Ownership structure and minority expropriation in non-listed firms: The case for Multiple Large Shareholders ♥

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Abstract

This paper investigates minority expropriation problems in closely-held corporations, where control is shared by a small number of blockholders. Using a large sample of Spanish firms for the years 1996 through 2000, we find that firms whose characteristics make them more vulnerable to minority expropriation tend to have controlling groups with stakes that are far removed from the 50% threshold, where expropriation is higher. However, because of adjustment costs, firms do not achieve an optimal ownership structure. Performance improves when the controlling group's ownership stake is higher and, for a given ownership stake, when the number of group members increases.

JEL classification: G32.

Keywords: Corporate ownership; multiple large shareholders; corporate performance; private benefits; minority expropriation; non-listed firms.

1/ Introduction

Existing corporate finance literature dealing with the ownership concentration problem compares a dispersed ownership structure, where no shareholder has a significant stake, with a concentrated ownership structure with a large shareholder effectively controlling the firm.[1] Concentration of ownership is seen as a mixed blessing. The controlling shareholder can monitor managers, thus solving the agency problem between atomistic shareholders and managers. But, if there are private benefits to be obtained by control, the minority shareholders will now be expropriated by the controlling shareholder who will divert funds towards the generation of private benefits, by taking a disproportionate amount of the firm's current earnings[2] or investing in "pet projects". [3]

Many companies have more than one blockholder. In some cases we observe a single controlling shareholder, who owns more than 50% of the voting shares, accompanied by smaller but significant shareholders. In other cases there are multiple controlling shareholders, each of whom has a stake smaller than that necessary for control but at the same time, when combined with other stakes, the aggregated holding is enough to control the company. Although they can be observed among listed companies, this ownership structure is especially prevalent in non-listed corporations that are characterized by the absence of a liquid resale market for their shares and limited external control mechanisms. [4]

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[1] Among the seminal contributions to this literature we find Berle and Means (1932); Jensen and Meckling (1976); Grossman and Hart, (1980); Shleifer and Vishny (1986) and Burkart et al. (1997).

[2] Barclay et al.(1993), Barclay and Holderness (1989) and Zingales (1994) measure private benefits indirectly by showing that large blocks of ownership that confer voting rights sell at a premium. Additionally, Burkart *et al.* (2005) build a theoretical model showing that the takeover premium paid for a firm with a single blockholder accompanied by other minority shareholders is larger than that for a firm with a diluted ownership structure. Interestingly, Barclay et al. (1993) find that the premium is not only paid for blocks large enough to confer control but also for smaller blocks representing 25 % of the equity of a firm. This suggests that the benefits of control are divisible and can be shared by several large shareholders.

[3] Barnea and Rubin (2006) show that large blockholders are likely to overinvest in projects that improve the public perception of the firm as being "socially responsible". This is an expropriating strategy because these large blockholders take all the credit for the socially responsible behaviour but bear only a proportion of the cost of implementing such a strategy.

[4] Becht and Mayer (2002) find that more than 25% of listed European companies have more than one large shareholder. Faccio and Lang (2002), using a sample of 3,300 Western European corporations, document the presence of a second large shareholder in 46% of the corporations with at least one controlling shareholder.

Still, very little is known about how large shareholders interact and share their power. It is only very recently that a few theoretical papers have started to study how controlling groups are formed from multiple large shareholders (Zwiebel, 1995; Bennedsen and Wolfenzon, 2000) and what effect the composition of these controlling groups (i.e. the number of members of the controlling group and the concentration of their respective stakes) could have on both monitoring (Pagano and Röell, 1998) and the levels of private benefit extraction (Bennedsen and Wolfenzon, 2000; Gomes and Novaes, 2005).

This paper uses detailed ownership data, from a large database of Spanish firms, in order to examine how controlling groups with multiple large shareholders are formed; how they evolve; and how their members share control and extract private benefits from both listed and non-listed firms.

The sample consists of a total number of 20313 firm-year observations from Spanish firms, corresponding to the period 1996 to 2000. The data give a comprehensive picture of ownership of Spanish firms, including listed (1% of the firms), open (85.5%) and closed corporations (13.5%).[5] Moreover, the data set is representative of a country where ownership structure is concentrated and legal protection for minority shareholders is not strong; this scenario is common in Continental Europe (La Porta *et al.* 1999).[6] The panel data structure of the sample allows us to control for important endogeneity problems that are common in previous studies.

The descriptive statistics show that ownership structures with multiple large shareholders represent 37.73%. For each observation, we identify the controlling group as the group of shareholders that are more likely to form a coalition, with enough votes to control the decisions of the firm. Each controlling group is characterized by its stake and number of members. Interestingly, the composition of the controlling group, in terms of stake, undergoes important changes over time;

[5] We follow Chapter 14 of the Delaware Corporate Code in distinguishing between the two types of non-listed corporations: open and closed corporations. Under the Delaware code, closed corporations are defined as those corporations whose statutes restrict the transfer of stocks. Clearly, closed corporations cannot be listed. We use the term open corporation to refer to all other corporations.

[6] In the "anti-director rights" index of La Porta et al. (1999), which summarizes shareholder rights in each country and ranges from 0 (low shareholder protection) to 6 (high shareholder protection), Spain scores 2, with the total world average being 2.44 and the US scoring 5.

there is a tendency towards greater concentration that seems to be driven by firm growth as well as decreases in performance throughout the period analyzed.

We then study the connection between different firm characteristics and ownership structures. We find that when firm characteristics promote minority expropriation, the composition of the controlling group is designed to try to hinder this type of behavior. In particular, for firms where expropriation seems more likely, together with poorly performing firms, we see the controlling group increasing its stake in order to force the group to internalize expropriation costs. However, this adjustment is not perfect and we find evidence of incurred adjustment costs.

We then investigate whether the structure of the controlling group has a significant impact on performance, using the previous results to control for reverse causality. The main finding in the paper is that performance increases significantly, once we fix the number of group members, as the control group's ownership stake increases above 50%. Also, the increase in performance is found, for a given ownership stake, as the number of group members increases. We find evidence of the existence of both, bargaining among controlling shareholders to share private benefits, and monitoring by non-controlling shareholders to reduce the private benefits of the controlling group. The economic significance of these effects indicates that minority expropriation is a very important problem.

Finally, we break up the sample to investigate the differences across different types of firm and controlling shareholders. We find that minority expropriation is more important, and that ownership structures with multiple large shareholders add more value to those firms where: (i) monitoring is more difficult (i.e. in medium and large firms); (ii) there are restrictions on the transfer of shares (i.e. in closed firms); and (iii) there are increased opportunities for self-dealing through transfer prices (i.e. in firms controlled by other firms).

To the best of our knowledge, no previous empirical study has looked at the minority expropriation problems in non-listed firms. There are other papers that test whether the presence of

multiple large shareholders affects performance. Laeven and Levine (2006), using a cross section **of** listed European firms, find that 34% of the firms have multiple large owners and that the market value of these firms depends negatively on the dispersion of cash-flow rights. Volpin (2002) finds that the market value of Italian listed firms is higher for companies with a voting syndicate than for companies with a single large shareholder. Faccio et al. (2001) compare the dividend policies of listed companies across different countries and find that European companies pay higher dividends when they have multiple large shareholders.[7] Lehman and Weigand (2000) show that the presence of a second large shareholder improves the profitability of German listed companies.

Other papers take into account the impact of the presence of multiple large shareholders, along with details of their stakes and controlling power. Maury and Pajuste (2005), using a sample of Finnish listed firms, find that firm value is affected positively by the presence of a contestable shareholder (one with a stake similar to the largest stake), and also by the presence of large shareholders of different types, because this situation hinders any mutual agreement on expropriation. Boehmer (2000) uses a sample of German bidder firms that are listed on the Frankfurt stock market, to show that returns to bidders with a significant bank stakeholding are positive only when the control by banks is counterbalanced by the presence of another large shareholder. Moreover, Boehmer (2000) finds that the worst performing takeovers are initiated by firms which are majority-controlled by financial institutions.

The remainder of the paper is organized as follows. Section 2 reviews the theoretical literature about multiple large shareholders and states the hypotheses to be tested. The data and variables are presented in Section 3 and the descriptive statistics are discussed in Section 4. In Section 5 we study the determinants of ownership structure. Section 6 discusses the effects that ownership structure has on performance. Section 7 deals with extensions of the main results and robustness checks; and Section 8 contains a summary of the results together with the conclusions.

[7] However, Barclay *et al.* (2006), while not making a distinction between firms with one or more blockholders, find that firms with blockholders do not pay higher dividends than firms with diluted ownership.

2/ Overview of the theoretical literature on multiple large shareholders.

While the presence of a majority shareholder is common in many firms, the traditional literature on concentrated ownership cannot explain satisfactorily those cases where multiple large shareholders co-exist within a firm. Here, we review briefly predictions from theoretical models that have considered ownership structures with several large shareholders. First, we review predictions about the determinants of the ownership structure and then follow on with predictions on the connection between ownership structure and firm performance.

2.1/ On the determinants of the ownership structure

Starting with Demsetz and Lehn (1985), many authors argue that each firm adopts the ownership structure which is most efficient, given their individual characteristics (Demsetz and Villalonga, 2001), and the institutional environment faced (Bebchuck and Roe 1999). We review only theoretical papers that study optimal ownership structure in terms of the number of blockholders and their respective stakes.

Zwiebel (1995) assumes that control benefits will be divided among the different blockholders depending on the relative size of their respective holdings. Therefore, if one blockholding is much larger than the rest, the probability that the small blockholders can share any private benefits is reduced. In equilibrium, the investors allocate their money across firms trying to maximize the benefits of control. Zwiebel shows that there is a threshold holding size, beyond which the largest blockholder will not be challenged by other investors. Also, Gomes and Novaes (2005) conclude that, in equilibrium, if control is to be shared among different blockholders, their stakes should be of similar size and these owners should be of a similar type. Therefore, as the first hypothesis to be tested we have:

Hypothesis 1: *Firms with concentrated ownership may be of two different types: firms with a single very large blockholder; and firms with several medium size blockholders.*

The Pagano and Röel (1998) model predicts that, in firms with a single controlling shareholder, the ownership stake of the non-controlling shareholders should be more concentrated when expropriation is likely to be severe, so as to provide incentives for monitoring. In the case of firms with multiple controlling shareholders, both Gomes and Novaes (2005) and Bennedsen and Wolfenzon (2000) predict that firms where expropriation is more likely should have a larger controlling group with a larger joint stake. This is a way to internalize expropriating costs and minimize the incentives for expropriation. As we explain in the next section, there are some firm characteristics that favor minority expropriation like: firm size; age; proportion of intangible assets etc. Thus, the second hypothesis that we test is as follows:

Hypothesis 2: *Firm characteristics that favor minority expropriation will have a positive impact on the controlling blockholders' stake.*

2.2/ On the connection between ownership structure and firm's performance

The adjustment of ownership structure, given the firm's characteristics, to its "first best" should preclude any relationship between performance and ownership structure. However, the idea that the ownership structure can be chosen optimally has been challenged on different grounds. In particular, various authors argue that firms will be unable to achieve the most efficient ownership structure either because of: wealth constraints faced by their initial owners (O'Neal and Thompson 1985); liquidity problems in non-listed firms (Nagar *et al.,* 2002); or the vested interests of controlling parties (Coffe, 1999; Bebchuk and Roe, 1999). These authors claim that, even if firms adjust their ownership structure contingent upon their characteristics, the adjustment is likely to be imperfect and we should still find a relationship between ownership structure and performance.

