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## European Journal of Management and Business Economics

Family board ownership, generational involvement and performance in family

SMEs: A test of the S-shaped hypothesis

Amaia Maseda, Txomin Iturralde, Gloria Aparicio, Lotfi Boulkeroua, Sarah Cooper,

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# Family board ownership, generational involvement and performance in family SMEs

Family board  
ownership

## A test of the S-shaped hypothesis

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### Abstract

**Purpose** – In order to deepen our knowledge of governance of family firms, the purpose of this paper is to focus our attention on the relation between family owners who are members of the board of directors and firm performance. Also, this study sheds more light on how the generation in charge of the family firm affects that relationship, as generational involvement may be a unique predictor of governance behavior in these firms.

**Design/methodology/approach** – The authors applied a cross-sectional ordinary least squares regression model to test the hypotheses on a sample of 313 non-listed Spanish family SMEs. The authors suggest the possibility of a non-linear relationship between the percentage of ownership by family members of the board of directors and firm performance, and specifically, the authors propose an S-shaped effect that implies two breakpoints.

**Findings** – The authors find not only that an inverted U-shaped relationship exists, but also an S-shaped relationship between family board members' ownership and firm performance in family SMEs. Nevertheless, the results are different in comparing first-, second- and later-generation family firms.

**Originality/value** – This is one of the few empirical studies that examine the relationship between family board ownership and firm performance in the context of non-listed family SMEs. The authors consider that the influences of family directors on the board of directors as well as the concentration of family ownership on the board of directors are worth studying in non-listed family SMEs. Moreover, previous studies have focused mainly on large listed family firms but not on unlisted ones.

**Keywords** Ownership, SME, Generation, Performance, Board of directors, Agency theory, Family firm, Family board ownership

**Paper type** Research paper

### 1. Introduction

The ownership structure and the effect of the corporate governance mechanism on firm behavior are some of the most debated issues in business and management literature since the seminal article of Berle and Means (1932). Most studies have tried to identify effective mechanisms and

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requirements for solving agency problems arising for top management in the situation of diffuse shareholder structure and separation of ownership and control (e.g. Fama and Jensen, 1983; Jensen and Meckling, 1976). Moreover, most of those studies have focused on large publicly listed firms (e.g. Morck *et al.*, 1988; Anderson and Reeb, 2003; Villalonga and Amit, 2006).

Within the analysis of ownership structure, firms may be differentiated from each other depending not only on whether their ownership is more or less dispersed but also on the nature of the owners (Iannotta *et al.*, 2007). This happens, for instance, in family firm, which can be understood as a business where one family (or more) exerts power over the organization and its strategic direction through ownership, top management team and/or board positions (Pieper *et al.*, 2008). The ownership in such firms – identified as the predominant type of organizations around the world (e.g. La Porta *et al.*, 1999; Faccio and Lang, 2002; Claessens *et al.*, 2002) – is often concentrated within a controlling family, and thus, is regarded as a particular case for the study of ownership structure (Anderson and Reeb, 2003; Villalonga and Amit, 2006).

In private family firms, most of which are family SMEs, the influence of the family in the firm takes the form of family involvement in ownership, governance and/or management. According to agency theory these firms could have a problem of ownership and control, not only as first described by Jensen and Meckling (1976) (i.e. shareholders and managers agency conflict), but also between majority shareholders (controlling owner family) and minority shareholders (i.e. principal–principal problem), between family members in different roles in the business, or as a result of altruism, and so forth (Chrisman *et al.*, 2004; Schulze *et al.*, 2001; Songini and Gnan, 2015).

The agency consequence of ownership in family SMEs is therefore still open to debate since governance mechanisms are often related to family influence and control, and family owners tend to consider their organizations as an extension of themselves (Miller and Le Breton-Miller, 2005).

