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**FAMILY OWNERSHIP AND CONTROL, THE PRESENCE OF OTHER
LARGE SHAREHOLDERS,
AND FIRM PERFORMANCE: FURTHER EVIDENCE**

Abstract: This article analyzes, using various econometric techniques, how family ownership, family control and the presence of a second significant shareholder affect firm performance. We studied a panel of 118 non-financial Spanish companies (711 observations) from 2002 to 2008. Once endogeneity issues were considered, we did not find that family ownership influences profitability. What seems to matter is family control. Our study also reveals the importance of taking into account unobservable heterogeneity and endogeneity issues when analyzing firm performance, and provides an interesting future avenue of research: the role played by other large shareholders in family firms.

Key words: Family ownership, family control, other large shareholders, firm performance, unobservable heterogeneity, endogeneity of ownership

1. Introduction

Family control is relatively common among publicly listed firms in different countries. Actually, many companies around the world are controlled by large shareholders, usually individuals or their families. In fact, La Porta *et al.* (1999) document that family control is the most widespread form of organizational structure, except in countries with strong protection of minority shareholders. In the United States, more than one-third of S&P 500 corporations may be classified as family-controlled businesses (Anderson and Reeb, 2003). In East Asia, a small number of families control firms that make up a large percentage of the stock markets (Claessens *et al.*, 2000). In Western Europe, Faccio and Lang (2002) document that more than 44% of listed firms are family controlled.

Family firm performance has received considerable attention in the financial and management literature. Prior studies have analyzed the effect on firm performance of family ownership, of family control, of founders versus second and subsequent generations and of control-enhancing mechanisms. Most of these studies refer to the U.S. (Anderson and Reeb, 2003; McConaughy *et al.*, 1998; Miller *et al.*, 2007 or Villalonga and Amit, 2006), although wide new empirical evidence from other economies has also been published during the present decade: Japan (Allouche *et al.*, 2008), East Asia (e.g., Faccio *et al.*, 2001 or Filatochev *et al.*, 2005), Western Europe (e.g., Barontini and Caprio, 2006; Maury, 2006 or Pindado *et al.*, 2008), and Eastern Europe (Kowalewski *et al.*, 2010). However, this evidence is inconclusive as to whether family firms outperform non-family firms, and new information that enhances understanding of disparities in the empirical literature should be valuable. The apparently contradictory data could be explained by differences in firm definitions, institutional settings, samples, periods of study, variables or methodologies. This concept is supported by family firm researchers who demonstrate how performance results are sensitive to variations in firm definitions (Villalonga and Amit, 2006), classifications and samples (Miller *et al.*, 2007) or to the degree of shareholder protection (Maury, 2006).

Our paper contributes to the seemingly contradictory effects of family ownership and control on firm performance in several ways. First, concerning family firm definitions when addressing the effect of family ownership, we use two different thresholds of

ownership (10% and 20%), focusing not only on the “apparent large owner”, but on the “ultimate owner”. Second, as we are aware that family firms also may be defined using a family control criterion, we include variables pertaining to the effective control exercised by families in the companies in which they have invested. In assessing how family control affects firm performance, most of the previous papers do not differentiate between family members as managers of day-to-day business or as members of the board of directors with a monitoring function over the firm. In order to take this into account, we define three variables according to whether family members occupy the post of CEO, chairman of the board of directors, or both. Third, considering that the presence of other large shareholders may influence the distribution of power among the companies and may monitor families, we analyze a scarcely studied topic in the literature: how the existence of a second significant shareholder affects firm performance. Fourth, concerning methodological issues, as firm unobservable heterogeneity and endogeneity issues may affect the results of the analyses, we compare the results obtained when using different econometric techniques¹.

Our empirical study focuses on a single market, Spain. We use a database comprising all non-financial firms listed on the Spanish Stock Market during the period 2002-2008. Spain is a Western European economy with a relatively high level of investor protection for a French civil law country, a fairly low active takeover market and a high ownership concentration, being families significant shareholders (family firms make up more than 50% of the stock market; Sacristán-Navarro and Gómez-Ansón, 2006). Families exercise control by retaining a high level of ownership, but also by being actively involved in CEO or chairman positions, and by turning frequently to control-enhancing mechanisms (mainly pyramids). Spain is a continental market where internal mechanisms of corporate control, such as the board of directors, may play a determinant role. Moreover, families often coexist with other large shareholders that may limit families’ private benefits of control. Thus, due to the characteristics of the Spanish market, Spain may be an interesting context to examine the relationship between family ownership and control, the presence of second significant shareholders and firm performance. We are aware that analyzing a single country’s firms could be considered

¹ Unobservable heterogeneity is associated with a possible correlation between non-observable firm characteristics and a set of individual-explanatory variables; that is, the specific individual effects. In an economic model, a parameter or variable is said to be endogenous when there is a correlation between this parameter or variable and the error term. Endogeneity arises mainly as a result of measurement errors, simultaneity and omitted variables.

a limitation of our study as our results may not be transferable to other institutional environments, but single-country studies enable us to overcome a problem associated with multicountry studies: the use of samples composed of mainly large companies, and not by the whole universe of traded firms².

The paper proceeds as follows: Section 2 briefly presents the theoretical framework and the proposed hypotheses. Section 3 examines how different issues (family firm definitions, institutional settings, samples and methodologies) may affect family firm performance studies. Section 4 describes the data, variables and econometric methods employed. The results of the analyses are reported in Section 5. This Section also includes some robustness checks. Finally, in Section 6 we discuss the results and Section 7 summarizes the main conclusions.

2. Theoretical background and hypotheses

Since the Berle and Means (1932) image of the modern corporation, a large number of studies have analyzed the conflicts of interest between principals and agents, assuming a world with diffuse ownership. In this scenario, small shareholders lack the incentives or contractual mechanisms to align the interests of managers with their own. Consequently, managers may exercise substantial discretion over company decisions and divert corporate resources for private gain (Jensen and Meckling, 1976). Villalonga and Amit (2006) refer to this situation as “agency problem I”. In this context of dispersed ownership, the existence of a large shareholder (i.e., a family that either manages the firm directly or internalizes the benefits from monitoring its managers) may help solve the free-rider problem that exists in widely held companies, easing the classic owners-manager conflict and enhancing firm value (Shleifer and Vishny, 1986).

Other analyses also predict that family firms should outperform non-family companies, citing, for example, families’ longer-term horizons or concerns about reputation. In fact, family owners are thought to be more interested in company survival and to focus on further horizons than other categories of large shareholders (Lee, 2006). This may spur family firms to invest using value-maximizing criteria (James, 1999). It is also likely to reduce managerial myopia (Anderson and Reeb, 2003) and may facilitate long-term

² Equally important, narrowing the focus to a single country provides homogeneity in accounting measures and avoids the possible weakness of multicountry data (due to variations in financial reporting standards, for instance).

relationships with other stakeholders such as customers, suppliers and capital providers. As well, the resource-based view (RBV) states that family firms may have potential advantages based on their path-dependent resources, idiosyncratic organizational processes, behavioral and social phenomena, or leadership and strategy-making capabilities (Habberson and Williams, 2000). The idiosyncratic resources and abilities unique to family firms, “familiness”, may be a source of competitive advantage if the companies are able to exploit them.

But there are also arguments that family firms may underperform non-family companies. Within family firms, conflicts of interests between minority shareholders and family shareholders may appear. This gives rise to another agency issue, identified by Villalonga and Amit (2006) as “agency problem II”. Families as owners may protect their interests with governance systems intended to maximize utility. They demand market returns and may prefer to sacrifice efficiency for equity, thus damaging other investors’ interests (Lee, 2006). Moreover, families may be oriented to maintaining control of the companies they found or acquire, to making value-reducing acquisitions that benefit the dominant family and to see executive positions in the firm as a means of providing high-paying jobs to the offspring, instead of selecting the best managers that the market could provide; families may extract private benefits from control.