There are several theoretical papers that explore the impact that the presence of multiple large shareholders can have on firm performance. Both Gomes and Novaes (2005) and Bennedsen and Wolfenzon (2000) consider a setting in which the firm is controlled by a group of large shareholders that together hold the majority of voting rights. In Gomes and Novaes (2005) the

controlling group, formed by all the large shareholders, will only approve a project if all the members of the group benefit from the project (there is veto power). For a given ownership stake held by the controlling group, increasing the number of shareholders generates a "*bargaining effect*"; thus, implying that private benefit taking and rent extraction will be less likely, since all the members of the control group have to agree on the preferred project. This leads us to propose as our third hypothesis:

Hypothesis 3: *For a given total stake held by the controlling blockholders, increasing the number of controlling blockholders has a positive effect on performance.*

According to Bennedsen and Wolfenzon (2000), the controlling group will not include all the large shareholders, but will be the result of a coalition formation game where the different large shareholders form coalitions that thereafter compete to seize the control of the firm. Several different coalitions can have sufficient voting power to control the firm. *Ex-ante* the optimal coalition is the one with the largest ownership stake because of an "*alignment effect*". The greater the ownership stake of the controlling coalition the more the internalization of dilution costs. However, *ex-post*, the preferred coalition will be the one with the smallest ownership stake necessary to win control. This is the "*coalition formation effect*": given that private benefits accrue at the expense of all the non-controlling shareholders, the coalition with the lowest possible ownership stake will have the largest minority group whom to expropriate. Thus, by defining the controlling coalition as the one with the lowest possible stake, we can state:

Hypothesis 4: *For a given number of controlling blockholders, firm performance increases when their joint stake increases.*

Pagano and Roël (1998), contrary to the previous authors, consider a setting in which the controlling manager is a large shareholder who is monitored by other large shareholders. There is an optimal level of monitoring that is achieved for a given second-largest shareholder's stake size.

Therefore, according to Pagano and Roël (1998), there is a monitoring role for large shareholders' stake outside the controlling group that reduces expropriation problems.

Bloch and Hege (2001) also present a model that investigates problems related to both monitoring and private benefit sharing that arise from ownership structures with multiple large shareholders. In their model, two large shareholders compete for control. These shareholders differ in their capacity to define the company's strategy and in their ability to monitor managers. Only the shareholder who wins the contest for control defines the strategy, but both shareholders perform a monitoring role. In order to win control, the two large shareholders compete for the votes of the minority by committing to reductions in their private benefits. The model is very rich and different equilibrium can be attained depending on the heterogeneity in the monitoring costs, and the two competing shareholders' ability to define strategies. The authors conclude that minority expropriation will be lower in companies where control is more contestable; companies where the difference in the stakes and the abilities of the large shareholders is smaller or the stake in the hands of minority shareholders is larger. Then, we can state as our last hypothesis:

Hypothesis 5: *Contestability, defined as the stake of the largest blockholder outside the controlling group, has a positive impact on firm performance.*

3/ Data and methodology

3.1/ Sample

In order to test the previous hypotheses we use the SABE databases for 1996-2000. These databases, from Bureau Van Dick, provide annual information on ownership structure, balance sheets and income statements for Spanish firms that deposit their financial statements in the Registro Mercantil.[8] We restrict the initial sample using three criteria to eliminate firms that: do not report their ownership structure; do not present detailed financial statements; and those which are not corporations (cooperatives, partnerships, and sole-proprietorships). Moreover, these three criteria have to be satisfied for at least three of the five available years. We are left with an incomplete panel with a total of 5288 different firms and 20313 firm-year observations.

This database has three main advantages. First, it contains a very detailed description of firms' ownership structure. We now have the names and ownership stakes of those shareholders, which account for at least 50% of the shares, for 90% of the observations. We then classify the shareholders into three main types: family, firm, and other (including financial institutions, state-owned and cooperatives). Ownership by families is aggregated to include family members with the same surname. Families are assumed to act collectively. Second, the sample includes three different types of firms that differ by their share liquidity: 1% of the firms are listed on the Madrid Stock Exchange, 13.5% are closed corporations and the remaining 85.5% are open non-listed firms. The presence of a sub-sample of listed firms allows us to use market data alongside accounting profit measures of firm performance. Third, we believe that Spain is a very interesting case study; because of the dominance of concentrated ownership both in listed and non-listed firms and the evidence of weak legal protection for minority shareholders (La Porta et al. 1999). Remarkably, according to Gomes and Novaes (2005), it is precisely when the legal system is weak that we expect to find

[8] All Spanish firms are forced by law to deposit their annual financial statements in this public registry. However, the law does not establish a penalty for not doing so unless the company goes bankrupt. This implies that not all firms, especially the smaller ones, comply with this stipulation, and that the quality of the information provided varies very much from firm to firm.

ownership structures with multiple large shareholders acting as a substitute control mechanism for legal institutions.

3.2/ Methodology

First, we study the determinants of the observed ownership structures by regressing ownership structure variables on variables measuring different firm characteristics. Then, we estimate the impact of the observed ownership structure on performance by regressing firm performance on variables measuring both ownership structure and other firm characteristics. We face two important econometric issues when doing this.

The first one is omitted variable bias. In equilibrium, firm performance will be correlated with many economic variables. If some of these variables are also correlated with ownership structure and they are omitted in the estimations, the results will be biased. Our sample allows us to tackle this problem in two ways. First, we introduce as controls in our estimations all the observable time variant characteristics that we think may be correlated simultaneously with performance and ownership. Second, the panel data structure of our sample allows us to control for all time invariant firm characteristics by estimating in first differences.

The second problem is reverse causality. When trying to estimate how ownership structure affects performance, we find that performance may be one of the determinants of ownership structure; this factor complicates the interpretation of estimation results. In particular, Himmelberg *et al.* (1999) and Demsetz and Villalonga (2001) claim that insiders with privileged information about future performance have an incentive to vary their stakes. To solve this problem, we use GMM (General Method of Moments) estimations, as proposed by Arellano and Bond (1991) and Arellano and Bover (1995) in a two-stage estimation strategy. In essence, according to our strategy, we use the results from our first regression (where ownership structure is explained in terms of firm's characteristics) to construct a set of instruments. We then introduce these instruments and

their lagged values into our second regression (where performance is explained in terms of ownership structure). These instruments are correlated with the ownership structure but not with performance.

3.3/ Definition of variables

Table 1 provides a description of variables used in the study. These variables are divided into three groups: ownership structure variables, performance variables and control variables.

[Insert Table 1 about here]

3.3.1/ Ownership structure variables

The first group of variables concerns ownership structure. Following Bennedsen and Wolfenzon (2000), we assume that a controlling group of large shareholders will effectively control firm decisions.[9] Not all the large shareholders will be part of this controlling group. Of all the possible coalitions that have a total stake large enough to control the firm, the one that will prevail will have the minimum possible stake necessary to win control (hereafter the Minimum Stake Group). For each firm-year observation we identify the minimum stake group and compute its total ownership stake (*Minimum Stake Group*) and the number of members (*Members*) of the group assuming that a combined stake in excess of 50% is necessary to win control.[10]

Although the ownership stake of the controlling group is a continuous variable, throughout the study we use five dummy variables, *0-25%*, *25-50%*, *50-60%*, *60-80%* and 80-100%. These take the value of one if the ownership stake of the control group is lower or equal to 25%; between

[9] In the following we consider a large shareholder or a blockholder as any shareholder with an ownership stake of 1% or more.

[10] Most previous empirical studies of the impact of ownership concentration on firm performance have used the total ownership stake of the 5 largest shareholders as the relevant measure of ownership concentration, assuming that control is shared equally among this group of shareholders (Demsetz and Villalonga, 2003 and Demsetz and Lehn, 1985). In order to facilitate the comparison of our results with those of previous studies, we conduct alternative estimations where we use a second definition of the controlling group as: the group of the five largest shareholders (available upon request). Again, for this alternative definition of a controlling group we compute the total ownership stake and the number of members (which may be lower than five). The results found using this alternative definition of the controlling group's stake are similar but less significant, suggesting that blockholders do form coalitions and that some blockholders are left out of the controlling coalition.

25% and 50%, between 50% and 60%, between 60% and 80%, and higher than 80% respectively.[11] Controlling groups with a 50 to 60% ownership stake are of particular interest because they have full control with relatively low cash-flow rights and, thus, are the most likely to extract private benefits.[12] Our assumption that more than 50% is necessary to win control is not necessarily valid for large firms that may be controlled with a lower stake. Moreover, the ultimate shareholders will be different and will have lower cash-flow rights if pyramidal ownership structures or dual-class shares exist. However, this works in our favor, since it would make it less likely to find evidence of expropriation for the 50 to 60% group.[13] The interaction of the 50-60% dummy with the dummies reflecting the number of members of the controlling group allows us to test the "*bargaining*" effect that lead us to state Hypothesis 3. In order to test Hypothesis 4 for the "*alignment*" effect, we interact the continuous variable *Minimum Stake Group* with dummies that capture the number of blockholders in the controlling coalition.

Our last ownership variable, *Second,* is defined as the stake of the second largest shareholder. We use this variable to test Hypothesis 5, that is, whether large shareholders that are not in the controlling coalition do effectively monitor the controlling group and reduce private benefit extraction.

3.3.2/ Performance variables

We will use return on assets (*ROA*) as our measure of performance. Gilson and Gordon (2003) argue that the main avenues for private benefit extraction are usually through direct dealings by the controlling shareholders with the controlled firm, such as: unfair transfer pricing; transfer of

[11] According to our definition, firms with a joint ownership stake of all the blockholders below 50% do not formally have a controlling coalition. However, for the sake of completeness, when this happens, we add up the stake of all the blockholders and consider this group, formed by all stakeholders, as the "controlling coalition". This gives rise to values for the ownership stake of the controlling coalition in the 0 to 50% range.