The governance mechanisms try to employ the organizational resources to resolve conflicts and align the interest of the different stakeholders of the firm (Daily *et al.*, 2003), and to achieve it, the firm should use a variety of corporate governance mechanisms to facilitate the balance of interests of its stakeholders (Chrisman *et al.*, 2004). In the case of family firms, the governance mechanisms used vary in terms of their extent and type, and this, in the words of Daspit *et al.* (2018), means creating substantial heterogeneity in family firm behavior and performance. Therefore, it is interesting to analyze how a source of family control acts in a formal governance mechanism such as in the case of the board of directors. Moreover, despite increasing research efforts, empirical evidence on the influence of ownership structure on family firm performance has produced mixed results (for a review, e.g., see Tsao *et al.*, 2009; Villalonga *et al.*, 2015). In this regard, there are various issues which remain unresolved, and therefore, the literature continues to study various aspects of the interaction among family ownership and different governance mechanisms that can originate from inside or outside the firm (Chrisman *et al.*, 2018).

In order to deepen our knowledge on the governance of family firms, in this study we focus our attention on the relation between family ownership, board composition and firm performance, given that, as Chua *et al.* (2012) asserted, the accumulation of power unrestricted by external board members or outside owners leads to personalistic and particularistic behavior that are sources of heterogeneity in family firms. Thus, our study of Spanish family non-listed SMEs examines the influence of family owners who are members of the board of directors to understand the effect of this mechanism on firm performance. The second objective of this study is to shed light on how the generation in charge of the family firm affects family directorship and firm performance relationship.

The paper contributes to the literature on the impact of ownership structure on firm performance in the following ways. First, our findings provide a new perspective on the role

that family ownership plays in corporate governance as an internal mechanism in family firms. Previous studies have investigated the effect of the degree of family ownership on performance by taking the percentage of shares held by managers who are family members but few have analyzed the percentage of ownership by the family members of the board. Second, this study expands on several others exploring non-linear effects of family board ownership (FOB) on firm performance. Specifically, it is hypothesized that there exists not only an inverted U-shaped relationship, but also an S-shaped relationship between those variables. Third, we analyze the relationship between ownership structure and firm performance using family ownership in the board as an independent variable in comparing first-, second- and later-generation family firms. The motivation of family directors toward performance is different from that of non-family directors (Chua *et al.*, 1999) and is perhaps dissimilar between different generations of family firms. Fourth, previous studies have focused on relatively large publicly listed family firms, however, only a small amount of available literature focuses on unlisted family SMEs. Moreover, family firms with highly concentrated ownership are common in most countries with the exception of Anglo-American ones (e.g. the USA and the UK) (La Porta *et al.*, 1999).

The remainder of the paper is organized as follows. The following section presents the relevant literature regarding ownership structure and presents the hypotheses and models to be tested. Section 3 sets out the data, the measurement of the variables and the procedures for analysis used in undertaking this empirical study. The empirical results are reported in the penultimate section. Finally, the conclusions, implications and limitations are discussed in Section 5.

## 2. Theoretical debate and hypotheses development

### 2.1 Governance mechanisms: ownership concentration and board of directors

Empirical evidence collected from large publicly listed Anglo-American companies has long enabled studies of the principal-agent problem described by Jensen and Meckling (1976), and Fama and Jensen (1983), where dispersed shareholders (principals) are forced to delegate control to top managers (agents) giving rise to the so-called Type I principal-agent problem. Consistent with the monitoring hypothesis, concentrated ownership among top management can mitigate the classical principal-agent conflict by aligning the interest of managers and shareholders. However, a concentrated ownership structure can lead to the appearance of agency conflicts between controlling shareholders and minority shareholders (i.e. Type II principal-principal problem). In this regard, Shleifer and Vishny (1997) argued that in some countries the Type II agency problem is more usual than Type I agency problem (e.g. see La Porta *et al.*, 1999, for an extensive survey).