Table 1 summarizes prior empirical studies of family firm performance³. For Western European countries, Maury (2006) reports that family ownership improves performance, especially in well-regulated economies. For the U.S., McConaughy *et al.* (1999) also reports that family ownership has a positive effect on performance and Anderson and Reeb (2003) find a non-linear relationship between family holdings and performance. Other researchers also report a non-linear relationship between family ownership and performance (Pindado *et al.*, 2008, for Western Europe, and Kowalewski *et al.*, 2010, for Poland). Nevertheless, other studies find family ownership has no significant influence on performance (for the U.S., Villalonga and Amit, 2006; for Spain, Galve and Salas, 1996).

-Insert Table 1-

³ There are also relevant papers that consider the effect of family ownership and/or family control on performance for private family firms (Sciascia and Mazzola, 2008; Westhead and Howorth, 2006), but we chose to focus only on listed family firms.

Considering that conflicts of interests between minority shareholders and the controlling families are expected to be less important in economies where shareholder protection is greatest (Anderson and Reeb, 2003), and the fact that Spain has an anti-director rights index of 30, much higher than Italy at 10 or France at 22.5, although lower than the United Kingdom at 50 (Dahya and McConnell, 2009), we hypothesize that in Spain large shareholders (including families) may not extract as many private benefits of control. Thus, we favour the arguments for a positive relationship between ownership concentration, and specifically between family ownership and firm performance, and state the following hypothesis:

Hypothesis 1: *Higher family ownership leads to higher firm performance.*

Family control may be understood as family presence in management and/or on the board of directors. In family-controlled firms, owners and managers belong to the same group - the family - and thus agency problem I should not be too severe and may even disappear, but agency problem II is expected to increase. When families manage the firm and/or control the board (by assuming the post of chairman or appointing family directors), they may influence day-to-day business and board decisions. This may allow them to extract to a greater extent private benefits of control at the expense of minority shareholders. The influence of families on firm control and their ability to extract private benefits of control may be especially significant when a family chairman coexists with a family manager (CEO)⁴.

However, there are also arguments that family control may enhance firm performance. Stewardship theory views the family as a resource, depicting members as collectivists, pro-firm and trustworthy. When family members are stewards of their organization they will maximize their own utility by acting in the firm's best interest to attain its objectives, such as profitability or sales growth (Davis *et al.*, 1997). Indeed, a stewardship philosophy has been argued to be common among successful family businesses (Corbetta and Salvato, 2004).

⁴ As reported by Burkart *et al.* (2003), patterns of separation of ownership and management also vary among countries. In the U.S., founders often hire professional managers at the outset and by the time the founder retires, his/her family retains only marginal ownership. In Western Europe, however, significant stakes of shares typically stay with the family after the founder retires. As well, different combinations such as family CEO and chairman, or family chairman and professional CEO, may have varying impacts on firm performance (see, for example, Villalonga and Amit, 2006).

The empirical evidence related to the influence of family control on firm performance is mixed (see Table 1). For example, for Western Europe, Maury (2006) reports that when family members hold the post of CEO or chairman, performance is increased, and that family control may harm minority shareholders when the level of transparency is low. Bennedsen *et al.* (2007) for Denmark report that family CEOs decrease performance. Other studies for the U.S. report a positive family CEO effect (Anderson and Reeb, 2003), a positive effect from the combination of family chairman/hired CEO (Villalonga and Amit, 2006) or a positive founder-CEO effect (Lee, 2006; Villalonga and Amit, 2006). Similarly, Kowalewski *et al.* (2010) for Poland reports a positive family CEO effect.

Based on the reported arguments and empirical evidence, and considering that the level of transparency is not high in Spain (the disclosure requirement amounts to 0.5 for Spain compared with 0.78 for British common-law countries -La Porta *et al.*, 2008-), we suppose that in the Spanish market family control may derive in large private benefits of control. Thus, we state our second hypothesis:

Hypothesis 2: *Family control decreases firm performance.*

Listed family companies are characterized by a large owner -the family or an individual-, a set of minority shareholders, and sometimes other large shareholders (La Porta *et al.*, 1999). Large shareholders may mitigate the potential expropriation of minority shareholders because they contribute to the monitoring of managers and could moderate family influence (Maury and Pajuste, 2005). Moreover, their presence may add professionalism and experience to the firm and contribute to better decision-making. However, bargaining problems among the large shareholders may also result in corporate paralysis, reducing the firm's efficiency and performance and minority shareholders' wealth (López de Foronda *et al.*, 2007). As well, large shareholders may pursue their own interests, neglecting those of the minority; they may form coalitions and affect firm policy (Tribó and Casasola, 2010); and their presence limits share liquidity (Randoy and Goel, 2003).

The empirical evidence regarding the effect on firm performance of the presence of multiple large shareholders is modest. Lehman and Weignand (2000) report that the presence of a second large shareholder enhances profitability in German listed

companies. López de Foronda *et al.* (2007) find that in European civil-law countries, the second large shareholder plays a critical role in contesting the control of the dominant shareholder, reducing the extraction of private benefits of control and improving company performance. Specifically, for family firms, Nieto *et al.* (2009) suggest that the existence of other blockholders moderates the relationship between family ownership and performance.

In Spain, a country with a high presence of families in family control, the presence of another significant shareholder may counterbalance possible private benefits of family control. Thus, we favour the arguments for the possible beneficial effects from the presence of another large shareholder in a family firm and we state our third hypothesis:

Hypothesis 3: *The presence of another significant shareholder enhances firm performance.*

3. Issues concerning empirical analyses of firm performance

The empirical evidence on firm performance is rich but contradictory. Table 1 summarizes prior empirical studies on the subject. Family firm definitions and institutional settings, as well as the samples and econometric methods used, are factors that may help explain the varying results reported in the literature. Next, we examine these factors.

3.1. Family firm definitions

Performance results are sensitive to different *family firm definitions* (see Table 1). In regard to only the family power dimension (Astrachan *et al.*, 2002), companies are sometimes assessed according to the degree of family presence in ownership (for example, Favero *et al.*, 2006; Kowalewski *et al.*, 2010; Maury, 2006; Pindado *et al.*, 2008; or Sraer and Thesmar, 2006). Other times, firms are defined on a control basis (Adams *et al.*, 2009; McConaughy *et al.*, 1998) and others through a combined ownership and management criterion (Allouche *et al.*, 2008; Anderson and Reeb, 2003 or Lee, 2006)⁵. They are all valid measures, but defining firms through the ownership held by families or through the type of family control does not capture exactly the same elements and, therefore, results might not be directly comparable.

⁵ For a complete summary of family firm definitions, see Miller *et al.* (2007).

Moreover, even in regard to the ownership criterion, varying definitions of family firms are employed. Some studies use an ultimate ownership definition, others do not; the thresholds chosen for family ownership are different (for example, 10% in Maury, 2006 or Pindado *et al.*, 2008; 20% in Sraer and Thesmar, 2006, or Villalonga and Amit, 2006, or 25% in Kowalewski *et al.*, 2010); some studies, in accordance with previous research that report an inverted U-shaped relationship between ownership concentration and firm performance (e.g., De Miguel *et al.*, 2004), consider possible non-linear relationships between family and performance (Kowalewski *et al.*, 2010; Pindado *et al.*, 2008); and some studies include only family firm dummy variables while others use continuous variables.

As previously mentioned, the effects of family ownership and of family control should be analysed separately (Villalonga and Amit, 2006). For instance, Maury (2006) differentiates between active family control (when a family member is CEO or chairman) and passive family control (controlling ownership). He reports that active family control strongly increases firm operating performance, whereas passive family control is associated with performance rates comparable to those of non-family firms. Similarly, Claessens *et al.* (2002) find that the negative effect from the separation of ownership and control is largely driven by the family control element⁶, and Villalonga and Amit (2006) report that family ownership creates value only when the founder is CEO or chairman with a hired CEO. Under our point of view, it must also be considered that “active family control” has two components: control of day-to-day operations by holding the post of CEO, and control of the board by having a family chairman or family members occupying several seats. While some studies do separate these components (Villalonga and Amit, 2006; Sciacia and Mazzola, 2008; or Kowalewski *et al.*, 2010), others do not (Maury, 2006; Martínez *et al.*, 2007).