[12] Also, for robustness, we consider the wider interval between 50%-75% as the potential expropriating region (available upon request).

[13] If pyramidal structures exist (unlikely for non-listed firms), expropriation will occur even for ownership stakes between 60 and 100%, because ultimate cash flow rights would be lower than that. If there are dual-class shares or the firm can be controlled with a stake lower than 50%, we would expect to find more expropriation for firms where the controlling group has an ownership stake lower than 50%.

assets from the controlled corporation to the controlling shareholder; use of the controlled firm's assets as collateral for a controlling shareholder's debt, etc. Thus, minority expropriation problems are likely to be reflected either in lower revenues, excessive production costs or in the inefficient employment of assets. These factors will result in a reduction in margins or asset rotation and, in turn, will be reflected in a lower *ROA*. For the sub-sample of listed firms we also use the market-to-book ratio as variable of performance.

3.3.3/ Control variables

In order to study the effects that ownership structure may have on performance, we control for firm characteristics that may have a simultaneous effect on both ownership structure and performance, otherwise, we may only identify a spurious correlation. The use of panel data allows us to control for firm characteristics that are stable in time, but we still need to control for changing firm characteristics that can be related to private benefit extraction. When controlling for these factors, different theoretical models predict that firms whose characteristics favor private benefit extraction –and eventually affect performance- should chose a differentiated ownership structure; in particular, one where the controlling group's stake is larger. We test for such behavior in Hypothesis 2.

We hypothesize that, ceteris paribus, the higher the monitoring cost and the free cash-flows, the more significant the private benefit extraction. Following Demsetz and Villalonga (2001) and Morck *et al*. (1988), we use as proxies for the cost of monitoring firm's *Size*, (measured as the log of assets), *Age* and asset *Intangibility* (the ratio of intangible assets over total assets). We expect larger firms and firms with more intangible assets to be more difficult to monitor. The relationship between age and the cost of monitoring is expected to be negative: younger firms should be more difficult to monitor since there are no past records of performance. We proxy free cash-flows through measures of the firm's financial structure and product market competition. In particular, we

use *Leverage* and the 4-digit industry *Herfindhal* index of sales and *Growth* in sales. Increases in leverage reduce the expropriated rents, while higher sales concentration and growth opportunities increase them.

Since ROA is affected by macroeconomic and industry factors we also include in all specifications 1-digit industry and year dummies among the control variables.

4/ Descriptive statistics

The summary statistics of the variables are shown in Table 2, where the values of the different variables are conditioned to different contingencies.

[Insert Table 2 about here]

The data in Table 2 show that ownership structure is very concentrated. In 88.72% of the cases, a group of large shareholders has an ownership stake greater than 50%. We can divide firms into three groups according to the structure of their controlling coalitions (see Panel B). The first includes firms with only one large shareholder (Type 1 firms that represent 62.27% of the total). In the second group we have firms with several large shareholders that must share control since none of them has an individual stake higher than 50% (Type 2 firms that represent 20.31%). The third group comprises firms with one controlling shareholder, with a stake higher than 50%, that is accompanied by other blockholder –with a stake of at least 1%- who do not share control (Type 3 representing 17.42% of the firms). The last two types have ownership structures with several large shareholders and together represent 37.73% of the total. Interestingly this distribution of firms is not consistent with Hypothesis 1, which predicts the existence of only the first two types of firms, albeit the two most numerous groups. This is because Zwiebel's (1995) model, which is the base for Hypothesis 1, is based solely on minority expropriation considerations. Only the monitoring and contestability arguments of Pagano and Röel (1998) and Bloch and Hege (2001), which we test in Hypothesis 5, can account for the existence of Type 3 firms.

We can also see in Table 2 that there is a clear relationship between the size of the stake and the number of members of the controlling coalition; in particular, as the stake increases the average number of members decreases (1.77 when the stake is in the interval 50-60% interval and 1.09 when the stake is larger than 80%).

Concerning the control variables, Table 2 shows that firm profitability, measured in terms of *ROA*, is lower when the controlling coalition's stake lies within the 50-60% interval. Notice that this is precisely the interval where expropriation is expected to be more likely, because it is the lower stake that guarantees full control. Moreover, when we distinguish between the three previously defined types of firms (Panel B), we see that firm profitability is greater for firms with more than one blockholder in the controlling group (10.03% for Type 2 firms with 2.56 members in the controlling group, on average) than for firms where there are several blockholders but the largest one owns more than 50% of the shares and can exert full control (9.35% for Type 3 firms). The worst scenario is when there is a single shareholder without contestability (ROA is 9.28% for Type 1 firms). This preliminary evidence already suggests that there may be a positive relationship between the number of controlling blockholders and firm profitability, in line with Hypothesis 3.

Other interesting results in Table 2 (see Panel A) show that the stake of the controlling coalition tends to be larger in; larger firms,[14] younger firms; firms with higher levels of leverage and in firms operating in more concentrated industries. With regard to size one may expect the opposite outcome: as firms grow the shareholder base also grows and the ownership structure should become less concentrated. This is one of the issues that we discuss in the following section where we are going to explain such result in terms of the superior blockholder expropriating eagerness of larger firms. Additionally (see Panel B), the worst-performing firms are small, closed as well as those controlled by other firms. We expect further expropriating problems in such firms as we analyze in Section 7.

[14] Those firms whose controlling group's stake lie in the 80-100% interval are larger than those whose controlling group stake lies in the other intervals.

Table 3 shows the evolution of the controlling group's stake over time. We define five types of firms depending on whether (in their first year in the sample) their controlling group's stake falls into the 0 to 25%, 25 to 50%, 50 to 60% 60 to 80% or 80 to 100% ranges. In Panel A, we compute the percentage of firms that have changed types three years later. In Panel B, we observe the change in the average stake for each initial type over the next three years.

[Insert Table 3 about here]

In Panel A we see that the stake is more stable in the 80-100% range where 96.87% of firms have not changed type after three years. In contrast with this, only 54.86% of firms in the 50-60% range maintain their original type. Looking at Panel B, we also find that, for all types below the 80-100% range, the controlling group's stake becomes more concentrated over time. The case of the 0-25% range is especially remarkable, since the stake evolves from an average 11.54% to 33.76%.

This tendency towards concentration is an unexpected result, because we may expect that ownership concentration decreases over time, particularly, for listed firms. The dynamics of the ownership structure for non-listed firms seems to be different, as we explain in the following section.

5/ Determinants of the controlling group's structure

We first investigate whether the structure of the controlling group is consciously chosen by the initial owners. If this were the case and, according to Hypothesis 2, we would expect firms whose characteristics make them more likely to suffer expropriation problems to avoid having a controlling group with a stake close to 50%.

In order to test Hypothesis 2, we first define *Relative Stake* as the absolute difference between the controlling group's stake and 50%, which we take as the expropriating threshold

level.[15] We regress *Relative Stake* on those firm characteristics that determine the risk of minority expropriation *(Size*, *Age*, *Intangibility*, *Leverage*, *Herfindhal* and *Growth)*.[16] We expect to see larger values of *Relative Stake* in those firms whose characteristics are such that the risk of minority expropriation is higher. We also include among the explanatory variables the lagged values of the *Relative Stake*, so as to allow for adjustment costs, and *ROA* lagged by one period in order to tackle any potential endogeneity problem between performance and ownership structure. Furthermore, the inclusion of *ROA* in this regression will help us construct the instruments that we use to estimate the impact of the ownership structure on performance (see Section 6). Finally, we also introduce sector and year dummy variables. As mentioned before, in order to eliminate the firm-specific component of the error-term, we estimate in differences when the Hausman Test reveals the existence of such problem (fixed-effect estimation) and conduct GMM estimations (as proposed by Arellano and Bond, 1991), using as instruments *ROA* and *Relative Stake* lagged by two or further periods.

[Insert Table 4A about here]

The results in Table 4A indicate that firms, whose characteristics make them more vulnerable to private benefit extraction, chose ownership structures that reduce the potential for this problem. In particular, looking at the GMM estimation in column 3, we observe that as firms become more difficult to monitor (larger, younger and non-listed firms), with higher free cash-flows (firms operating in concentrated industries and firms experiencing high growth), they tend to have controlling group stakes that are far removed from the 50% threshold.

Overall these results confirm Hypothesis 2. Firms with different characteristics adjust the composition of their controlling groups so as to prevent minority expropriation problems. However, this adjustment is not perfect, given the significant coefficient on the lagged *Relative Stake* (0.14). Therefore, we still expect to find a significant effect of ownership structure on performance.

[15] We follow Morck *et al.* (1988) by using a transformation of the original *Relative Stake* variable. Our dependent variable is therefore computed as log [Relative Stake/(1-Relative Stake)].

[16] We also estimate a multinomial logit model, available upon request, for the probability of choosing a controlling group with a particular stake (0-50%, 50-60% or more than 60%). The results found are consistent with those in Table 4A.

Finally, past performance does influence the configuration of the controlling group. In particular, as performance deteriorates firms react by increasing the stake of the controlling group. This may be due to different reasons: small shareholders may wish to leave these firms; raiders may see an opportunity for an acquisition; and so on. Consequently, in the next section, when we study the effects that the composition of the controlling group may have on performance we take this endogeneity problem into account.

The results in Table 4A are consistent with the changes in ownership structure that we observe in Table 3. Moreover, we can now explain the tendency towards concentration in the light of these new results. Considering the significance of the explanatory variables and given that most companies in the sample are non-listed, together with the fact that age and industry concentration change slowly, we conclude that changes in size and performance must be the main drivers behind the significant changes in ownership structure that we identify in Table 3.

This is confirmed by the results in Table 4B; they indicate that the increase in the stake of the controlling group over a period of three years is significantly larger in those firms with larger growth rates (Panel A), as well as in the worst-performing firms (Panel B). Interestingly, many firms experienced important changes in size and performance during the period in question (1996-2000), since 2000 marks the end of an expansive period in the Spanish economy. In particular, the mean value of ROA for the sample firms decreased from 11.54%, in 1996, to 7.11%, in 2000; and the mean size increased from a value of 15.54, in 1996, to a value of 16.18, in 2000. Hence, the combination growth and declining performance during the period being studies seems to explain the important tendency towards concentration in the controlling group's stake shown in Table 3. In Panel C, we investigate the variation in the controlling group's stake over a three year period for different types of firms, depending on their growth rates and performance. Unsurprisingly, those firms with larger growth rates and worse performance are those that have seen larger increases in the controlling group's stake (6.9%). As companies grow, their funding requirements force them to

reorganize their ownership structure; this factor is particularly important when performance declines. Moreover, difficulties related to monitoring and expropriation risks increase. Therefore, as companies grow, they tend to restructure their ownership structure away from controlling groups with a stake close to 50%. They can do so by either reducing or increasing the stake. However, reducing the stake, in order to achieve a dispersed ownership structure may be too costly for non-listed firms. Therefore, as firms grow, we expect to see a tendency towards concentration for non-listed firms, just as we observe in Table 3. And, in a cross section analysis, we would expect the stake of the controlling group to be greater in larger firms, as can be seen in Table 2. Moreover, we would expect the more significant changes in the controlling group's stake to occur in those firms that have experienced large growth, as we show in panel A of Table 4B.