Adopting the agency lens, “control” is associated with voting control and board power (Villalonga *et al.*, 2015), and this involves strong connection between the interests of controlling shareholders and minority shareholders although the effects can be different (Fama and Jensen, 1983; Shleifer and Vishny, 1997). That view is shared by Villalonga and Amit (2006), who suggested that in situations where the major shareholder is an individual or a family, there will be a greater incentive for both the monitoring of the manager and the expropriation of minority shareholders. Thus, two opposite differentiated firm’s behaviors have been argued in the analysis of the relation between concentrated ownership structure and firm performance when analyzing the relationship between controlling shareholders and minority shareholders: the convergence of interests hypothesis and the entrenchment hypothesis (Jensen and Meckling, 1976; Fama and Jensen, 1983; Morck *et al.*, 1988; Shleifer and Vishny, 1997).

The convergence of interest hypothesis suggests that the controlling shareholders face strong incentives to monitor managers and maximize profits when they retain substantial cash flow rights in addition to control (La Porta *et al.*, 1999). These incentives also enhance the

value of minority shares, and hence the interests of both shareholders' group converge. Since the board of directors is an effective corporate mechanism and from there the controlling shareholders can exercise control over the firm, when the percentage of ownership by directors grows, their interests and those who represent minority shareholders are aligned. In this way, Type II agency problem tends to disappear and the hypothesis of convergence of interests prevails. Consequently, an improvement in the firm's performance is expected because the dissonance between shareholder groups is reduced.

In the context of family firms, family owner-directors are likely to have more incentives to be good monitors because in addition to linking their wealth with the firm (Chrisman *et al.*, 2004) they maintain emotional ties with the family firm (Gómez-Mejía *et al.*, 2007). Family members have incentives to be good monitors because their economic and non-economic preferences are linked to the continuation of the firm and therefore, it is to be expected that agency conflicts are minimized in family firms and lower than they are in non-family firms (Chrisman *et al.*, 2005).

The so-called entrenchment hypothesis is based on the idea that concentrated ownership creates incentives for the controlling shareholder to expropriate wealth from minority shareholders. The entrenchment hypothesis claims that the more concentrated the ownership is, the more serious the information asymmetry and the agent problems that exist between controlling and minority shareholders are (Shleifer and Vishny, 1997). The "private benefits of control" hypothesis labeled by Grossman and Hart (1984) can appear because the controlling shareholder may use its dominant position in the firm. Morck *et al.* (1988) suggested that, at high level of ownership by board members, these directors may use the voting power to secure their positions, and it can be seen as an entrenchment problem. This view is also shared by Ozkan and Ozkan (2004), who maintained that higher levels of board ownership give controlling board members more voting control and influence over the firm, increasing their ability to resist outside pressures, which can lead to difficulties for minority shareholders in developing their functions in the board. The board of directors as a governance mechanism may not help protect minority shareholders if it is highly controlled by major shareholders. Therefore, Morck *et al.* (1988) predicted that concentrated ownership above a certain threshold has a negative effect on the firm value due to the inherent conflict between controlling shareholders and minority shareholders.

In this regard, Villalonga and Amit (2006) considered controlling shareholder situations in other institutions apart from family firms, and argued that the private benefits of excessive control over the firm are, in general, divided among several groups of stockholders (e.g. banks, and other corporations and institutions). In these cases, controlling shareholders can redistribute wealth from other minority shareholders, whose interests need not coincide (De Miguel *et al.*, 2004). It is therefore concluded that in non-family firms the controlling shareholders' incentives for expropriating the minority shareholders are diluted and are less pronounced than in family firms (Morck and Yeung, 2003; Villalonga and Amit, 2006). According to Villalonga *et al.* (2015, p. 640), "in family firms, more than in any other corporation with concentrated ownership, Agency Problem II is likely to overshadow Agency Problem I." In fact, the empirical literature has shown that under the assumption of (asymmetric) altruism and opportunistic behavior, family firms are exposed to agency costs (Siebels and zu Knyphausen-Aufseß, 2012). That view is shared by Corbetta and Salvato (2004) who, adopting the agency view, also considered that the altruistic tendencies of family members are limited to narrower family groups and it does not help align the incentives of different board members (or board groups).