3.2. Institutional settings and samples

The empirical evidence regarding family firm performance varies for different institutional settings (see Table 1). Shareholder rights and transparency have been proposed as explanations for the apparently contradictory results: Anderson and Reeb

⁶ A family might not own a large fraction of a listed firm, but holds the post of CEO and/or chairman. Banco Santander is an example. Although the Botín family has a small fraction of ownership (less than 5%), it controls the bank by occupying the CEO and chairman positions and a significant number of seats on the board.

(2003) argue that family ownership in listed firms operating in well-regulated and transparent markets reduces agency costs, and La Porta *et al.* (2006) propose that the positive influence of entrepreneurial cash-flow rights on firm value should be greater in countries with inferior protection of shareholders. Accordingly, Faccio *et al.* (2001) state that politically powerful families in control of public firms have been able to expropriate minority shareholders in East Asia where transparency is low and Maury (2006) reports that family control may harm minority shareholders due to the risk of expropriation when the level of transparency is low.

But even when institutional settings are similar, the results of the analyses may vary among countries. For example, Barontini and Caprio (2006) study 675 publicly traded large companies, those with assets exceeding 300 millions euros, in 11 European continental countries. They find that although families are the type of controlling shareholders who most use control-enhancing devices, families do not seem to hamper firm performance for the whole sample. Interestingly, however, the study finds significant differences among countries. For instance, for Italy, it reports that families hamper performance. On the contrary, also for Italy, Favero *et al.* (2006) find that family firms outperform non-family companies and that control-enhancing devices have a positive effect on performance.

Thus, the conclusions as to whether family or non-family firms perform the best seem to be influenced by *sample selection* (Miller *et al.*, 2007): Samples may comprise listed or non-listed firms; large traded companies or the whole universe of traded firms; and varying periods of time. In fact, in their study of U.S. family companies, Villalonga and Amit (2006) conclude: “It is unclear, whether the results would change if evaluated on a different sample and that further research may show how the relative costs of agency problems I and II in family firms are affected by institutional differences across countries.”

3.3. Methodology

Among others, two potential problems may affect empirical analyses of family firm performance: unobservable firm heterogeneity and endogeneity issues. Unobservable individual heterogeneity or unobservable individual effects may be a key issue since every company - especially a family firm - has its own specificity. That gives rise to a

particular behavior closely linked to the culture of the company, a culture that in family firms is imposed by the owner family (Pindado *et al.*, 2008). Besides, Demsetz (1983) argues that ownership concentration is the endogenous outcome of profit-maximizing decisions by current and potential shareholders. Consequently, ownership concentration should have no effect on firm value. Accordingly, studies that consider a firm's ownership as endogenous (Cho, 1998; Demsetz and Villalonga, 2001; Himmelberg *et al.*, 1999; Loderer and Martin, 1997; Palia, 2001; Pedersen and Thomsen, 1999) do not find any significant relationship between ownership and performance.

Earlier studies of family firm performance do not take into account either unobservable individual heterogeneity or endogeneity issues (e.g., Galve and Salas, 1996; McConaughy *et al.*, 1998). More recent studies, published during the current decade, do tend to control for unobservable heterogeneity, but not all of them take into account endogeneity (see Table 1). The use of varying econometric methods may help explain the apparently contradictory results regarding firm performance.

4. Data

4.1. Sample and data sources

The initial sample comprises the whole population of firms listed on Spanish stock exchanges during the period (2002-2008). Excluded are financial companies, firms that became delisted over the period of analysis, and those with no corporate governance reports. Additionally, one of the econometric techniques we employed, the Generalized Method of Moments (GMM), requires that information for at least four consecutive years per company be available in order to test for the absence of second-order serial correlation. Thus, we ended up with an unbalanced panel of 711 firm-year observations pertaining to 118 public companies; 59.77% of observations pertain to family-owned firms and 40.23% to non-family-owned firms. As a whole, the sample companies show a widespread industry distribution. The family firms are mainly in the manufacturing industry (40.34%); construction (26.89%); and the services/transportation, communications, and gas/electric sectors (14.28%). The non-family firms are primarily in manufacturing (43.22%).

Data were manually collected in two steps. First, we gathered the information pertaining to the firms' ownership and corporate governance structures. Second, we collected the

companies' economic information. Ownership and corporate governance data were obtained from the annual corporate governance reports that each firm completed for CNMV, the agency in charge of supervising and inspecting the Spanish Stock Markets and the activities of all the participants in those markets, over the sample period. Financial information for each company and year was obtained from different sources: the SABI database, the Madrid Stock Exchange and CNMV.

4.2. Definition of family firm

We defined family firms using an ownership criterion. Thus, we searched for the stake held by individuals or families (adding for families the voting rights held by the various family members). Family members were identified through their surnames (first or second surname); that is, they were defined as those who are blood-related. **Family members by marriage were also taken into account.** We defined a family firm (FF) as a company in which the ultimate owner (following the standard methodology employed by Claessens *et al.*, 2000; Claessens *et al.*, 2002; Faccio and Lang, 2002; La Porta *et al.*, 1999⁷) or the large owner was a family or an individual who held more than 10% of the voting rights. The 10% cutoff has been widely used in the family business literature (La Porta *et al.*, 1999; Maury, 2006; Pindado *et al.*, 2008) and could be considered high enough for a family to exercise effective control.

4.3. Variables of the study

A detailed definition of all variables included in the models is provided in Table 2. The dependent variable of the models is a proxy of firm performance defined as the profitability ratio ROA **(book value operating profit over book value of total assets).** This measure of performance has been widely used in the family firm literature (Allouche *et al.*, 2008; Anderson and Reeb, 2003; Barontini and Caprio, 2006;

⁷ According to La Porta *et al.* (1999), a large owner is a legal entity that directly or indirectly controls at least 10% of the voting rights. A shareholder was defined as large if direct and indirect voting rights amounted to 10% or more. If no shareholder held 10% or more of the shares, the firm was classified as widely held. While direct ownership involves shares registered in the shareholder's name, indirect ownership involves shares held by entities that the ultimate shareholder controls. Since the large shareholders of corporations are sometimes corporations themselves, we traced back through numerous companies to find the ultimate vote holders. Whenever it was possible, we identified the firm's ultimate owner.

Bennedsen *et al.*, 2007; Favero *et al.*, 2006; Kowalewski *et al.*, 2010; Maury, 2006; Sraer and Thesmar, 2006; Villalonga and Amit, 2006)⁸.

The independent explanatory variables of the models include firm ownership and family ownership and control-related variables; the divergence between cash flow and control rights held by the largest shareholder; and a set of control variables.

Firm ownership relates to the ownership held by the largest shareholder (FSH) and to the ownership held by the second-largest shareholder (SSH)⁹. Family ownership (FSHFF) is defined as the percentage of common shares held by the largest shareholder in a family-owned firm. Family control variables refer to the implication of the family in firm control defined by three variables: FAMCONTROL (a dummy variable that takes value one when either the CEO or the chairman, or both, belong to the family and zero otherwise), the dummy variables FAMCEO and FAMCHAIRMAN.

As different researches report that families often turn to control-enhancing mechanisms (Barontini and Caprio, 2006; Leaven and Levine, 2008) and as several studies have shown this is associated with lower firm performance (Claessens *et al.*, 2002; Gompers *et al.*, 2004; Lemmon and Lins, 2003), we also considered the possible influence of such mechanisms on firm performance. Specifically, considering that pyramids¹⁰ are the most frequently used control-enhancing mechanism in Spain (Sacristán-Navarro and Gómez-Ansón, 2007), following Claessens *et al.* (2000, 2002), Faccio and Lang (2002) and La Porta *et al.* (1999) methodology, we defined a variable that measures the differences between control and cash flow rights held by the largest shareholder (WEDGE). As *control variables*, we included in the regressions: firm growth (GROWTH), leverage (LEV), size (LSIZE), and age (LAGE). Finally, similar to, for

⁸ The proxy of firm performance may also affect the results (for example, Barontini and Caprio, 2006; Maury, 2006; and Sraer and Thesmar, 2006). Thus, we initially defined two alternative measures of firm performance: ROE and VALUE. Nevertheless, when using these other measures, for some models (specifically for the GMM) their assumptions (Hansen, m_2 or z_1) were not fulfilled. The fact that our study does not include results for a market measure of firm performance may be seen as a limitation. However, it must be taken into account that profitability ratios reflect real performance and not expectations as market performance measures. Kowalewski *et al.* (2010) also employ accounting measures but not market measures.