[Insert Table 4B about here]

Our findings, regarding the increase in the controlling group's stake as firms grow, are consistent with the idea that some ownership structures may favor minority expropriation and that existing and potential shareholders try hinder them by increasing the controlling group's stake. On the one hand, existing investors seem to do this by entering into formal and informal shareholders pacts with the intention of preventing the entrance of "uninvited" new investors when new funds are needed. These so called "drag along" and "tag along" shareholders' agreements are widely used among non-listed Spanish firms and across Continental Europe (Barca and Becht, 2001).[17] These clauses, when exercised, favor the concentration of ownership structure. On the other hand, potential new investors may be reluctant to invest in firms where majority shareholders may expropriate the minority. This leads to ownership concentration increasing over time. Along this line, Giannetti and Simonov (2006) find, for a sample of listed Swedish firms, that institutional and

[17] "Drag along" is an option that allows a majority shareholder who wants to sell, to force minority shareholders to sell at the same price. "Tag along" is an option that allows a minority shareholder to sell his stake at the same price as the majority shareholder. Interestingly, the existence of "Tag along" options may explain the presence of large non-controlling blockholders even when the largest blockholder has a stake in the 80-100% region (3.5% of the firms according to Panel B of Table 2 for Type 3 firms). In these firms, minority blockholders can see their stake as an option to be exercised at the same price as controlling blockholders whenever these latter want to sell their stake. We thank Andrei Shleifer for suggesting this argument.

small investors, who only enjoy security benefits, are reluctant to invest in companies with weak corporate governance; they are substituted by individuals connected with company insiders who can also enjoy private benefits. Usually, these individuals hold large stakes.

6/ Performance effects of the controlling group's structure

We now examine the relationship between the controlling group's structure and performance. In order to do this, we estimate different regressions of performance, as measured by ROA, on the ownership stake of the controlling group as well as the number of members. We also include the variables that proxy for the likelihood of expropriation as control variables.

In this estimation, we face two potential endogeneity problems that we mentioned in the methodological section. First, some unobservable firm characteristics that are correlated both with ownership structure and firm performance may exist (e.g. management quality may affect ownership structure by attracting a certain type of blockholders and, at the same time, the quality of managers has a direct effect on performance). In order to tackle this endogeneity problem, the panel structure of our data allows us to exploit the time variability of the sample (estimating in differences). Additionally, there is a second endogeneity problem because firms adjust their ownership structure contingent on performance as we have shown in the previous section; the worst-performing firms tend to avoid ownership structures where the controlling group's stake is near 50%. In order to eliminate both endogeneity problems, we again estimate using GMM. Our dependent variable is ROA and we use as explanatory variables the ROA lagged by one period (dynamic panel estimation); the instrumented dummy variables indicating the ownership stake of the controlling group (see below); and the set of control variables together with sector and year dummies.

In order to construct our instruments for the ownership structure dummies, we proceed as follows. First, we use the specification of ownership structure, shown in Table 4A, to estimate the

predicted value of the controlling group's stake. Second, we create a set of dummy instruments such that the dummy instrument A-B% is equal to one, when two conditions are met: (i) the stake of the controlling group falls within the A-B% range and (ii) the predicted value of the controlling group's stake, computed using the performance and the significant control variables, fall outside the A-B% range.[18] Note that these instruments, by construction, are uncorrelated with performance or with control variables, but are correlated with the controlling group's stake; this is the second condition that must be satisfied by an instrument. Finally, because the instruments are not correlated with the control variables, the coefficient for each of the control variables will indicate the total effect that this variable has on performance; the direct effect as well as the indirect effect induced through changes in the stake of the controlling group.[19] We also construct dummy instruments for the number of blockholders in the controlling coalition. In order to do this, we first re-estimate the specification shown in Table 4A, using the number of members of the controlling coalition as the dependent variable. We then construct dummy instruments for the number of members in the coalition, using the same procedure that we used for the A-B% dummies. By using these dummy instruments, we multiply the set of A-B% dummies that indicate the coalition stake, with the new set of dummies 1M, 2M and 3M, indicating the number of members of the coalition. Finally, we also use all possible lagged values of all these instruments in our GMM estimation.

The results are reported in Table 5A. In the first column, we report the fixed-effects estimation which controls for unobservable fixed firm characteristics. In column 2 we report the results of the GMM estimation that also controls for reverse causality. In columns 3 and 4, we repeat the estimation of column 2 but distinguish between increases in the stake of the controlling group (column 3) and decreases (column 4).

[Insert Tables 5A about here]

[18] The prediction for the controlling group's stake, using performance, and firm characteristics as explanatory variables has a mean percentage of success of 65.6%, with 1.41 % for the 0-25% range; 18.45% for the 25-50% range; 12.94% for the 50-60% range; 46.29% for the 60-80% range; and 90.08% for the 80-100% range.

[19] Additionally, these instruments rule out mulicollinearity problems.

The key result from Table 5A refers to the coefficients obtained for the 50-60% stake dummy when combined with dummies for the number of members in the controlling group. The coefficient of the interaction between the 50-60% stake dummy and the 1M dummy (a firm with a sole controlling blockholder with a stake in the 50 to 60% range) is negative and significant, both statistically and economically.[20] If a firm in the 80-100% range (the reference range) has a ROA of 10%, a similar firm with a single controlling shareholder retaining an ownership stake in the 50 to 60% range will have a ROA of 6.02% (10%-3.98%). This result is even more remarkable if we recall that, according to Table 4A, the worst-performing firms readjust their ownership structures in order to avoid the formation of controlling groups with a stake close to 50%. Our GMM estimation, in Table 5A, can be interpreted in terms of direct causality; indicating that firms moving their controlling group stake to the 50-60% region, are more likely to suffer minority expropriation.

Also, the results indicate that firms moving to a controlling group with an ownership stake in the 50 to 60% range but more than one coalition member perform better than the control group of firms in the 80 to 100% range. Therefore, the presence of multiple, controlling shareholders reduces expropriation. This provides partial support for Hypothesis 3, and can be interpreted as evidence of a bargaining effect, as predicted by Bennedsen and Wolfenzon (2000) and Gomes and Novaes (2005). Interestingly, this bargaining effect appears with the entrance of the second blockholder and does not become any stronger as their number increases. This may be due to the fact that there are few firms with more than four controlling shareholders. It is also possible that, as the number of controlling blockholders exceeds two, the problems related to collective decision making offset the gains from the stronger bargaining effect.

In order to contrast Hypothesis 5, we cross the variable *50-60%x1M* with the *Second* variable, which represents the stake of the second blockholder outside the controlling coalition when crossed with *50-60%x1M*. The coefficient is positive and significant, as expected according to

[20] In an alternative specification that considers the broader 50-75% range as the expropriating region (available upon request); we find that the coefficient of the variable that measures expropriation (50-75% x 1M) is less negative. This is consistent with the idea that, as we move away from the 50% stake, the risk of expropriation is lower.

Hypothesis 5. This result indicates that non-controlling shareholders play both a monitoring as well a contestability role; thus, making private benefit extraction more costly for the controlling shareholder.

In columns 3 and 4, we develop further the results of the previous study, by separating those changes in the ownership structure that result from an increase in the controlling group's stake, from the ones that result in a decrease. This analysis shows that reductions in the controlling group's stake, leading to a final stake in the 50-60% range, are accompanied by a significant deterioration in performance. However, an increase that leads to a 50-60% stake in the controlling group is not accompanied by a significant negative effect on performance. This may be because expropriation had already commenced when the stake was lower than 50%. The idea that expropriation also occurs for stakes lower than 50% is reinforced by the observation that, when the decrease brings this stake to below 50%, there is also a significant and negative effect on performance (see the negative coefficient of 0-25% in column 4).[21]

With regard to the control variables, *size* and *growth* have a negative impact on performance. This is consistent with our previous findings indicating that variations in size are the main driver behind the observed increases in the controlling group's stake, since larger firms are more vulnerable to expropriation, which affects negatively to performance. Also, the variables *intangibility and herfindahl* have a negative impact on performance; which supports the idea that the risk of expropriation is greater in firms that are: more difficult to monitor (with a large proportion of intangible assets) and/or with higher free cash-flows (firms operating in concentrated industries).

[Insert Tables 5B about here]

In columns 1 and 2 of Table 5B, we try to replicate the previous results, using a continuous variable to reflect the ownership structure of the firm. We follow Morck *et al*. (1988) by

[21] Additionally, when we compare estimations that focus on entry into the expropriating regions with those that focus on the exit from the expropriating region, we do not find any significant difference.

decomposing the controlling group's stake in a piece-wise function with the same break points as those for the specifications in Table 5A. Thus, we study the effects on ROA of changes in the stake, within each range. The results show that increasing the stake, to within the 50-60% range, has a negative effect on performance when there is only one blockholder, but the effect is positive if there is more than one controlling blockholder (see GMM estimation in column 2). This result confirms Hypothesis 3; showing that increasing the number of members in the coalition reduces expropriation. The result is also consistent with Hypotheses 4, indicating than when the stake is small, yet large enough to win control, expropriation takes place; but such expropriation diminishes as the coalition's stake increases.

Finally, in columns 3 and 4 of Table 5B, we test Hypothesis 4, in a more direct way by not focusing solely on the expropriating region, as we do in the first two columns. We multiply a continuous variable that measures the controlling group's stake with dummy variables that indicate the number of controlling blockholders.[22] The results confirm Hypothesis 4; once the number of blockholders is fixed, the performance increases when the controlling group's stake is higher, particularly when the number of blockholders is greater than one but not too large. The latter result may indicate that, when the coalition has a large number of members, conflicts of interest among them may hinder the adoption of the most efficient decisions.