In summary, the existence of these two competing arguments suggests the possibility of a non-linear relationship between ownership concentration and firm performance in family firms. Therefore, we hypothesize an inverted U-shaped relationship in the context of family SMEs between the percentage of ownership by the family members of the board of directors and firm performance. Thus, as FOB increases, we expect to observe first a positive alignment between family controlling board members and other non-family shareholders'

interests leading a positive impact on firm performance (convergence of interest hypothesis). Then, we expect a negative effect (entrenchment hypothesis) exerted by FOB on firm performance because of reduced alignment of interests between the controlling family board members and the rest of shareholder groups. Formally:

*H1.* There is an inverted U-shaped relationship between family board members' ownership and firm performance in family SMEs.

To validate this hypothesis, firm performance is regressed against FOB and its square. The inclusion of these two variables in the value model enables us to explicitly test both the convergence of interest and entrenchment effects as well as to optimally determine the breakpoint of the value–concentration relationship:

$$Y_i = \beta_0 + \beta_1\text{FOB}_i + \beta_2\text{FOB}_i^2 + \beta_3\text{GO}_i + \beta_4\text{Lev}_i + \beta_5\text{Size}_i + \beta_6\text{Age}_i + \varepsilon_i, \quad (1)$$

where  $i$  refers to family firm 1 to  $n$ .

In addition, to test the non-linear nature of the relationship we also hypothesize a cubic model that implies two turning points. The S-shaped form allows the possibility that the relationship becomes positive again above some level of FOB. This could happen in boards dominated by different families or family branches because it implies the necessity of a greater convergence of interests between different family members of the board of directors (or groups of board members) as family ties may be more diffuse than in situations where there is either only one family or earlier generations controlling the board of directors. Based on the arguments mentioned above, we hypothesize an S-shaped relationship between the percentage of ownership by the family members of the board of directors and firm performance. Formally:

*H2.* There is a cubic relationship between family board members' ownership and firm performance in family SMEs.

Our model extends the piecewise linear regression of Morck *et al.* (1988) by permitting the coefficients on the FOB variables to determine their optimal breakpoints. To test this hypothesis we suggest the following model:

$$Y_i = \beta_0 + \beta_1\text{FOB}_i + \beta_2\text{FOB}_i^2 + \beta_3\text{FOB}_i^3 + \beta_4\text{GO}_i + \beta_5\text{Lev}_i + \beta_6\text{Size}_i + \beta_7\text{Age}_i + \varepsilon_i, \quad (2)$$

where  $i$  refers to family firm 1 to  $n$ .

## 2.2 The generational perspective in ownership concentration and board of directors

The arguments previously reported highlight the potentially positive and negative effects of concentrated (family) ownership in the board on firm performance. They also outline the contrasting views between the convergence of interest and entrenchment hypotheses. But a firm's ownership structure can be defined not only by the ownership concentration (whether diffuse or concentrated) but also by the role and identity of the owners in the firm. This happens, for instance, in the case of family firms as generational involvement may be a unique predictor of governance behavior in these firms.

First-generation family firm is defined as a family-owned and managed firm by members of the first-generation or founding generation of the family involved in the business. In the latter type of family firm, stronger ties are created between the family and the firm. The founding family shares a common destiny with the firm and there is a concurrence of family and business objectives (Miller and LeBreton-Miller, 2005). Founding-owner and a narrow group of family members are involved in ownership, governance and management, which alleviates or eliminates agency problems.