⁹ Several characteristics of the second significant shareholder could also be considered; for instance its nature or typology, the duration of its investment, its presence on the board, etc. Nevertheless, as our objective was just to consider the role played by the second largest shareholder, we have not considered these issues.

¹⁰ Pyramids separate cash flow from control rights and allow large shareholders to enhance their control rights, increasing their ability to divert corporate resources for private gain.

example Kowalewski *et al.* (2010), we included industry dummies at the two-digit SIC codes level¹¹ and dummy year variables in order to control for industry and year effects.

- Insert Table 2-

4.4. Methodology

We aimed to show how the use of different methodologies may affect the results of the empirical studies that analyze family firm performance. Therefore, we first estimated a *pool regression* in which neither the unobservable heterogeneity nor the endogeneity of ownership is considered. Then, we tried to eliminate the unobservable heterogeneity using a *static panel data analysis*. Finally, to control for the endogeneity of the explanatory variables we estimated *a dynamic panel data model*, a two-step difference GMM. Thus, we used a *panel data methodology* to estimate the last two models. Unlike cross-sectional analysis, panel data analysis allowed us to control for individual heterogeneity or unobservable individual effects (company effects).

Among *static panel data models*, fixed effect and random effect models are the most commonly used. The fixed effects specification assumes that company specific effects are fixed parameters to be estimated, whereas the random effects model assumes that companies constitute a random sample. To identify which model was preferable, we ran the Hausman test: *As* it turned out to be significant *for all the estimations*, we focused on the fixed effects model (Hausman, 1978).

As static panel models assume that all independent variables are exogenous, an issue that cannot be considered as a fact for the ownership-related variables, we also estimated *dynamic panel data models*. More specifically, we performed the two-step difference GMM model drawn up for dynamic panel data models by Arellano and Bond (1991). The GMM estimator uses internal instruments; specifically, instruments that are based on lagged values of the explanatory variables that may present problems of endogeneity (ownership related variables - FSH, FSHFF, SSH - and firm growth, leverage and size; only wedge, family control and firm age are considered as

¹¹ We also repeated the estimations without considering the industry dummies and the results did not vary significantly. *Considering industry adjusted performance measures instead of industry dummies, the results were also similar, although in some cases there was a loss in the significance of the variables and, in general, the models' explanatory power was lower.*

exogenous). To be exact, we used all the endogenous right-hand-side variables in the model lagged from t-1 to t-2 for equations in differences¹².

To check the validity of the model specification when using GMM, we used the Hansen statistic of over-identifying restrictions in order to test for the absence of correlation between the instruments and the error term. We also included statistics m_2 to verify the lack of second-order serial correlation in the first-difference residuals. In addition to these specification contrasts, the following Wald tests were included in the estimations: one (z_1) of joint significance of the reported coefficients and a second (z_2) of joint significance of time dummy variables. Additionally, we corrected the estimations for heteroskedasticity problems by using the option robust for the `xtabond2` command of Stata program.

Specifically, the general panel data dynamic model is as follows:

$$ROA_{it} = a_0 + \beta X_{it} + \sum_{t=2002}^{2008} Y_t + DINDUSTRY + \gamma_i + \mu_{it}$$

where i indexes the firm, t indexes time, X denotes the explanatory and control variables, and $\sum_{t=2002}^{2008} Y_t$ is a set of time dummy variables defined respectively, $DINDUSTRY$ is a set of industry dummy variables and γ_i is the firm's effect, that we assume constant for the firm i along the period t and μ_{it} is the error term.

4.5. Descriptive statistics

Panel A of Table 3 presents the summary statistics (minimum, maximum, mean and standard deviation) of the continuous variables of the study. Panel B presents the frequency rates of the dummy variables. 59.77% of the observations correspond to family firms (FF). Variable FSH presents a mean value of 36.05%, while variable FSHFF presents a lower mean value (24.09%). The mean difference between control rights and cash flow rights (WEDGE) amounts to 2.04. Nearly 47% of the firms have a

¹² In our case, employing a larger number of lagged values could result in a larger number of instruments in comparison with the number of firms or groups. Thus, the results might be robust but weakened by many instruments. For this reason, we decided to use just two years' lagged values. Nevertheless, we repeated the estimations using a larger number of lagged values and the results did not vary significantly.

family member as CEO or chairman (FAMCONTROL); 42.05% of the firms have a family chairman and nearly 30.52% have a family CEO.

- Insert Table 3-

The variables bivariate correlations are presented in Table 4. They suggest that the greater the holdings of the largest shareholder, the bigger the deviations between cash flow and control rights and the smaller the holdings of the second-largest shareholder. Although the percentage held by the largest shareholder (FSH) seems to be correlated with the presence of a second large shareholder (SSH), this does not happen for family firms, as the correlation between FSHFF and SSH is negative but not significant. Interestingly, large shareholders as a whole tend to own bigger fractions of the shares in younger firms, but their ownership stake does not seem to be related to company size, while family shareholdings are higher in smaller firms but not in younger ones. Moreover, the results suggest that the larger the family's holdings, the higher the use of control-enhancing mechanisms and the probability that a family member is CEO and/or chairman. Finally, second large shareholders seem to be keener to invest in smaller firms in which they may get more power for a lesser investment, and in older firms¹³.

- Insert Table 4-

5. Results

In this section we present the main results of our study. We first refer to the results obtained from the *pool regression analyses* (models 1, 2 and 3, Table 5), then to those from the *static panel data analyses* (models 4, 5 and 6, Table 5) and finally to the results from the *dynamic panel data analyses* (models 7, 8 and 9, Table 5).

5.1. Pool regression analyses

According to the results of regressions 1, 2 and 3 (Table 5), the percentage of ownership held by the largest owner (FSH) does affect firm profitability at a 0.01 level. On the contrary, family ownership (FSHFF), and family control,

¹³ However, the reported correlations do not seem to lead to multicollinearity problems. When applying variance inflation factors (VIFs), we found no evidence of multicollinearity problems as suggested by Kleinbaum *et al.* (1998), no VIF is above 10. In addition, it is worth mentioning that those variables that present higher correlation coefficients (FAMCONTROL and FAMCEO 0.704, and FAMCONTROL and FAMCHAIRMAN 0.806) are never considered simultaneously in the estimated models.

(FAMCONTROL/FAMCEO/FAMCHAIRMAN) do not affect profit significantly. Variable SSH positively affects profitability (with a statistical significance of a 0.01 level) and the use of control-enhancing mechanisms (WEDGE) influences negatively firm performance (at a 0.05 level). Firm ROA is also negatively influenced by firm leverage (LEV) and size (LSIZE) (in both cases at a 0.01 level), but positively by the firm age (LAGE) -at a 0.05 level-.

5.2. Static panel data analyses

By employing static panel data analyses, as already mentioned, we avoided problems caused by the possible correlations between non-observable firm characteristics and the individual variables, but did not correct for endogeneity. As can be observed (columns 4, 5 and 6, Table 5), the results differ for some variables from the ones reported when using pool regressions: The percentage of ownership held by the largest owner (FSH) seems to positively affect operating performance to some degree, although the statistical significance is lower (0.1 level); variable FAMCEO affects performance negatively with a statistical significance of 0.1; SSH affects positively firm performance (with a statistical significance of 0.01). WEDGE and LEV affect negatively firm performance (at a 0.01 level), and variables LSIZE and LAGE are not statistically significant.

5.3. Dynamic panel data analyses (considering endogeneity issues -GMM estimations)

Next, we employed the GMM methodology to estimate the models (columns 7, 8 and 9, Table 5). It is worth mentioning that we found no correlation in any of the models between the instruments and the error term (Hansen test) nor any second-order serial correlation in residual errors (m_2). z_2 turns out to be not statistically significant, suggesting that there is not an annual effect.