7/ Extensions and Robustness checks

7.1/ Results for different types of firms

The extent of the minority expropriation problem that we identify depends on firm characteristics which make private benefit extraction more likely, such as: firm size, obstacles to share transfer; and the identity of the largest shareholder. In order to capture these potential

[22] We have instrumented these variables using the methodology described above.

differences, we break down our sample according to the proposed characteristics and re-estimate our model for each sub-sample. The results are reported in Tables 6A, 6B, and 6C.

[Insert Table 6A about here]

Table 6A shows the results by firm size. Non-small firms (larger than 30 employees) seem to have minority expropriation problems, with a negative and significant coefficient for the *50-60%x1M* dummy. This coefficient is not significant for small firms; thus, consistent with our findings in Table 4A, indicating that larger firms, which are more difficult to monitor and hence more likely to suffer minority expropriation problems, are less likely to have a controlling group with a stake in the 50-60% range. Also, this behavior is consistent with the negative sign for the *Size* variable found in Table 5A, explaining the determinants of performance.

[Insert Table 6B about here]

In Table 6B, we report the results depending on the trading restrictions that shareholders face. In closed corporations, trading is restricted to incumbent shareholders and a shareholder can only sell his stake to an outsider subject to the agreement of the rest of the shareholders. This reduced liquidity of shares makes minority shareholders more vulnerable to expropriation although it reduces managerial opportunistic behavior (Bolton and von Thadden, 1998). In contrast, open firms' shares can be freely traded and in some cases in organized markets (listed firms, which are analyzed separately in Table 7). Table 6B shows that minority expropriation only appears in closed firms. We confirm this result with an estimation for all the firms in the sample and interacting the variables on ownership structure with a dummy that indicates whether the firm is closed. We find a differential, negative and significant effect for closed firms (negative coefficient for the *50-60% x 1M dummy x Closed* in column 3).

[Insert Table 6C about here]

The results for the largest shareholder's identity appear in Table 6C. Gilson and Gordon (2003) suggest that controlling shareholders can be classified into two groups: those whose only

connection to the firm is through shareholdings; and those who also have operational ties to the firm, for example, as a customer or supplier. The former have fewer direct means to extract private benefits, compared with the latter. Taking into account this distinction, one would expect that firms controlled by other firms, who are likely to have commercial ties with it, are more likely to suffer minority expropriation than other firms. This idea is confirmed by the results in Table 6C, where the negative coefficient on the *50-60%%x1M* dummy is much larger when the controlling blockholders are other firms. This result also holds in the estimation for all firms when we interact the ownership variables with a dummy that captures whether the firm in question is controlled by another firm (column 4).

So far, we have found that closed firms and firms whose controlling shareholder is another firm are more likely to suffer minority expropriation problems. Interestingly, closed firms are very likely to be controlled by other firms (43.03% of closed firms are controlled by other firms). Therefore, these two effects must be disentangled; we do so in the last two columns of Tables 6B and 6C. In particular, in the last column of Table 6C, we test whether there is expropriation in closed firms, after detracting the expropriating effect due to the presence of another firm as the largest blockholder. The results for the sample of closed firms show that there is expropriation only when the subject firm is controlled by another firm (the coefficient of *50-60%x1M* is not significant while the coefficient on the *50-60%x1MxFirm* is negative, large and significant*)*. In a similar way, in the last column of Table 6B, for firms controlled by other firms, we test whether there is evidence of expropriation when we introduce a dummy for closed firms. In this case, we still find a negative and significant coefficient for the *50-60%x1M* dummy. Together, these results indicate that firms controlled by other firms are the most likely to suffer expropriation, and that a closed ownership structure is detrimental in such cases because it seems to facilitate the expropriation activities of the controlling firm (negative coefficient of *50-60% x 1M x Closed* in column 5 of Table 6B). However, a closed ownership structure does not necessarily imply higher minority expropriation for firms

whose largest blockholder is not a firm. This is an important distinction from other papers which argue that expropriation should be more pronounced in closed firms (Bennedsen and Wolfenzon, 2000; Gomes and Novaes, 2005; Pagano and Roëll, 1998).

7.2/ ROA versus market-to-book ratio

The main focus of this paper is to investigate how multiple large shareholders share control and extract private benefits in non-listed corporations, where minority expropriation problems are most likely to be severe. ROA is the obvious measure of performance for these firms. However, our sample contains a small sub-sample of listed firms. We have market data for these firms; hence, we use the market-to-book ratio as an alternative measure of performance. As Demsetz and Villalonga (2001) point out, there are no clear *a priori* reasons to favor one measure of performance over the other. ROA is affected by accounting practices, which may hide expropriation, but market-to-book ratio will also be subject to accounting problems if investors use past performance information to infer the future. Moreover, market-to-book ratio is forward-looking, reflecting expectations of private benefit extraction, while ROA should reflect effective minority expropriation because it is backward-looking. This means that the effects of using market measures of performance should be lower. Nevertheless, it would be interesting to test the robustness of our results using market values for the sub-sample of listed firms.

[Insert Table 7 about here]

Table 7 reports the estimation results for the sample of listed firms using market-to-book ratio as the dependent variable (columns 2 and 4) as well as ROA for comparison reasons (columns 1 and 3).[23] These results using market-to-book ratio as well as ROA as the dependent variable, do not show evidence of expropriation for listed firms (GMM estimations of columns 3 and 4). Note that the strict information requirements that listed firms have to comply with and the public scrutiny

[23] We do not include the dependent variable lagged by one period due to the reduced number of observations.

to which they are subjected, make them less likely to suffer minority expropriation problems. This is reflected in the estimation results.

Due to the limited number of observations for listed firms (211), we should treat the results of the GMM estimation with caution. By focusing on the fixed-effects estimation in column 2, we find that listed companies moving to a "controlling group" below 50% perform better than the reference firms. This is probably due to the fact that, in listed firms, blockholders with a low controlling stake can be contested; it is possible for other blockholders to accumulate a larger stake by trading in the financial markets. Therefore, contestability is higher for these firms and, according to Hypothesis 5, should have a positive effect on performance. The second remarkable result shown in column 2 is that, for a controlling stake between 50 and 60%, firms with three or more blockholders in the controlling group perform better; confirming that multiple large blockholders may prevent minority expropriation. These results suggest that expropriation is less pronounced in listed firms.

Finally, in an unreported estimation, we estimate the market-to-book ratio with a piece-wise specification using GMM. The results indicate that, in the diluted ownership region (below 50%), the effect is positive. The effect then becomes negative in the 50-60% region with a single blockholder. Interestingly, in this region, as the number of blockholders increases there is a concave relationship from positive-to-negative. Finally, in the 60-100% range, the effect of the stake on performance is neutral. Thus, for listed firms, we can replicate the results of Morck *et al.* (1988) by using a piece-wise specification to capture the effect of changes in ownership on performance, contingent upon different regions in the controlling group's stake.

8/ Summary and conclusions

In this paper, we evaluate empirically the role of concentrated ownership structures, with multiple large shareholders, for a sample of both listed and non-listed Spanish firms from 1996 to

2000. We test the empirical predictions of the different theoretical models that try to explain the existence, function and consequences of this type of ownership structure. To do so, we craft a methodology to tackle the endogeneity problems that arise from the estimations for performance and ownership structure, given that both variables affect each other in their corresponding estimations.

Following Bennedsen and Wolfenzon (2000), we assume that large shareholders form coalitions to share control, and define the controlling group as the minimum stake coalition of large shareholders necessary to gain effective control of the firm.

Our results are consistent with most of the predictions in the theoretical literature; we also find unexpected evidence of large changes in the composition of the controlling group over time, with a tendency for the controlling coalition to boost its stake. In particular we find that:

(i) *Ownership structure is highly concentrated and 37.73% of the firms have multiple large shareholders*. These latter firms can be divided into two types: those with several large shareholders with shared control, since none of them has an individual stake higher than 50% (20.31%); and those other firms where one controlling shareholder, with a stake higher than 50%, is accompanied by other large shareholders who do not share control (17.42%). Interestingly, the existence of this latter group is not predicted by Zwiebel (1995) who argues that there is a threshold size, beyond which the largest blockholder will not be challenged by other investors set on competing for benefits that accrue from control. The presence of such blockholders can only be attributed to a possible monitoring role for large shareholders outside the controlling coalition.

(ii) *Firms adjust their ownership structures in accordance with their specific characteristics.* Firms that face a serious threat of minority expropriation, because of higher monitoring costs (as measured by firm size, age and listing status) or larger free cash-flows rents (as measured by the industry's Herfindhal index of sales concentration), tend to have controlling group stakes that are far from the 50% threshold; here, one would expect expropriation to be higher. Moreover, we observe

large changes in the controlling group's stake, over time; there is a tendency to boost the stake. Over a period of three years, 17.30% of the firms that start out with a controlling coalition, with a stake below the 80% range, end up with a stake in excess of 80%. Interestingly, changes in the controlling group's stake are more pronounced in those firms that experience higher growth and worse performance. Thus, we believe that firms readjust their ownership structure with growth and must obtain new funds to compensate for bad performance. In particular, we expect that as firms grow, both monitoring difficulties and expropriation risk increase; hence, controlling groups with a stake close to 50% begin to pose a threat. Since reducing the controlling group's stake may be a very costly option for non-listed firms, they tend to increase their stake so as to force the controlling group to internalize the costs of expropriation.

(iii) *For a given controlling blockholders' combined stake, increasing the number of controlling blockholders has a positive effect on performance.* We find that the presence of more than one controlling shareholder substantially decreases private benefit extraction when the controlling group's stake is in the range between 50-60%. We identify this as the region with the largest expropriation (ownership stakes large enough to confer control over the decisions of the firm, but insufficient to force controlling shareholders to fully internalize the costs of expropriation). We interpret this as evidence of bargaining for private benefits that occurs among large shareholders, when they are forced to share control, and that the end result is a reduction in private benefits. Remarkably, this effect becomes less positive when the number of blockholders is large (more than three). In that case, the difficulties to reach an agreement among controlling blockholders on the decision to take, not only protect the minority shareholders but also hinder the adoption of value-creation initiatives.

(iv) *For a given number of controlling blockholders, increases in joint stake result in improved performance.* This is evidence of an alignment effect between the interests of blockholders and those of minority of shareholders, as the controlling group's stake increases.

Remarkably, this effect is more important when the number of blockholders is larger than one, but marginally less positive when larger than three.

(v) *The presence of large shareholders, outside the controlling group, also has a positive effect on performance*. Therefore, non-controlling, large shareholders can reduce expropriation by performing a monitoring role and boosting the contestability of the ownership structure.

