}$, all the reasoning and the derivations of subsection 4.2 apply without changes. Hence, for $\mu < \min\{\widehat{\mu}, \ \underline{k}/c\}$ the conclusions of the model are the same as those of subsection 4.2.

7 Conclusion

We have shown that promoting shareholder recourse to courts generates qualitatively different outcomes under unbiased and manager-biased courts. When courts are unbiased, facilitating lawsuits against managers helps to deter managerial misconduct. However, when courts are manager-biased, encouraging litigation, instead of mitigating the agency problem, increases the cost of corporate governance. Even though access to the judicial review of self-dealing transactions provides an additional mechanism of protection ex-post, under manager-biased courts this mechanism is less efficient than the substitute mechanism of monitoring. The lack

of commitment to abstain from suing prevents the efficient mechanism selection and ultimately results in either excessive litigation or excessive monitoring.

Thus, our analysis suggests that any reform that aims to improve the litigation mechanism of shareholder protection should take into consideration the general characteristics of the legal system in a country, in particular, how willing and able the courts are to take decisions that are unbiased towards managers. When these qualities of the courts are initially low, any reform that provides shareholders with easy access to courts should be preceded (or, at least, accompanied) by reforms that eliminate the pro-manager bias in court decisions. Otherwise, encouraging litigation would not only be ineffective, it would be potentially harmful.

APPENDIX

Proof of Proposition 2.

That high barriers to litigation are necessary to achieve ex-ante efficiency under manager-biased courts is simply a verbal restatement of condition (7). Let us prove now the statement about excessive litigation and excessive monitoring. For simplicity, we will keep our assumption that the blockholder does not sue in case of indifference, i.e. when $\alpha = x/(\mu - k + x)$ (allowing the blockholder to randomize does not change the essence of the analysis).

When (7) is not satisfied, i.e. $x/(\mu - k + x) < \alpha^*$, any $\alpha < x/(\mu - k + x)$ triggers no litigation and less than the ex-ante efficient monitoring p^*, which is insufficient for the investors' participation. Thus, in equilibrium α must be greater than $x/(\mu - k + x)$, which implies that litigation occurs with probability one, whenever monitoring fails.

Varying α, any monitoring intensity can be achieved. Clearly, monitoring must be at least as high as to make (PC_m) binding. Whether monitoring must be even more intensive depends on whether $k > c$ or vice versa. Notice that Assumption 2, $\underline{k} > cI$, allows for both situations.

An increase in probability p by Δ will raise the monitoring cost by Δc, but lower the expected litigation cost by Δk due to a lower frequency of suing. Thus, if $k < c$, the optimal ownership structure must be the one that induces the minimal possible monitoring, i.e. the one that makes (PC_m) binding. Using the result at the end of section 3, expected monitoring must then be $p = \frac{I - \mu + k}{1 - \mu + k - c} < \frac{I}{1 - c} \equiv p^*$ and the associated loss is $L = c + \frac{(k-c)(1-c-I)}{1-\mu+k-c}$.[36] Thus, since $p < p^*$ and $q = 1$, there is excessive litigation and insufficient monitoring in the equilibrium with respect to the ex-ante efficient solution.

If $k > c$, the optimal ownership structure should induce full monitoring, i.e. $p = 1$ for any realization of δ, so that no possibility for suing arises ex-post. In this case, (PC_m) is strict

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[36]We use the result of section 3 for the monitoring zone and $\mu > k/c$. It does not matter that section 3 solves for the ex-ante efficient p and q: when $q = 1$, there is only one p that makes (PC_m) binding.

inequality, but the manager simply raises more than I, say $I + y$, pockets the excess funds y, and the investors break-even anyway (the participation constraint that binds will have $I + y$ instead of I in the right hand side); alternatively he can retain $\beta > 0$. The associated loss is $L = c$.