Generally, after endogeneity issues are taken into account, the results show a lower significance of most of the explanatory variables. In contrast with previous models, the coefficient of the variable FSH does not turn out to be significant. Neither do the coefficients of variable WEDGE (except in model 9, with a 0.1 level of significance), and variables that were significant when using pool and static panel data analyses, such as LEV, show a significant coefficient for the GMM only in model 8 at a 0.1 level. As well, the coefficients of variables FSHFF, GROWTH and LAGE remain non-

significant, while the coefficients for variable SSH remain positive and statistically significant (with a statistical significance of 0.01, 0.1 and 0.05 in models 7, 8 and 9, respectively). FAMCONTROL, a variable that was not significant for the pool nor for the static panel data analyses, now turns out to be significant (at a 0.05 level); so does variable FAMCHAIRMAN (at a 0.1 level). Variable FAMCEO, as was the case for the static panel data analyses, remains negative and statistically significant at 0.1 level, and variable LSIZE remains not statistically significant.

In summary, our analyses reveal some notable differences in the significance of the coefficients of the variables, depending on the methodology employed. This divergence may explain some of the varying results obtained in prior studies of family firm performance. According to the models that take into account both unobservable heterogeneity and the endogeneity of ownership (columns 7, 8 and 9, Table 5), neither large shareholdings nor large shareholdings held by families appear to influence profitability. Thus, our results do not support hypothesis 1. What seems to influence performance is family control and the presence of a second large shareholder. Family CEOs and/or chairmen negatively influence performance, which supports hypothesis 2, while the presence of a second large shareholder enhances performance, as suggested by hypothesis 3. Indeed, variable SSH is the one that presents a more consistent and significant coefficient for all the econometric techniques. Besides, we are unable to affirm that the divergence between cash flow and control rights per se significantly influences firm performance, although there is some evidence suggesting pyramids may harm it when a family member is chairman.

-Insert Table 5-

5.4. Robustness checks

Next, we present additional results pertaining to alternative definitions of family firms, the possibility of a non-linear relationship between family ownership and firm performance, and the influence of generational effects on firm performance.

First, we dealt with problems related to the definition of family firms by using a different threshold, an *ownership threshold of 20%* instead of 10%; that is, we defined a family company as one in which the ultimate owner is a family or an individual having more than 20% of the voting rights. The results obtained with this alternative

ownership-based family definition are very similar to those found using the 10% threshold¹⁴.

Second, as prior studies (De Miguel *et al.*, 2004, Kowalewski *et al.*, 2010 or Pindado *et al.*, 2008) report an inverted U-shaped relationship between family shareholdings and firm performance (positive at low levels of ownership as a result of the preponderance of agency problem I, and negative at high levels of ownership because of agency problem II); we considered the possibility of a *non-linear relationship between family ownership and firm performance* by defining a linear and a quadratic term for variable FSHFF. However, using either the 10% or 20% ownership threshold did not reveal a significant relationship between the coefficients of these variables and firm profitability.

Third, we took into account the possible effect of *family generation on firm performance*. The literature suggests that one of the most controversial issues within family companies is succession, which if not properly planned and managed can cause tension among family members. As well, professional managers are often thought to be more productive than family descendants, who are chosen from a restrictive labor pool, although hiring a professional manager may also lead to misalignment of interests (Burkart *et al.*, 2003). Different studies report that there are significant declines in firm performance associated with the appointment of family managers as opposed to professional managers (Bennedsen *et al.*, 2007; Perez-González, 2002), or that founders enhance firm performance (Adams *et al.*, 2009; Barontini and Caprio, 2006; McConaughy *et al.*, 1998; Villalonga and Amit, 2006). Thus, we considered the possible effect of *family generation (both in ownership and in control) on performance* by defining three variables: FSHFOUNDER, defined as the percentage of shares held by the largest family shareholder in the founder's hands; FSHDESCENDENT defined as the percentage of shares held by the largest family shareholder in descendants' hands¹⁵; and FSHFOUNDCEO, defined as the percentage of shares held by a founder CEO. Although not shown, the results of the dynamic panel data analyses do not show any significant influence on firm profitability of these variables.

¹⁴ It is worth noting that the variables that showed more significant coefficients for the 10% ownership criterion (FAMCONTROL and SSH) remain the more significant when using a 20% threshold. This is logic taking into account that family shareholdings account as a mean to 24.09.

¹⁵ Ownership may be simultaneously in the hands of founders and descendants (e.g. first and second generation). In that case we considered it as being in the founders' hands. Only when ownership was in the hands of descendants was it classified as descendant ownership.

Fourth, we defined as alternative proxy for the **continuous** variable WEDGE a dummy variable that takes value one in the presence of pyramids; that is, when there is a deviation between cash flow rights and control rights, and zero otherwise. In none of the models did this variable turn out to be statistically significant¹⁶.

6. Discussion

Our paper presents some limitations: the use of just one measure of performance (ROA) and the fact that it refers to just an institutional setting. Nevertheless, we must say, that the Spanish context constitutes an interesting setting to undertake family firms studies: Spain is a French civil law country with a high ownership concentration. Families are significant shareholders of Spanish listed firms, they frequently use control-enhancing mechanisms (mainly pyramids) and are also actively involved in CEO or chairman positions. Moreover, more than 45% of listed family companies, have at least a second significant shareholder.

Our study shows that the methodology employed does matter and that studies should take into account unobservable heterogeneity and endogeneity issues. Family firm definitions also seem to affect the results of the analysis: Our findings indicate that family ownership has no significant influence on profitability and that what seems to matter is family control (family presence in firm's management and/or on the board of directors).

For an institutional context with a fairly high anti-director rights index for a civil-law country, in regard to the link between family ownership and firm performance, our results, differ from those of Sraer and Thesmar (2006) for France or Anderson and Reeb (2003) for the U.S., which show family ownership has a significant influence (positive and non-linear respectively) on firm performance but do not take into account endogeneity of ownership. Our results are consistent with others reported, also after considering endogeneity, by Villalonga and Amit (2006) for the U.S., but differ from studies for Western European countries that consider endogeneity. For instance, both Favero *et al.* (2006) for Italy and Barontini and Caprio (2006) for multicountry samples report family ownership has a positive influence on performance. Moreover, we found no evidence of a non-linear relationship between family ownership and performance. In

¹⁶ We also tried to repeat all the estimations only for the *sub-sample of family firms*. For the GMM models we had a high number of instruments in relation to observations, so the results were not reliable.

this sense our results also differ from those reported by Pindado *et al.* (2008) for a multicountry European sample and by Kowalewski *et al.* (2010) for Poland. Therefore, our results for Spanish-traded firms appear to differ from those reported by multi-European countries studies and single-country studies, i.e., Italy or Poland. The institutional setting but also the use of a single-country sample that considers all firms traded on the national stock markets and not mainly large firms could perhaps explain the differences between the results of our study and previous continental European multicountry studies. For instance, Barontini and Caprio (2006) and Pindado *et al.* (2008) include in their samples just 44 and 60 Spanish firms, respectively. There are 118 in our sample.

We found that **in an institutional setting with a low level of transparency, Spain,** family control, which has alternatively been used to define family firms, hampers profitability. Once again, our results differ from those of previous continental European multicountry studies (e.g., Barontini and Caprio, 2006, state that family CEOs do not influence firm performance and that the presence of family on the board when the CEO is an outsider enhances performance) or those reported in other institutional settings (e.g., Kowalewski *et al.*, 2010, for Poland find that family CEOs are positively related to performance).

Although some studies in Western economies report that family ownership enhances performance only when the founder is CEO (e.g., Villalonga and Amit, 2006 for the U.S. and Barontini and Caprio, 2006 for Western European countries) or that better performance is primarily a characteristic of youthful family companies (Pindado *et al.*, 2008), we did not find evidence that family generation has a significant influence on profitability. In addition, although younger firms are expected to present more founders, we did not find that firm age influences profitability. In line with our results, Barontini and Caprio (2006) report for their sample of Spanish firms no significant founder-CEO effect; and for a similar institutional setting, a French civil law continental European country, Sraer and Thesmar (2006) use a large sample of French-traded firms in reporting that descendants do not do more poorly than professional managers. The use of samples that include not only large firms and the institutional setting may also help explain our results regarding the founder effect.