(vi) *Minority expropriation is more pronounced: when the liquidity of shares is restricted and when commercial ties between blockholders and the firm exist.* Remarkably, we are able to identify that the source of minority expropriation in closely-held corporations is the presence of another firm in the controlling coalition. That is, closed firms, *per se*, do not suffer more expropriation problems than non-closed firms. Finally, we find no evidence of expropriation for listed firms, indicating that market mechanisms may be the most effective way in protecting the minority.

Overall, our results indicate that, when studying the impact of ownership on performance, it is important to take into account the structure of the controlling coalitions that large shareholders form; in terms of their ownership stake and number of members. Finally, the economic significance of the results indicates that minority expropriation in non-listed firms is an important and widespread problem that has not received enough attention from empirical researchers; they are focused mainly on the problems faced by listed firms.

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TABLE 1: Definition of variables

Controlling group:	
Minimum Stake Group	Coalition formed by the shareholders whose joint ownership stake is the minimum stake larger than 50%.
Ownership stake of controlling group:	
A-B%	Dummy variable that is 1 if the ownership stake of the controlling group is in the A-B% range, 0 otherwise. (A=0, 50, 60, 80; and B=50, 60, 80, 100)
Number of members of the controlling group:	
1M	Dummy variable that is 1 if the number of members of the controlling group is 1, 0 otherwise.
2M	Dummy variable that is 1 if the number of members of the controlling group is 2, 0 otherwise.
3M	Dummy variable that is 1 if the number of members of the controlling group is 3 or more, 0 otherwise.
Additional ownership variables:	
Second	The stake of the second-largest shareholder.
Performance variables:	
ROA	Return on assets computed as EBITDA over book value of assets.
Market-to-book ratio	Year-end market value of equity plus book value of debt over book value of total assets.
Control variables:	
Size	Logarithm of total assets.
Age	Years since foundation
Intangibility	Intangible assets over total assets.
Listed	Dummy variable that is 1 if the firm is listed in the Madrid Stock Exchange, 0 otherwise.
Leverage	Total book value of liabilities over total assets.
Herfindahl	4-digit industry Herfindahl index of sales concentration.
Growth	4-digit industry % change in sales year-on-year.

TABLE 2: Summary statistics

All variables are defined in Table 1. Type 1 firms are those with a single blockholder. Type 2 firms are those where the controlling group has two or more members, none of whom has an individual majority stake. Type 3 firms are those in which the largest blockholder controls the firm, owning more than 50% of the shares, but is accompanied by (at least) a second large, non-controlling blockholder. Small firms have less than 30 workers, while non-small ones are their counterparts. Closed firms are firms in which outstanding shares can only be sold to outsiders with the approval of the incumbent shareholders. Open firms are all other firms (including listed companies). Firm-controlled means that the largest blockholder is a firm, while family-controlled means that the largest blockholder is a family. The remaining firms are defined as Other_Controlled,

PANEL A

				Mean stake in the following regions				
	Obs.	Mean	S.D.	0-25%	25-50%	50-60%	60-80%	80-100%
Ownership								
Stake	20313	77%	27%	12%	45%	53%	68%	98%
N of members	20313	1.28	0.69	0.64	2.01	1.77	1.29	1.09
Second	20313	11%	16%	1%	15%	27%	22%	6%
Performance								
ROA	20313	9.51%	13.25%	9.58%	10.73%	8.96%	10.00%	9.25%
Market-to-Book	211	2.03	3.08	1.38	1.76	2.09	2.09	5.34
Controls								
Size	20313	15.98	1.17	15.96	15.71	15.92	15.85	16.09
Age	20313	18.90	13.60	22.58	19.15	20.06	19.16	18.78
Intangibility	20313	0.11	0.18	0.10	0.12	0.12	0.12	0.11
Listed	20313	0.00	0.06	0.00	0.01	0.01	0.00	0.00
Leverage	20313	0.54	0.75	0.51	0.52	0.52	0.54	0.55
Herfindhal	20313	0.17	0.25	0.14	0.14	0.16	0.16	0.19
Growth	20313	0.12	0.79	0.11	0.11	0.11	0.11	0.13

PANEL B

				Distribution of firms in each region (min. stake group)				
	Obs	Stake	ROA	0-25%	25-50%	50-60%	60-80%	80-100%
Type of firms								
Type 1	13196	95%	9.28%	5.30%	3.15%	2.56%	2.67%	48.59%
Type 2	3286	50%	10.03%	1.00%	1.73%	9.08%	3.19%	5.31%
Type 3	3831	66%	9.35%	0%	0%	6.24%	7.66%	3.52%
Small	5243	76%	9.44%	1.38%	1.39%	5.58%	3.67%	13.79%
Non-small	15070	78%	9.60%	4.92%	3.49%	12.30%	9.85%	43.64%
Closed	2754	82%	9.42%	0.44%	0.46%	2.06%	1.85%	8.75%
Open	17559	76%	10.21%	5.86%	4.42%	15.81%	11.67%	48.68%
Firm-Cont.	10718	76%	9.29%	4.65%	3.50%	7.31%	5.61%	31.70%
Family-Cont	8584	78%	9.75%	1.44%	1.19%	9.32%	7.31%	23.00%
Other-Cont.	1011	77%	9.81%	0.21%	0.19%	1.25%	0.61%	2.72%

TABLE 3: Stability of the ownership structure

PANEL A: Changes in the controlling group's ownership stake after three years (% of firms moving from one range to another)					
	Control group's stake in year 0				
	0-25%	**25-50%**	**50-60%**	**60-80%**	**80-100%**
Fraction of obs.	5.46%	3.82%	23.60%	15.26%	51.85%
Stake in year 3					
0-25%	62.96%	2.94%	2.67%	3.53%	0.59%
25-50%	9.06%	63.53%	2.57%	1.47%	0.34%
50-60%	5.35%	15.88%	54.86%	5.01%	1.17%
60-80%	6.17%	7.65%	14.47%	58.76%	1.03%
80-100%	16.46%	10.00%	25.43%	31.23%	96.87%
PANEL B: Change in average stake of the controlling group					
	Control group's stake in year 0				
	0-25%	**25-50%**	**50-60%**	**60-80%**	**80-100%**
Average stake					
Year 0	11.54%	35.47%	51.95%	67.58%	97.69%
Year 1	20.72%	39.63%	56.35%	68.41%	96.32%
Year 2	27.38%	43.02%	60.60%	70.67%	96.09%
Year 3	33.76%	46.99%	64.29%	73.56%	96.31%

TABLE 4A: Determinants of ownership structure

All variables are defined in Table 1. The dependent variable is the *Relative Stake* of the controlling group (i.e. the absolute difference between the controlling group's stake and 50%). The controlling group is defined as the minimum stake group (i.e. the coalition formed by the blockholders whose joint ownership stake is the minimum stake larger than 50%). We include industry and year dummies among the control variables.

Type of estimation	Cross-section	Random-effects	GMM estimation
Relative Stake (-1)			0.140***
			(2.270)
ROA (-1)	-0.001	0.000	-0.016**
	(-0.680)	(0.120)	(-1.930)
Size	0.089***	0.056***	0.075***
	(8.570)	(4.350)	(5.590)
Age	-0.001**	-0.001	-0.002**
	(-1.840)	(-1.070)	(-1.830)
Intangibility	-0.001	0.000	0.000
	(-1.530)	(-0.160)	(-0.570)
Listed	-1.641***	-1.673***	-1.390***
	(-4.640)	(-6.370)	(-3.550)
Leverage	0.000***	0.000	-0.000
	(2.930)	(0.430)	(0.390)
Herfindhal	0.150***	0.032	0.070***
	(3.020)	(1.100)	(2.250)
Growth	0.000***	0.000	0.000**
	(2.760)	(0.330)	(2.210)
Intercept	-2.176***	-1.896***	-1.090***
	(-13.050)	(0.207)	(-7.900)
Number of observations	14032	14032	14032
R^2	28.64%	29.04%	
Fitness Test	11.71 (0.000)	366.54 (0.000)	305.81 (0.000)
Hausman Test		27.41 (0.10)	
AR (2) Test			-1.13 (0.260)
Hansen overidentification Test			11.12 (0.267)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The F- test is used as a fitness test for the cross-section while the Wald test is the test used for random-effects as well as the GMM estimation. The Hausman test has the identity between the coefficients of the random-effects estimation and the fixed-effects one as a null hypothesis. If the null hypothesis is rejected, the unobservable heterogeneity is correlated with explanatory variables and we have to perform fixed-effects estimation. But, if it is not correlated with the explanatory variables, unconditional inference like that of the composed error method (random effects) is the most efficient alternative (Arellano and Bover, 1995). The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instruments validity.

Table 4B: Test of means for explaining the evolution of controlling group's stake

Change_CG_Stake is the change in the controlling group's stake between t and t+3. Large_Growth (Small_Growth) means that the rate of growth of the firm between t and t+3 is larger (lower) than the mean of the sample. Large_Change_ROA (Small_Change_ROA) means that the rate of change in ROA is larger (lower) than the mean of the sample. The remaining variables are defined in Table 1.

	Change_CG_Stake	Change_CG_Stake &50-60%=1
PANEL A		
Large_Growth	0.053**	0.133
Small_Growth	0.042	0.113
T-test	(0.069)	(0.126)
PANEL B		
Large_Change_ROA	0.045**	0.115*
Small_Change_ROA	0.064	0.131
T-test	(0.032)	(0.095)
PANEL C		
Large_Growth& Small_Change_ROA	0.069	0.141
Large_Growth& Large_Change_ROA	0.050	0.126
Small_Growth& Small_Change_ROA	0.060	0.123
Small_Growth & Large_Change_ROA	0.040	0.102

*, **, *** denote significance at the 10%, 5% and 1% respectively. P-values in parentheses.

Table 5A: Ownership structure and performance

All variables are defined in Table 1. The dependent variable is ROA. The dummy variables that capture the ownership structure refer to the ownership stake of the controlling group. We instrument such variables as it is explained in the text. The controlling group is defined as the minimum stake group (coalition formed by the blockholders whose joint ownership stake is the minimum stake larger than 50%). In the last two columns, we constrain the estimations to situations where there is an increase in the controlling group's stake (column 3) or a decrease in that stake (column 4). We include industry and year dummies among the control variables.