Regarding the second part of the proposition, the blockholder's share must unambiguously rise in the latter case: from the blockholder's decision rule for $\alpha > x/(\mu - k + x)$ it follows that only $\alpha \geq \frac{c-x}{1-\mu+k-x}$ ensures $p = 1$, unconditionally on the realization of δ. When (7) does not hold, $\frac{c-x}{1-\mu+k-x} > \frac{I\xi+(1-c)(c-\xi)}{1-c} \equiv \alpha^*$, hence the outside block goes up as (7) becomes violated.

Lastly, it is rather straightforward that, if (7) does not hold, setting $\beta > 0$ cannot lead to a better outcome. Suing then becomes even more attractive for a litigant, since there is more to grab from the manager in case of winning the case (as can be seen from (4), when $\beta > 0$, lower α can provoke a lawsuit). Hence, even lower α is needed to discourage suits. Moreover, whether litigation is discouraged or not, more monitoring is needed to satisfy the participation constraint, since the total equity share of the outside shareholders is lower. Hence, the aggregate loss will be higher if $\beta > 0$, except when $k > c$. In the latter case, as we have mentioned above, a positive managerial share can be an alternative way to make the participation constraint binding, but the equilibrium loss remains c anyway. ∎

Proof of Lemma 1.

Let $\Pr\{profit = 1\} = 1 - d$, where $d \in [0, 1]$ is the level of diversion. First, we need to find the best response d^* of the manager to the probability q of litigation, given μ and β. Then, we need to show that for small enough μ any $d^* < 1$ is inconsistent with the investors' participation constraint.

The manager's program is

$$\max_{d \in [0, 1]} \{(1 - d)[\beta + d] + d[q(1 - \mu)d + (1 - q)d]\}.$$

The maximand can be rewritten as $-\mu q d^2 + (1 - \beta)d + \beta$. Hence, using the first order condition and accounting for the possibility of a corner solution, we obtain:

$$d^* = \min\left\{\frac{1 - \beta}{2\mu q}, 1\right\}$$

What we need now is to find a range of parameters, so that the inequality $1 - \beta < 2\mu q$ is inconsistent with the investors' participation constraint regardless of p and q. In this range d^* will inevitably be equal to 1 in the equilibrium (if the manager succeeds to raise funds at all).

The investors' participation constraint is:

$$S \equiv p(1 - \beta) + (1 - p)\left[(1 - d)(1 - \beta) + dq\left(\mu d - k\right)\right] - cp \geq I$$

Suppose $d^* = \frac{1-\beta}{2\mu q} < 1$. Then, the investors' participation constraint becomes:

$$S \equiv p(1 - \beta) + (1 - p)\left[\left(1 - \frac{1 - \beta}{2\mu q}\right)(1 - \beta) + \frac{1 - \beta}{2\mu q}q\left(\mu\frac{1 - \beta}{2\mu q} - k\right)\right] - cp \geq I$$

S can be rewritten as

$$-\frac{1 - p}{4\mu q}(1 - \beta)^2 + \left(1 - \frac{(1 - p)k}{2\mu}\right)(1 - \beta) - cp$$

We want to show that $\max\limits_{\beta \in (1 - 2\mu q,\, 1],\, p \in [0, 1],\, q \in [0, 1]} S(\beta,\, p,\, q) < I$ for low enough μ. For this we do not actually need to solve the maximization problem. Notice that for any fixed $\beta \in [0, 1]$, $p \in [0, 1]$, $q \in [0, 1]$, raising μ increases (weakly) the value of $S(\gamma,\, p,\, q)$. Moreover, raising μ expands the set of β, on which the maximization is done. Hence, the maximum value of $S(\beta,\, p,\, q)$ increases (weakly) with μ as well. At the same time it is obvious that we can always find μ small enough, so that S becomes smaller than I for any $\beta \in (1 - 2\mu q, 1]$, $p \in [0, 1]$, $q \in [0, 1]$. Hence, there must be a threshold $\widehat{\mu}$, below which it is impossible to have $d^* < 1$ and satisfy the investors' participation constraint at the same time. ∎

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