Another common view is that control-enhancing mechanisms allow families to extract private benefits from control and thus reduce firm value. The results of Villalonga and Amit (2006) for the U.S. support this position. Nevertheless, for Western European countries, the empirical evidence is not that clear. For example, in their multicountry study, Barontini and Caprio (2006) report a negative relationship between control-enhancing devices and firm market value, but when used as dependent variable accounting ratios, such mechanisms do not seem to hamper firm performance. In line with Barontini and Caprio (2006), our results, **for a country where pyramids are common**, do not affirm that control-enhancing devices reduce profitability.

Our results suggest that other large shareholders may alleviate agency problem II. In fact, we found that the existence of another significant shareholder, an aspect barely explored in the empirical literature, positively affects firm performance in all the models, regardless of the econometric technique employed. This is especially important in family firms, 46.82% of which have a second significant shareholder, as opposed to 32% of non-family firms. Our results are in line with those of Lehman and Weignand (2000), López de Foronda *et al.* (2007) and Nieto *et al.* (2009).

7. Conclusions

This paper examines the effect on firm performance of family ownership, family control, and the presence of a second significant shareholder. Our analysis is based on a comprehensive sample of Spanish non-financial firms listed on Spanish stock exchanges over the period 2002-2008.

Our study reveals the need to be cautious when comparing the results of empirical papers. As the review of the literature shows, many factors can alter the outcome of performance analyses: alternative definitions of family firms, different institutional environments, varying samples and methodologies. We confirmed some of these findings.

First, we determined that alternative firm definitions may lead to varying results. In fact, our study shows there is a difference between using an ownership criterion and a control criterion: While we did not find a significant relationship between family ownership and firm performance, we did find that the presence of families in management and/or as Chairman of the board seems to hamper performance. Therefore, our paper does not

confer much importance on family ownership per se, but on family control. It points to the necessity of further investigation into how family firms should be controlled and managed in order to be successful.

Second, our study shows that different methodologies drive different results and that we should take into account a firm's unobservable heterogeneity and endogeneity issues when analyzing performance. Third, we confirmed that some common views about the negative influence of control-enhancing mechanisms (Barontini and Caprio, 2006) and the positive founder effect in family firms (Sraer and Thesmar, 2006) are not an empirical regularity outside the U.S. Fourth, interestingly, our research produced some contradictory results when compared with Western European multicountry studies. This suggests the conclusions of multicountry studies that use mainly samples composed of large family firms may not apply to the whole universe of listed family firms. Fifth, our analysis looks at a relatively unexplored avenue of research in the family business literature: the role of other large shareholders. In some economies, such as Western Europe, other large shareholders are present in more than 40% of public companies, especially when the firms are family enterprises (Laeven and Levine, 2008). We found that these shareholders seem to monitor managers and reduce families' private benefits of control.

Overall, our study suggests that although a priori it could seem family firm performance might be an over-studied topic, we should explore it further. Recent studies have started to disentangle the separate effects of family ownership and family control, as well as the influence of family generations, but some questions have not been answered yet. For instance, why is it that the empirical results about the influence of family ownership and control on company performance may vary for different institutional settings and countries? Do the results vary for large and smaller family firms? Why do the results pertaining to the influence of family generations vary for different institutional settings and samples?

Moreover, we still know little about the role of other large shareholders: How do they interact with family CEOs and/or chairmen? Does it matter whether they are represented on the board? Is their influence on firm performance related to the institutional setting, industry, the type of large shareholder they are **or their differential ownership holdings in comparison to the first large shareholder?** Future analysis of

these issues will add evidence to enhance our understanding of one of the most common organizations in worldwide stock markets: family firms.

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Table 1: Literature review: Family ownership, family control and firm performance (in listed corporations)

Panel A: U.S. Samples					
References	Sample	FF definition	Dependent variable	Control potential ownership endogeneity	Results
Adams <i>et al.</i> (2009)	Fortune 500 firms in years 1992-1999, excluding regulated financial firms and utilities	Does not address family firms but whether companies have a founder CEO	ROA and Tobin's Q	Yes (not ownership but founder CEO as endogenous)	Founder CEOs improve market valuations and operating performance.
Anderson and Reeb (2003)	S&P 500 non-financial, 1992-1999	The fractional equity ownership of the founding family and/or the presence of family members on the board of directors	ROA (EBITDA over book value of total assets), net income, ROE, and Tobin's Q	No	Family firms perform better than non-family firms. The relationship between family holdings and firm performance is non-linear. When family members serve as CEOs, firm performance is better than with outside CEOs
Lee (2006)	S&P 500 non-financial firms, 1992-2002	When the founding family members or descendants hold shares in the firm or if they are present on the board of directors (def. 1) The share of founding family members and descendants serving on the board of directors (def.2)	Employment growth, revenue growth, gross income growth and net profit margin (net profit over revenues).	No	Firm performance improves when family members are involved in management. Family firms witness stronger growth in employment, and revenue and net profit than non-family firms.
McConaughy <i>et al.</i> (1998)	Paired comparison between family and non-family U.S. firms, 1986-1988	Public corporations whose CEOs are either the founder or a member of the founder's family	Profitability (ROA, ROE, profit margin) and efficiency	No	Founding-family controlled firms are more efficient and valuable than non-family controlled firms. Descendant-controlled firms are more efficient than founder-controlled firms.
McConaughy <i>et al.</i> (1999)	175 family and non-family publicly traded U.S. firms, 1986-1988	When the CEO answered that the firm was a family firm	Market-to-book equity ratio and accounting ratios to assess efficiency	No	Founder-controlled firms grow faster and invest more in capital assets and research development. Descendant-controlled firms are more profitable.
Miller <i>et al.</i> (2007)	Fortune 1000 firms	Multiple definitions. They define family firms as one in which multiple members of the same family are involved as major owners (5% or more of the firm's equity) or managers. They distinguish between "lone founder" businesses and "family" businesses in which there are multiple major owners or executives from the same family.	Market valuation (Tobin's Q), Industry Tobin's Q	Yes (treatment Two-stage effect regressions)	Fortune 1000 firms that include relatives as owners or managers never outperform in market valuation, even during the first generation. Only businesses with a lone founder outperform
Villalonga and Amit (2006)	508 firms listed on the Fortune 500, 1994-2000	The founder or a member of his or her family is an officer, director or blockholder	Tobin's Q, ROA (defined as operating income after depreciation over total assets)	Yes	Family ownership creates value only when the founder serves as CEO or as chairman with a hired CEO. Pyramids reduce the founder premium.

Table 1: Literature review: Family ownership, family control and firm performance (in listed corporations) (continuation)

Panel B: Non-U.S. samples					
References	Sample	FF definition	Dependent variable	Control potential ownership endogeneity	Results
Allouche <i>et al.</i> (2008)	Listed firms in Japan	Definition based on two criteria: the share of capital in the hands of the family and the involvement of family members in managing the firm. They consider three types of FFs: One type is that of family members hold management positions or are on the board of directors and are among the main shareholders; Other type are firms where family members do not hold top-ranking management positions but are among the main shareholders and other type are firms where family members hold top management positions or are on the board of directors but are not among the main shareholders.	ROA, ROE, ROIC	No	Family firms perform better than non-family firms.
Andres (2008)	Data from 275 German listed companies from 1998-2004	Firms that meet at least one of the two criteria, a) the founder and/or family members hold more than 25% of the voting shares, or b) if the founding family owns less than 25% of the voting rights they are represented on either the executive or supervisory board	ROA, Tobin's Q	Yes	Family firms are more profitable than widely held firms. Performance is better in firms in which the founding family is still active either on the executive or supervisory board.
Barontini and Caprio (2006)	Data from 675 publicly traded corporations in 11 continental European countries (Spain included), years 1999-2001	Dummy for family-controlled corporations; 10% is the cutoff point for the existence of a control chain	ROA (operating profits over total assets) and Tobin's Q (Ln)	Yes	Valuation and operating performance are significantly higher in founder-controlled corporations and are not worse in descendants-controlled corporations. Family control positively influences firm value and operating performance in continental European firms. Families turn to control-enhancing devices on a regular basis.
Bennedsen <i>et al.</i> (2007)	5.334 successions between 1994 and 2002 in Denmark	Focuses on family successions (measured by blood or marriage), not on family firms	ROA (operating income to book value of assets), return on capital employed (ROCE)	No	Family CEOs have a negative impact on firm performance. Professional, non-family CEOs provide extremely valuable services to the organizations they head.
Favero <i>et al.</i> (2006)	<i>Italian listed firms 1998-2003</i>	When the controlling shareholder is a family or non-listed firm; 20% participation is the threshold used	ROA and market data	Yes	When performance is measured through ROA, family firms have superior performance, but similar value. Control.-enhancing devices have a positive effect on performance.