Type of estimation	Fixed-Effects	GMM estimation	GMM estimation	GMM estimation
ROA (-1)		0.146	0.204	-0.036
		(0.630)	(0.930)	(-0.140)
0-25%	-0.552	-3.911	0.934	-5.569***
	(-0.850)	(-0.940)	(0.550)	(-3.010)
25-50%	-1.137*	-9.836	-2.934	-6.422
	(-1.640)	(-1.060)	(-1.210)	(-1.510)
50-60% x 1M	-2.001***	-3.977***	-0.441	-3.455**
	(-2.580)	(-2.280)	(-0.420)	(-2.000)
50-60% x 1M x Second	4.181**	9.798***	4.674	8.061***
	(1.900)	(2.580)	(1.240)	(2.320)
50-60% x 2M	0.122	14.359***	-0.130	9.949***
	(0.180)	(2.900)	(-0.040)	(3.950)
50-60% x 3M	0.655	4.648*	1.567	0.894
	(0.870)	(1.620)	(1.170)	(0.460)
60-80%	0.481	-2.535	0.657	-0.946
	(0.930)	(-0.490)	(0.950)	(-0.400)
Size	1.069***	-1.006**	0.075	-0.422***
	(3.780)	(-1.960)	(0.170)	(-2.290)
Age	0.059	0.016*	0.022	0.009
	(0.720)	(1.610)	(0.840)	(0.820)
Intangibility	-0.021*	-0.023***	0.009	-0.026***
	(-1.750)	(-2.560)	(0.360)	(-2.660)
Leverage	-6.887	-1.178	-2.337	1.077
	(-1.220)	(-0.680)	(-0.840)	(0.650)
Listed	-0.037***	0.010	-0.120	0.017
	(-42.620)	(0.360)	(-1.140)	(0.470)
Herfindahl	-0.244	-1.175***	-0.897	-1.064**
	(-0.630)	(-2.320)	(-1.040)	(-2.000)
Growth	0.071***	-0.002***	0.124***	-0.002***
	(3.230)	(-5.060)	(3.440)	(-2.720)
Intercept	-2.833	15.434***	10.614**	22.934***
	(-0.500)	(9.440)	(1.840)	(3.950)
Number of observations	14912	14912	2119	12793
R^2	21.21%			
Fitness Test	103.70 (0.000)	921.15 (0.000)	213.96 (0.000)	903.22 (0.000)
Hausman Test	60.25 (0.000)			
AR (2) Test		-1.15 (0.251)	-0.65 (0.517)	-1.00 (0.317)
Hansen overidentification Test		12.51 (0.565)	11.19 (0.917)	17.68 (0.669)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The F- test is used as a fitness test for the fixed-effect estimations while the Wald test is the test used for the GMM estimations. The Hausman test has the identity between the coefficients of the random-effects estimation and the fixed-effects one as null hypothesis. If the null hypothesis is rejected, the unobservable heterogeneity is correlated with explanatory variables and we have to perform a fixed-effects estimation (Column 1). The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instrument validity.

Table 5B: Ownership structure and performance
Piece-wise and Continuous estimation

All variables are defined in Table 1. The dependent variable is ROA. The piece-wise variables (first two columns) that capture the ownership structure refer to the ownership stake of the controlling group and consider as cut-off points 25%, 50%, 60% and 80%, respectively. We instrument such variables as it is explained in the text. The controlling group is defined as the minimum stake group (coalition formed by the blockholders whose joint ownership stake is the minimum stake larger than 50%). The last two columns use as variables of the ownership structure the interaction between the controlling group's stake and a dummy that captures the number of members of the controlling group. We include industry and year dummies among the control variables.

Type of estimation	Fixed-Effects	GMM estimation	Fixed-Effects	GMM estimation
ROA (-1)		0.439***		0.229***
		(2.320)		(3.630)
0-25%	-4.632	196.330***		
	(-0.860)	(2.980)		
25-50%	4.578	-65.508**		
	(1.370)	(-1.950)		
50-60% x 1M	-2.093	-298.865***		
	(-0.220)	(-2.620)		
50-60% x 1M x Second	42.912*	783.569**		
	(1.670)	(2.130)		
50-60% x 2M	12.605	99.247**		
	(1.520)	(1.820)		
50-60% x 3M	-7.123	64.045		
	(-0.490)	(0.390)		
60-80%	-0.830	54.001		
	(-0.180)	(1.170)		
80-100%	3.067	54.376		
	(0.790)	(1.210)		
Minimum Stake Group x 1M			0.897*	4.449***
			(1.590)	(2.570)
Minimum Stake Group x 2M			2.415***	26.086***
			(3.010)	(5.360)
Minimum Stake Group x 3M			2.412**	14.696***
			(1.900)	(4.030)
Size	1.085***	0.500	1.071***	0.597
	(3.840)	(1.420)	(3.790)	(0.340)
Age	0.062	0.028*	0.059	0.073**
	(0.750)	(1.600)	(0.720)	(2.050)
Intangibility	-0.022**	-0.013	-0.020*	-0.041
	(-1.800)	(-1.160)	(-1.690)	(-1.430)
Listed	-6.638	-1.141	-6.899	-4.260
	(-1.180)	(-0.410)	(-1.220)	(-0.840)
Leverage	-0.037***	-0.017	-0.037***	0.002***
	(-42.610)	(-0.640)	(-42.630)	(0.050)
Herfindahl	-0.256	-0.927	-0.248	3.832***
	(-0.660)	(-1.430)	(-0.640)	(2.330)
Growth	0.073***	-0.001**	0.072***	-0.008***
	(3.300)	(-1.800)	(3.260)	(-3.600)
Intercept	-3.413	-23.489*	-3.847	31.413
	(-0.590)	(-1.730)	(-0.670)	(1.040)
Number of observations	14912	14912	14912	14912
R^2	21.91%		21.16%	
Fitness Test	99.56 (0.000)	412.46 (0.000)	123.16 (0.000)	462.16 (0.000)
Hausman Test	55.99 (0.000)		53.08 (0.000)	
AR (2) Test		-1.100 (0.273)		-1.30 (0.193)
Hansen overidentification Test		21.20 (0.732)		30.26 (0.142)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The F- test is used as a fitness test for the fixed-effect estimations while the Wald test is the test used for the GMM estimations. The Hausman test has the identity between the coefficients of the random-effects estimation and the fixed-effects one as null hypothesis. If the null hypothesis is rejected, the unobservable heterogeneity is correlated with explanatory variables and we have to perform fixed-effects estimation (columns 1 and 3). The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instruments validity.

TABLE 6A: Ownership structure and performance. Size effects

All variables are defined in Table 1. The dependent variable is ROA. The dummy variables that capture the ownership structure refer to the ownership stake of the controlling group defined as the minimum stake group (coalition formed by the blockholders whose joint ownership stake is the minimum stake larger than 50%). We instrument such variables as it is explained in the text. Small firms have less than 30 workers. The first two columns contain fixed-effect estimations while the last two are GMM estimations. We include industry and year dummies among the control variables.

	Small	Non-Small	Small	Non-Small
Type of estimation	Fixed-Effects	Fixed-Effects	GMM estimation	GMM estimation
ROA (-1)			1.108**	-0.065
			(2.060)	(-0.240)
0-25%	1.040	-0.731	-3.091	-1.678
	(0.580)	(-1.020)	(-0.300)	(-0.400)
25-50%	-0.161	-1.145	19.987	-12.335
	(-0.080)	(-1.500)	(0.900)	(-1.490)
50-60% x 1M	-1.306	-2.138***	5.672	-3.835**
	(-0.650)	(-2.420)	(0.840)	(-1.850)
50-60% x 1M x Second	2.722	4.395**	-7.182	8.570***
	(0.470)	(1.800)	(-0.470)	(2.670)
50-60% x 2M	2.091	-0.333	17.375	10.969***
	(1.030)	(-0.460)	(1.250)	(2.970)
50-60% x 3M	1.187	0.592	9.644	3.609
	(0.530)	(0.710)	(0.810)	(1.400)
60-80%	-0.393	0.726	1.764	-2.405
	(-0.260)	(1.270)	(0.420)	(-0.450)
Size	1.130	0.855***	0.448	-0.187
	(1.470)	(2.680)	(0.380)	(-0.900)
Age	0.034	0.077	-0.056	0.014
	(0.090)	(0.930)	(-0.780)	(1.360)
Intangibility	0.006	-0.023*	0.022	-0.027***
	(0.170)	(-1.650)	(1.000)	(-2.470)
Listed		-7.425	8.070	-0.774
		(-1.190)	(0.770)	(-0.360)
Leverage	-0.047***	-0.037***	-0.056	-0.004
	(-2.520)	(-42.800)	(-0.400)	(-0.110)
Herfindahl	1.365	-0.641	0.823	-1.278**
	(1.220)	(-1.490)	(0.380)	(-2.150)
Growth	0.170***	0.055**	-1.238	-0.002***
	(2.510)	(2.280)	(-0.800)	(-4.110)
Intercept	-6.641	-4.602	-2.138	17.355***
	(-0.420)	(-0.700)	(-0.070)	(3.310)
Number of observations	2529	12383	2529	12383
R^2	5.25%	25.16%		
Fitness Test	2.77 (0.000)	103.22 (0.000)	207.05 (0.000)	103.22 (0.000)
Hausman Test	41.60 (0.010)	55.01 (0.000)		
AR (2) Test			0.24 (0.814)	-1.36 (0.173)
Hansen Test			8.60 (0.659)	7.50 (0.942)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The F-test is used as a fitness test for the fixed-effect estimations while the Wald test is the test used for the GMM estimations. The Hausman test has the identity between the coefficients of the random-effects estimation and the fixed-effects one as null hypothesis. If the null hypothesis is rejected, the unobservable heterogeneity is correlated with explanatory variables and we have to perform a fixed-effects estimation (Columns 1 and 2). The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instruments validity.

TABLE 6B: Ownership structure and performance. Liquidity effects

All variables are defined in Table 1. The dependent variable is ROA. The dummy variables that capture the ownership structure refer to the ownership stake of the controlling group defined as the minimum stake to form a coalition above 50%. We instrument such variables as it is explained in the text. Closed firms are firms whose outstanding shares can only be sold to outsiders with the approval of the incumbent shareholders. Open firms are all other firms (including listed firms). All are GMM estimations. The ownership variables in columns 3 and 4 are interacted with a dummy variable "Closed" that is equal to 1 if a firm is closed. In the last column we restrict the sample to firms whose largest blockholder is another firm. We include industry and year dummies among the control variables.