When multiple generations, i.e., second-, third- and later-generations are involved in the ownership and the management of the family firm, priorities and the nature of problems may begin to change (Gersick *et al.*, 1997). Conflicts may ensue when the interests of the family members diverge, and agency relationships between various participants in the firm are conducted on the basis of economic and non-economic preferences (Chrisman *et al.*, 2005; Sharma *et al.*, 2007). When family members are involved in different roles in the firm, intra-family agency problems can arise between principals (family shareholders) and agents (family members also involved in governance and/or management) as the likelihood of opposite opinions and objectives increases and agents pursue their interests contravening those of the principals (Chrisman *et al.*, 2004). Thus, Davis and Harveston (2001) found that more conflicts arise when second-, third- or later-generations run family firm. Relationships during the sibling partnership stage become more problematic; moreover, the family (or part of the family) could be progressively becoming a passive owner (Gedajlovic *et al.*, 2004). Although some shareholders (actively) participate in the governance and/or management of the firm (agent-family shareholders), others may take a passive role (principal-family shareholders), and as a result members may have different interests and goals (Siebels and zu Knyphausen-Aufseß, 2012). For example, passive shareholders might prefer high dividend payouts, whereas active shareholders would rather retain profits and use them for reinvestment (May, 2004, cited by Siebels and zu Knyphausen-Aufseß, 2012). Moreover, sibling partners are likely to prioritize concerns for their own and narrow family welfare over concerns for each sibling's welfare (Gersick *et al.*, 1997). Thus, family cohesion in subsequent generations could be weaker and therefore the sense of shared interests of family members would be lower. In addition, family firms are potentially subject to an additional conflict of interest between family shareholders and family non-shareholders. In this case, as in any agency relationship, the goals of principal and agent may diverge. According to Villalonga *et al.* (2015), family shareholders, being part of the larger family group, are likely to share some or all of the larger family objectives, but they are also likely to have some objectives of their own that may conflict with those of the family as a whole.

Consequently, second-, third- or later-generation family firms need a lower percentage of ownership on the board of directors to control and influence the firm because share ownership is more widespread than previously. Formally:

*H3.* The turning point of family board members' ownership, both in quadratic and cubic relationships, decreases over generations.

This relationship is analyzed using the following models:

$$\begin{aligned}
 Y_i = & \beta_0 + \beta_1\text{FOB}_i + \beta_2\text{FOB}_i^2 + \beta_3\text{FOB}_i \times \text{Gen1}_i + \beta_4\text{FOB}_i \times \text{Gen2}_i \\
 & + \beta_5\text{FOB}_i \times \text{Gen3}_i + \beta_6\text{FOB}_i^2 \times \text{Gen1}_i + \beta_7\text{FOB}_i^2 \times \text{Gen2}_i \\
 & + \beta_8\text{FOB}_i^2 \times \text{Gen3}_i + \beta_9\text{Gen1}_i + \beta_{10}\text{Gen2}_i + \beta_{11}\text{Gen3}_i\beta_7 \\
 & + \beta_{12}\text{GO}_i + \beta_{13}\text{Lev}_i + \beta_{14}\text{Size}_i + \beta_{15}\text{Age}_i + \varepsilon,
 \end{aligned} \tag{3}$$

$$\begin{aligned}
 Y_i = & \beta_0 + \beta_1\text{FOB}_i + \beta_2\text{FOB}_i^2 + \beta_3\text{FOB}_i^3 + \beta_4\text{FOB}_i \times \text{Gen1}_i \\
 & + \beta_5\text{FOB}_i \times \text{Gen2}_i + \beta_6\text{FOB}_i \times \text{Gen3}_i + \beta_7\text{FOB}_i^2 \times \text{Gen1}_i \\
 & + \beta_8\text{FOB}_i^2 \times \text{Gen2}_i + \beta_9\text{FOB}_i^2 \times \text{Gen3}_i + \beta_{10}\text{FOB}_i^3 \times \text{Gen1}_i \\
 & + \beta_{11}\text{FOB}_i^3 \times \text{Gen2}_i + \beta_{12}\text{FOB}_i^3 \times \text{Gen3}_i + \beta_{13}\text{Gen1}_i + \beta_{14}\text{Gen2}_i \\
 & + \beta_{15}\text{Gen3}_i + \beta_{16}\text{GO}_i + \beta_{17}\text{Lev}_i + \beta_{18}\text{Size}_i + \beta_{19}\text{Age}_i + \varepsilon,
 \end{aligned} \tag{4}$$

where  $i$  refers to family firm 1 to  $n$ .