Table 1: Literature review: Family ownership, family control and firm performance (in listed corporations) (continuation)

References	Sample	FF definition	Dependent variable	Control potential ownership endogeneity	Results
Filatochev <i>et al.</i> (2005)	228 firms listed on the Taiwan Stock Exchange (TSE)	Family ownership. They identify the largest individual shareholder and the close family. Having identify the family of the largest, they investigate the holding of every individual member and sum them.	Accounting ratios, sales per issued capital, earnings per share and market-to-book value	Yes	Family control is not related to performance.
Gálve and Salas (1996)	81 non-financial firms listed on the Spanish stock exchanges, 1990-1991	When the family is the largest shareholder	Productive efficiency and ROE	No	Family and non-family firms have the same profitability (ROE), but family firms show higher productive efficiency (value added.)
Kowalewski <i>et al.</i> (2010)	217 listed Polish companies, 1997-2005	A binary variable that equals one if the size of a family's ownership is 25% or greater, and zero otherwise	ROE, ROA, (net income over book value of assets) and operating income scaled by the book value of assets -oROA-)	Yes	An inverted U-shaped relationship between the share of family ownership and firm performance (ROE, ROA and oROA). Firms with family CEOs outperform their counterparts that have non-family CEOs.
Lauterbach and Vaninsky (1999)	280 public companies traded on the Telaviv (Israel) Stock exchange	Family owned firms, firms with the majority of votes in hands of a single individual or family	Actual net income of the firm/ optimal net income	No	Family owner-managed firms are least efficient in generating profits. Non-owner managed firms perform better than owner-managed firms

Table 1: Literature review: Family ownership, family control and firm performance (in listed corporations) (continuation)

References	Sample	FF definition	Dependent variable	Control potential ownership endogeneity	Results
Martinez <i>et al.</i> (2007)	175 Chilean listed firms, 1995-2004	"Family-controlled firm" is a company that falls into one of the following criteria: 1. A firm whose ownership is clearly controlled by a family, where family members participate as members in the board of directors and/or top management. 2. A firm whose ownership is clearly controlled by a group of two to four families 3. A firm that is included in a specific business group, and this group is clearly associated with a business family or and entrepreneur.	ROA, ROE and a proxy of Tobin's Q	No	Public family firms perform better than public non-family firms.
Maury (2006)	Faccio and Lang (2002) sample of Western European firms (13 countries, Spain included) and the January 2003 edition, 1672 non-financial firms	A dummy variable equals one if the largest controlling shareholder with at least 10% of the voting rights is a family, an individual or an unlisted firm, and zero otherwise	ROA,ROE and Tobin's Q	Yes	Family-controlled firms have higher performance than firms controlled by other types of owners. Active family control is associated with higher profitability compared with non-family firms. but the premium of market valuation is mainly due to economies with high shareholder protection. Active family control increases profitability even when different legal settings are considered in WE, but valuations are not higher when shareholder protection is low.
Pindado <i>et al.</i> (2008)	Data from 9 European countries 2000-2006,	A dummy variable that equals one when the largest shareholder is an individual or a family with at least 10% of the company's voting rights and zero otherwise	Market value of equity/replacement value of assets	Yes	Family ownership positively influences firm value. When family ownership is too high, firm value decreases. Family firms are superior performers to non-family companies.
Sraer and Thesmar (2006)	1,000 non-financial, non-real-estate companies, listed on the French stock market, 1994-2000	When the founder or a member of the founder's family is a blockholder of the company (20% threshold)	ROA (earnings before income & taxes over book value assets), ROE, payout ratio and market-to-book ratio	No	Family firms outperform non-family firms. Founder-managed firms are very profitable. Descendants-managed firms are more profitable than non- family firms.

Table 2: Definition of Variables

Panel A: Dependent variable	
Variables	Description
ROA	Firm book value operating profit/book value total assets
Panel B: Explanatory and control variables	
Explanatory variables	
FSH	Percentage of common shares held by the largest shareholder of the firm
FSHFF	Percentage of common shares held by the largest shareholder of the firm multiplied by FF. Family ownership exists when families and individuals are either the large shareholder or the firm's ultimate owners holding more than 10% of the voting rights
FAMCONTROL	Dummy variable that equals one if the family firm has any member of the family owner group acting as CEO and/or chairman, and zero otherwise
FAMCEO	Dummy variable that equals one if the family firm has a member of the family ultimate owner acting as CEO, and zero otherwise
FAMCHAIRMAN	Dummy variable that equals one if the family firm has a member of the family ultimate owner acting as chairman, and zero otherwise
SSH	Dummy variable that equals one if there is a second significant shareholder, and zero otherwise. A second significant shareholder exists if he/she owns shares over a threshold of 10%
Control variables	
WEDGE	Difference between control rights and cash flow rights following Claessens <i>et al.</i> (2000, 2002), Faccio and Lang (2002) and La Porta <i>et al.</i> (1999) methodology
GROWTH	Variation in firm sales related to the previous year
LEV	Book value of total debt/book value of total assets
LSIZE	Natural logarithm of book total assets
LAGE	Natural logarithm of $(Year_{it} - INC_i)$ where $Year_{it}$ is the corresponding period of time and INC_i is the date of incorporation of the firm
Time Dummies	Year dummy variables for each sample's firm year to capture year effects
Industry Dummies	Dummy variables for each two-digit SIC code to capture industry effects

Table 3: Summary statistics

The sample consists of 118 publicly traded, non-financial firms from 2002-2008 listed on Spanish stock exchanges. ROA is the firm's operating profit divided by the total assets. FSH is the percentage of common shares held by the largest shareholder. FSHFF is the percentage of common shares held by the largest shareholder in family firms. FF is a dummy variable that equals one if the firm has a family large or ultimate owner with a threshold over 10%. FAMCONTROL is a dummy variable that equals one if the family firm has any member of the family owner group acting as CEO and/or chairman, and zero otherwise. FAMCEO is a dummy variable that equals one if the family firm has a family member of the ultimate owner group acting as CEO, and zero otherwise. FAMCHAIRMAN is a dummy variable that equals one if the family firm has a family member of the ultimate owner group acting as chairman, and zero otherwise. SSH is a dummy variable that equals one if there is a second significant shareholder, and zero otherwise. WEDGE is the difference between the control rights and the cash flow rights. GROWTH is the variation in sales related to the previous year. LEV is the ratio of book value of total debt to the book value of total assets. SIZE is the book value of firm total assets (in thousands of Euros). AGE is the firm age ($Year_{it} - INC_i$ where $Year_{it}$ is the corresponding period of time and INC_i is the date of incorporation of the firm).

Panel A: Continuous variables						
Variable	N° Observations	Min.	Max.	Mean	St. Dev.	
ROA	711	-0.89	0.84	0.06	0.11	
FSH	711	0	99.33	36.05	24.08	
FSHFF	711	0	97.12	24.09	26.125	
WEDGE	711	-0.001	42.41	2.04	6.63	
GROWTH	711	-1	66.43	0.31	2.85	
LEV	711	0.011	2.44	0.57	0.25	
SIZE	711	2,593	1.09+08	4.641,590	1.24+07	
AGE	711	3	116	47.26	26.91	
Panel B: Dummy variables		Frequency (percentage)				
FF	711	59.77%				
FAMCONTROL	711	46.98%				
FAMCEO	711	30.52%				
FAMCHAIRMAN	711	42.05%				
SSH	711	40.93%				

Table 4: Correlation matrix for the dependent and explanatory variables

The sample consists of 118 publicly traded, non-financial firms from 2002-2008 listed on Spanish stock exchanges. ROA is the firm's operating profit divided by the total assets. FSH is the percentage of common shares held by the largest shareholder. FSHFF is the percentage of common shares held by the largest shareholder in family firms. FAMCONTROL is a dummy variable that equals one if the family firm has any member of the family owner group acting as CEO and/or chairman, and zero otherwise. FAMCEO is a dummy variable that equals one if the family firm has a member of the family ultimate owner acting as CEO, and zero otherwise. FAMCHAIRMAN is a dummy variable that equals one if the family firm has a member of the family ultimate owner acting as chairman, and zero otherwise. SSH is a dummy variable that equals one if there is a second significant shareholder, and zero otherwise. WEDGE is the difference between the control rights and the cash flow rights. GROWTH is the variation in sales related to the previous year. LEV is the ratio of book value of total debt to the book value of total assets. LAGE is the natural logarithm of $(Year_{it} - INC_i)$ where $Year_{it}$ is the corresponding period of time and INC_i is the date of incorporation of the firm.