	CLOSED	OPEN		FIRM-CONTROL.
ROA (-1)	0.579***	0.443***	0.815***	0.767***
	(4.020)	(3.040)	(15.620)	(10.120)
0-25%	3.575	-0.715	-0.622	-8.945*
	(0.310)	(-0.250)	(-0.490)	(-1.790)
25-50%	-2.548	1.639	0.541	-2.490
	(-0.170)	(0.250)	(0.680)	(-0.440)
50-60% x 1M	-7.205**	-0.851	-1.597**	-5.825***
	(-1.920)	(-0.640)	(-1.890)	(-2.960)
50-60% x 1M x Second	25.026***	4.154	4.495*	11.425*
	(2.380)	(1.000)	(1.590)	(1.640)
50-60% x 2M	-7.572	6.600	-1.049	2.483
	(-0.890)	(1.240)	(-0.810)	(0.980)
50-60% x 3M	1.460	5.212**	-0.051	-2.032
	(0.480)	(2.120)	(-0.080)	(-0.980)
60-80%	0.935	1.564**	0.848*	-3.286
	(0.560)	(1.950)	(1.630)	(-1.580)
0-25% x Closed			-0.874	9.554**
			(-0.050)	(2.080)
25-50% x Closed			-7.115	-10.142
			(-1.190)	(-0.660)
50-60% x 1M x Closed			-4.960***	-26.798*
			(-2.970)	(-1.670)
50-60% x 1M x Second x Closed			10.998*	58.657
			(1.710)	(1.230)
50-60% x 2M x Closed			9.474**	-251.925
			(1.980)	(-1.440)
50-60% x 3M x Closed			0.485	-1.565
			(0.340)	(-0.870)
60-80% x Closed			-0.656	14.497
			(-0.640)	(0.970)
Size	-1.292***	0.436	0.117	-0.274
	(-2.450)	(0.580)	(1.020)	(-1.070)
Age	0.026	-0.017	-0.005	-0.010
	(0.880)	(-0.510)	(-0.770)	(-0.520)
Intangibility	-0.044***	-0.010	-0.003	-0.009
	(-2.390)	(-1.170)	(-0.560)	(-1.010)
Listed		-3.376	-0.081	-0.488
		(-1.350)	(-0.090)	(-0.240)
Leverage	0.172**	-0.072**	-0.048***	-0.044*
	(1.980)	(-1.880)	(-2.320)	(-1.780)
Herfindahl	-3.429***	(-0.989	-1.234***	-2.705***
	(-3.270)	(-1.020)	(-2.590)	(-3.170)
Growth	-0.294***	-0.136	-0.001***	0.017
	(-3.130)	(-0.360)	(-2.900)	(0.250)
Intercept	30.533***	3.719	1.178	11.242**
	(3.080)	(0.920)	(0.580)	(2.190)
Number of observations	1938	12974	14912	8103
Fitness test	368.33 (0.000)	1153.79 (0.000)	2419.16 (0.000)	884.30 (0.000)
AR (2) Test	-0.72 (0.469)	0.71 (0.480)	0.92 (0.355)	0.85 (0.393)
Hansen overidentification test	19.78 (0.408)	19.08 (0.640)	117.70 (0.362)	36.80 (0.965)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The Wald test is the Fitness Test. The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instruments validity.

TABLE 6C: Ownership structure and performance. Type of largest blockholder

All variables are defined in Table 1. The dependent variable is ROA. The dummy variables that capture the ownership structure refer to the ownership stake of the controlling group defined as the minimum stake group (coalition formed by the blockholders whose joint ownership stake is the minimum stake larger than 50%). We instrument such variables as it is explained in the text. The largest blockholder can be a firm, a family or another type of blockholder. All are GMM estimations. The ownership variables of columns 4 and 5 are interacted with the dummy "Firm" which is equal to 1 the largest blockholder is a firm. In Column 5 we restrict the sample to closed firms. We include industry and year dummies among the control variables

	FIRM	FAMILY	OTHERS		CLOSED
ROA (-1)	0.646***	0.414***	1.110***	0.434***	0.868***
	(2.940)	(2.700)	(6.010)	(4.110)	(28.330)
0-25%	1.802	-4.491	-4.761	-13.242	5.207
	(0.090)	(-0.840)	(-0.640)	(-0.930)	(0.260)
25-50%	-64.821	-3.023	38.983	16.734	-9.271
	(-0.770)	(-0.480)	(1.360)	(1.250)	(-1.410)
50-60% x 1M	-162.753**	-2.328**	3.371	-2.358**	-1.884
	(-2.010)	(-1.960)	(0.460)	(-1.980)	(-1.480)
50-60% x 1M x Second	340.162**	5.217	3.501	7.121**	3.090
	(1.900)	(1.390)	(0.260)	(1.900)	(0.720)
50-60% x 2M	1.794	1.140	-1.921	5.981	4.402
	(0.160)	(0.280)	(-0.400)	(0.790)	(1.280)
50-60% x 3M	-15.643	1.072	-3.877	2.060	14.676**
	(-0.850)	(1.080)	(-0.550)	(0.630)	(1.890)
60-80%	41.434**	0.951	3.312	0.279	-0.502
	(1.880)	(1.100)	(0.560)	(0.220)	(-0.270)
0-25% x Firm				-8.796	-2.220
				(-0.400)	(-0.110)
25-50% x Firm				-22.104	9.784
				(-1.370)	(1.370)
50-60% x 1M x Firm				-4.046**	-3.967***
				(-1.810)	(-2.760)
50-60% x 1M x Second x Firm				9.465	15.375***
				(1.280)	(3.350)
50-60% x 2M x Firm				-4.782	-9.028
				(-0.670)	(-1.280)
50-60% x 3M x Firm				1.613	-16.917**
				(0.300)	(-2.160)
60-80% x Firm				-1.481	2.871
				(-1.560)	(1.360)
Size	-3.265*	0.046	0.413	0.024	0.082
	(-1.620)	(0.170)	(0.430)	(0.180)	(0.390)
Age	-0.046	0.002	-0.058	0.020	-0.015
	(-1.180)	(0.090)	(-0.850)	(1.330)	(-0.960)
Intangibility	-0.032	-0.030*	0.014	-0.018***	-0.010
	(-1.060)	(-1.730)	(0.320)	(-2.610)	(-1.030)
Listed	20.868	0.164	2.270	-1.029	
	(1.310)	(0.080)	(0.370)	(-0.650)	
Leverage	-0.105	0.007	0.081	-0.020	-0.023
	(-1.540)	(0.110)	(1.120)	(-1.070)	(-1.420)
Herfindahl	-5.541***	-0.264	-4.964	-1.413***	-0.548
	(-2.480)	(-0.460)	(-1.110)	(-2.770)	(-0.680)
Growth	-0.291*	0.067	0.001	-0.002***	0.008
	(-1.610)	(1.040)	(1.170)	(-5.150)	(0.240)
Intercept	76.510*	6.949*	-15.390	9.323***	0.491
	(1.710)	(1.710)	(-0.920)	(2.950)	(0.150)
Number of observations	8103	6009	800	14912	1938
Fitness test	107.69 (0.000)	693.97 (0.000)	201.88 (0.000)	1160.21 (0.000)	5256.22 (0.000)
AR (2) Test	-1.63 (0.103)	-0.53 (0.594)	0.58 (0.559)	-0.94 (3.500)	0.19 (0.845)
Hansen overidentification test	1.79 (0.410)	17.12 (0.582)	18.13 (0.513)	26.84 (0.418)	82.80 (0.547)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The Wald test is the Fitness Test. The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instruments validity.

TABLE 7: Ownership structure and performance. Market Data

All variables are defined in Table 1. The dependent variable is the market-to-book ratio in columns 2, 4 and the ROA in columns 1 and 3. The dummy variables that capture the ownership structure refer to the ownership stake of the controlling group. We instrument such variables as it is explained in the text. The controlling group is defined as the minimum stake group (coalition formed by the blockholders whose joint ownership stake is the minimum stake larger than 50%). We include industry and year dummies among the control variables.

	ROA	Market-to-book	ROA	Market-to-book
Type of estimation	Random Effects	Fixed-Effects	GMM estimation	GMM estimation
0-25%	1.961	1.094**	12.440	-5.946
	(0.640)	(1.860)	(0.690)	(-0.750)
25-50%	-3.011	1.037**	4.126	-9.635
	(-1.110)	(1.860)	(0.240)	(-1.090)
50-60% x 1M	-11.738**	0.352	0.326	-11.022
	(-1.880)	(0.320)	(0.020)	(-1.190)
50-60% x 1M x Second	199.303***	-2.021	174.898**	41.496
	(2.470)	(-0.120)	(1.900)	(1.080)
50-60% x 2M	0.028	0.451	0.145	-9.923
	(0.010)	(0.720)	(0.010)	(-1.170)
50-60% x 3M	-0.270	1.047**	1.396	-9.987
	(-0.100)	(1.910)	(0.080)	(-1.140)
60-80%	-1.704	0.329	0.073	-10.238
	(-0.550)	(0.510)	(0.000)	(-1.190)
Size	-0.410	-2.018***	0.196	0.110
	(-0.800)	(-10.510)	(0.280)	(0.370)
Age	0.008	0.111**	-0.064	-0.008
	(0.270)	(2.060)	(-1.100)	(-0.440)
Intangibility	0.017	-0.033***	0.013	0.096*
	(0.290)	(-2.500)	(0.160)	(1.850)
Leverage	-0.035	0.041***	0.230	-0.081
	(-0.960)	(5.890)	(1.250)	(-0.910)
Herfindahl	-4.467**	-0.497	-3.582	0.756
	(-1.920)	(-1.450)	(-1.300)	(0.560)
Growth	0.056	0.010	-0.131*	0.000
	(0.970)	(1.160)	(-1.650)	(0.000)
Intercept	18.402*	35.430***	-4.201	11.113
	(1.730)	(9.580)	(-0.150)	(1.090)
Number of observations	211	211	211	211
R^2	36.45%	61.67%		
Fitness test	53.71 (0.003)	12.99 (0.000)	934.91 (0.000)	243.60 (0.000)
Hausman Test	11.72 (0.817)	60.21 (0.000)		
AR (2) Test			0.86 (0.388)	0.78 (0.436)
Hansen overidentification test			3.12 (0.995)	0.05 (0.999)

t-values below coefficients. *, **, *** denote significance at the 10%, 5% and 1% levels respectively. The F-test is used as a fitness test for fixed-effect as well as random effects estimations while the Wald Test for GMM estimations. The Hausman test has the identity between the coefficients of the random-effects estimation and the fixed-effects one as null hypothesis. If the null hypothesis is rejected, the unobservable heterogeneity is correlated with explanatory variables and we have to perform fixed-effects estimation (Column 2). But, if it is not correlated with the explanatory variables (Column 1), unconditional inference like that of the composed error method (random effects) is the most efficient alternative (Arellano and Bover, 1995). The AR(2) is a test for a second-order serial correlation in the residuals which is distributed as N(0,1) under the null hypothesis of no serial correlation. For the Hansen test, the J statistic (p-values reported in parentheses) is distributed as chi-squared under the null hypothesis of instruments validity.