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### 3. Empirical research: method, data and analysis

#### 3.1 *Sample and data sources*

We conducted a study of Spanish small- and medium-sized family firms included in the Iberian Balance Sheet Analysis System (SABI) database provided by Bureau Van Dijk. We imposed certain restrictions on this group of firms in order to obtain a sample that is representative of the population. We eliminated firms affected by special situations such as insolvency, winding-up, liquidation, or zero activity and we eliminated listed companies and firms with less than 50 employees. Thus, companies were large enough to ensure the existence of a management team and a board of director. Finally, selected firms should have provided financial information in 2013.

In this study companies must meet the following two conditions to consider them as family firms (Arosa *et al.*, 2010): majority ownership is controlled by a single family (over 50 percent of shares); and family members actively participate in firm management. To find compliance with these two conditions, we conducted an exhaustive review of shareholding structure (percentage of common stock) and composition (names and surnames of shareholders), and examined the composition of the board of directors of each of the selected firms in the database. The sample comprised 1,493 private Spanish firms.

Once the preliminary criteria were established, the financial reporting information was obtained from the SABI database, which collects financial information from annual accounts filed with the Spanish Mercantile Register. Subsequently, a structured questionnaire was used to collect additional information on items not included in the SABI database as, for example, the percentage of ownership of family members in the board of directors and the generational involvement in the firm, which is consistent with studies investigating family firms (Eddleston *et al.*, 2008). A professional survey agency was employed to collect data by means of telephone interviews, a method that ensures a high response rate. To maximize responses, managers received written notifications regarding the purpose and importance of the research before the study was conducted. To ensure a high response rate and reliable and accurate responses, the CEOs were promised that the information about the respondents and the company would remain strictly confidential. Telephone interviews were scheduled in advance in cases where managers signaled reluctance or limited availability. The total response rate to the questionnaire was 24.72 percent of the sample, i.e., 369 family firms out of 1,493. Considering data depuration, the final sample was 313 family firms or 20.96 percent of the overall sample. These 313 firms are a representative sample with a confidence level of 95% (Malhotra and Birks, 2007).

We used some techniques to reduce the potential response bias. First, we protected the respondents' anonymity by assuring the confidentiality of their responses in the cover letter that accompanied the survey (Podsakoff *et al.*, 2003). Second, we created a pre-test to fine-tune the questionnaire and prepared a presentation letter, emphasizing the need for research on ownership structure of family firms and their boards of directors in order to increase the interest in the topic. Moreover, a non-response analysis revealed no statistically significant differences between respondents and non-respondents with regard to age and size ( $p$ -value > 0.1).

#### 3.2 *Variable measurement*

**3.2.1 *Dependent variable.*** Several performance indicators have been used for measuring performance as growth in sales, growth in market share, growth in employees, growth in profitability, return on equity, return on total assets, profit margin on sales or the ability to fund growth from profits, among others (Eddleston *et al.*, 2008). In this regard, several articles use indicators obtained through questionnaire survey as assessment of performance (e.g. Arzubiaga *et al.*, 2018; Sanchez-Famoso *et al.*, 2017). However, other studies use

indicators obtained from financial reporting information as performance measure (e.g. Chu, 2009; Mazzola *et al.*, 2013). In this paper, the profitability is measured by the accounting measure return on assets (ROA) obtained from the annual accounts collected from SABI. ROA indicates how well a firm is performing by comparing the profit it is generating to the capital invested in its assets. ROA ratio formula is calculated by dividing operating income (earnings before interest and taxes, EBIT) by the book value of total assets.

**3.2.2 Independent variables.** Family ownership in the board (FOB). This variable indicates the percentage of ownership of family members in the board of directors.