Variables	ROA	FSH	FSHFF	FAMCONTROL	FAMCEO	FAMCHAIRMAN	SSH	WEDGE	GROWTH	LEV	LSIZE
FSH	0.056 (0.134)										
FSHFF	-0.013 (0.724)	0.626*** (0.000)									
FAMCONTROL	-0.027 (0.458)	0.176*** (0.000)	0.522 (0.000)***								
FAMCEO	-0.072* (0.052)	0.119*** (0.001)	0.408*** (0.000)	0.704*** (0.000)							
FAMCHAIRMAN	-0.069* (0.063)	0.176*** (0.000)	0.548*** (0.000)	0.876*** (0.000)	0.617*** (0.000)						
SSH	0.149*** (0.000)	-0.077** (0.038)	-0.014 (0.705)	0.076** (0.042)	0.088** (0.018)	-0.0138 (0.714)					
WEDGE	0.036 (0.325)	0.225*** (0.000)	0.332*** (0.000)	0.089** (0.017)	0.054 (0.148)	0.086** (0.021)	-0.045 (0.225)				
GROWTH	-0.009 (0.807)	-2.01-05 (0.995)	0.021 (0.504)	0.066* (0.075)	0.057 (0.128)	0.077** (0.039)	0.026 (0.496)	-0.004 (0.904)			
LEV	-0.184*** (0.000)	-0.054 (0.149)	-0.060 (0.106)	-0.100*** (0.000)	-0.198*** (0.000)	-0.037 (0.320)	-0.047 (0.204)	0.078** (0.036)	-0.017 (0.641)		
LSIZE	-0.195*** (0.000)	-0.058 (0.116)	-0.092** (0.013)	-0.197*** (0.000)	-0.270*** (0.000)	-0.130*** (0.000)	-0.082** (0.027)	0.173*** (0.000)	-0.008 (0.815)	0.427*** (0.000)	
LAGE	2.03-04 (0.996)	-0.104*** (0.005)	-0.051 (0.169)	-0.046 (0.213)	0.021 (0.471)	-0.044 (0.240)	0.070* (0.061)	0.034 (0.361)	0.019 (0.612)	0.191*** (0.000)	0.1344*** (0.000)

(p-value) * Statistically significant at a 0.1 level ** Statistically significant at a 0.05 level *** Statistically significant at a 0.01 level

Table 5: Model's results

The sample consists of 118 publicly traded, non-financial firms from 2002-2008 listed on Spanish stock exchanges. In all the models the dependent variable is ROA; that is, the firm's operating profit divided by total assets. FSH is the percentage of common shares held by the largest shareholder. FSHFF is the percentage of common shares held by the largest shareholder of the company for family firms. FF is a dummy variable that equals one if the firm has a family ultimate owner with a threshold over 10%. FAMCONTROL is a dummy variable that equals one if the family firm has any member of the family owner group acting as family CEO and/or chairman, and zero otherwise. FAMCEO is a dummy variable that equals one if the family firm has a family member of the ultimate owner group acting as CEO, and zero otherwise. FAMCHAIRMAN is a dummy variable that equals one if the family firm has a family member of the ultimate owner group acting as chairman, and zero otherwise. SSH is a dummy variable that equals one if there is a second significant shareholder, and zero otherwise. WEDGE is the difference between the control rights and the cash flow rights. GROWTH is the variation in sales related to the previous year. LEV is the ratio of book value of total debt to the book value of total assets. LSIZE is the natural logarithm of book total assets. LAGE is the Natural logarithm of (Year_{it} - INC_i) where Year_{it} is the corresponding period of time and INC_i is the date of incorporation of the firm. There are also dummies for each year (from 2002-2008) and SIC sector at the two-digit level.

Variable	Pool			Fixed vs. Random effects			GMM		
	1	2	3	4	5	6	7	8	9
FSH	4.88-04*** (0.006)	4.75-04*** (0.008)	4.76-04*** (0.006)	8.09-04* (0.053)	7.58-04* (0.056)	7.30-04* (0.076)	5.46-04 (0.580)	4.25-04 (0.709)	6.20-04 (0.593)
FSHFF	4.03-05 (0.842)	3.78-05 (0.842)	6.05-05 (0.760)	-2.17-04 (0.623)	-3.80-06 (0.993)	4.88-05 (0.917)	6.87-04 (0.580)	3.43-04 (0.747)	8.60-04 (0.432)
FAMCONTROL	-0.011 (0.307)			-0.010 (0.551)			-0.037** (0.034)		
FAMCEO		-0.014 (0.131)			-0.057* (0.089)			-0.046* (0.094)	
FAMCHAIRMAN			-0.012 (0.289)			-0.005 (0.782)			-0.033* (0.094)
SSH	0.034*** (0.000)	0.034*** (0.000)	0.033*** (0.000)	0.035*** (0.005)	0.036*** (0.003)	0.036*** (0.003)	0.043*** (0.010)	0.034* (0.090)	0.036** (0.023)
WEDGE	-9.11-04** (0.020)	-8.74-04** (0.023)	-9.17-04** (0.020)	-0.003*** (0.001)	-0.003*** (0.001)	-0.003*** (0.001)	-0.002 (0.133)	-0.001 (0.175)	-0.002* (0.087)
GROWTH	-6.87-05 (0.879)	-9.16-05 (0.824)	-4.13-05 (0.930)	3.05-04 (0.362)	2.61-04 (0.417)	2.65-04 (0.411)	3.04-04 (0.630)	2.14-04 (0.728)	3.55-04 (0.531)
LEV	-0.191*** (0.000)	-0.195*** (0.000)	-0.191*** (0.000)	-0.187*** (0.001)	-0.188*** (0.001)	-0.186*** (0.001)	-0.152 (0.125)	-0.149* (0.083)	-0.160 (0.115)
LSIZE	-0.019*** (0.000)	-0.019*** (0.000)	-0.020*** (0.000)	-0.003 (0.787)	-0.004 (0.758)	-0.004 (0.755)	-0.027 (0.203)	-0.026 (0.157)	-0.022 (0.252)
LAGE	0.012** (0.017)	0.012** (0.017)	0.012** (0.024)	0.004 (0.885)	0.010 (0.745)	0.011 (0.719)	0.027 (0.219)	0.024 (0.381)	0.027 (0.216)
Annual effect	No	No	No	Yes	Yes	Yes	No	No	No
Industry effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
F	6.64***	6.72***	6.64***	3.28***	2.81***	2.81***			
R-squared	0.344	0.345	0.344	0.232	0.244	0.244			
Hausman				292.48***	1116.67***	405.84***			
Z ₁							16.27*	16.85**	14.97*
Z ₂							7.86	4.80	6.30
m ₂							-1.50	-1.51	-1.56
Hansen							57.54	53.35	55.15
No. observations	711	711	711	711	711	711	593	593	593
No. groups				118	118	118	118	118	118

(p-value)

Z₁ is a Wald test for the reported coefficients of the explanatory variables, asymptotically distributed as χ^2 under the null of no relationship for all the explanatory variables. Z₂ is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship. m₂ is the second order serial correlation relation in the regression residuals, asymptotically distributed as N(0, 1) under the null of no serial correlation. Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term.

* Statistically significant at a 0.1 level ** Statistically significant at a 0.05 level *** Statistically significant at a 0.01 level