Generational involvement in the firm (Gen). Consistent with Miller *et al.* (2007), we have generated three Gen variables. Gen1 has a value of 1 if the firm is managed by the first generation and 0 otherwise; Gen2 has a value of 1 if the firm is managed by the second generation and 0 otherwise; and Gen3 takes the value of 1 if the firm is managed by the third- and later generations and 0 otherwise. These three variables enable us to analyze whether the behavior of family firms varies depending on the generation that manages the firms.

**3.2.3 Control variables.** Different additional variables were included to calibrate the model specification and to consider possible alternative explanations for the results of our study. Firm Size was measured by the total assets (e.g. Hernandez-Trasobares and Galve-Gorriz, 2017). Growth opportunities (GO) has been proxied by the sales growth rate, i.e.,  $Sales_t/Sales_{t-1}$ , following Acedo-Ramirez *et al.* (2017) and Steijvers and Niskanen (2013) given that it cannot be measured using the book-to-market ratio since no information is available about market value. The degree of leverage (Lev) is also a control variable that is used to avoid the influence of ownership structure on firm financial structure (Demsetz and Lehn, 1985). In these models, we use the total debt to total assets ratio to measure the degree of leverage (Maseda *et al.*, 2015). Finally, firm age (Age) is measured by taking into consideration the time since the firm was established (Barros *et al.*, 2017). The Size and Age variables were both log-transformed to achieve normality.

### 3.3 Method

We applied a cross-sectional ordinary least squares (OLS) regression model to test the hypotheses presented in the preceding section. The quadratic relations proposed in Equations (1) and (3) presented only one breakpoint for each generation, which could be optimally derived by differentiating performance with respect to FOB. Letting this partial derivative equal 0, this breakpoint is  $FOB = -\beta_1/2\beta_2$ . The coefficients display an inverted U shaped, with the breakpoint occurring when  $\beta_1$  and  $\beta_2$  are significantly positive and negative, respectively (De Miguel *et al.*, 2004).

Our second model tested an S-shaped form of the relationship between firm value and FOB (Equations (2) and (4)). This model extended the piecewise linear regression of Morck *et al.* (1988), enabling the coefficients on the FOB variables to determine their optimal breakpoints. According to De Miguel *et al.* (2004), these optimal breakpoints could be calculated by differentiating profitability from FOB. Equating the partial derivative to 0, the cut-off points were given by the following equation:

$$FOB/FOB^2 = \left( 2\beta_1 \pm \sqrt{4\beta_2^2 - \beta_1\beta_3} \right) / 6\beta_3.$$

In order to test for multicollinearity, the VIF was calculated for each independent variable. The results (Table II) indicated that all the independent variables had VIF values of less than 10.

Finally, we also checked for potential endogeneity problems, specifically reverse causality in the relationship between the dependent and independent variables.

#### 4. Results

Tables I and II present the descriptive statistics and correlation coefficients for the variables used in this study. It should be noted that the average of FOB stake in family firms in the sample is 52 percent. Nevertheless, when different generations join the firm, this ownership stake is diluted significantly.

Given that there might be a potential problem of the endogeneity of FOB, we estimate our models using an instrumental variable (IV) analysis. On the basis of the availability of data and the correlations (Maseda *et al.*, 2015), we identified the instrument “number of family directors” that is correlated with FOB ( $-0.2050$ ,  $p$ -value  $< 0.01$ ) but unrelated to firm performance ( $0.0281$ ,  $p$ -value  $> 0.01$ ). This instrument is considered valid ( $p$ -value  $< 0.00$ ) for the first-stage regressions in the models. These indicate a sufficiently strong correlation between the instrument and the potential endogenous variable FOB. Having established a significant correlation between the instrument and FOB and given the validity of the instrument, the IV results can then be used to address the question of whether the FOB effect estimated by a simple OLS regression is substantially biased or not (Bennedsen *et al.*, 2007). The Hausman  $F$ -test,  $p$ -value  $> 0.01$ , does not reject the null hypothesis of no endogeneity in any of the models (Bennedsen *et al.*, 2007). Thus, our OLS regression results are unlikely to be inconsistent or biased.

Table III shows the results of regression analysis. All the models tested are significant ( $p$ -value  $< 0.00$ ).  $R^2$  is not high in any model, although always higher than 0.1. Scholars do suggest the convenience of scoring higher values than 0.1 in  $R^2$  (Falk and Miller, 1992), although acceptable  $R^2$  values depend on the research context (Hair *et al.*, 2011).

	Family firms		
Number of observations		313	
	1st Gen	2nd Gen	3rd Gen
	102	144	67
Family board ownership (%)		51.73	
	1st Gen	2nd Gen	3rd Gen
	59.06	50.62	43.14
<i>Control variables</i>			
Return on assets (%)		6.72	
Growth opportunity (Sales <sub>0</sub> /Sales <sub>-1</sub> ) (%)		14.61	
Leverage (total debt/total assets)		42.50	
Firm's size (total assets) (thousand euros)		27,309.48	
Firm's age (years)		40	

**Sources:** Data of ownership structure and board of directors were obtained from the survey. Financial information was obtained from SABI

**Table I.**  
Descriptive statistics

Variables	VIF	1	2	3	4	5	7
1. ROA	1.30	1					
2. FOB	1.23	0.02	1				
3. GO	1.10	-0.05	-0.01	1			
4. Leverage	1.15	-0.23*	0.12*	-0.24*	1		
5. Firm size	1.10	1.10	-0.09	-0.05	0.13*	1	
6. Firm age	1.05	-0.01	-0.11*	-0.013	0.03	0.01	1

**Note:** \*Correlation is significant at the 1 percent level

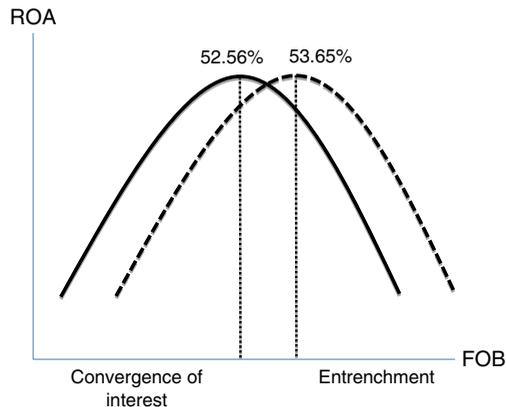
**Table II.**  
Correlation data

	ROA			
	I	II	III	IV
Constant	-0.042	-0.027	-0.04	0.008
FOB	0.082**	0.262***	0.098	0.087
FOB <sup>2</sup>	-0.078**	-0.629**	0.095	-0.082
FOB <sup>3</sup>		0.384**		0.007
FOB × Gen1			0.279**	0.427**
FOB × Gen2			0.149	-0.236
FOB × Gen3			0.154	0.301
FOB <sup>2</sup> × Gen1			-0.260**	-0.893**
FOB <sup>2</sup> × Gen2			-0.123	-0.469
FOB <sup>2</sup> × Gen3			-0.155	-0.605
FOB <sup>3</sup> × Gen1				0.491*
FOB <sup>3</sup> × Gen2				0.259
FOB <sup>3</sup> × Gen3				0.310
Gen1	0.043**	0.043**	0.023	0.017
Gen2	0.017	0.014	-0.001	-0.02
Gen3	0.016	0.012	0.009	0.001
GO	-0.048	-0.002*	-0.002*	-0.001
Lev	-0.083***	-0.090***	-0.103***	-0.097***
Size	0.009***	0.007**	0.008**	0.007**
Age	0.032	0.006	0.003	0.006
F-value	3.93***	4.02***	3.21	2.74
R <sup>2</sup>	0.15	0.17	0.18	0.19

**Table III.**  
Regression results

Notes: \*, \*\*, \*\*\*Significant at the 10, 5 and 1 percent levels, respectively

In the first regression (Equation (1)), we examined the influence of FOB on firm performance without considering the generation runs on the firm (Table III, Column I). The coefficient on the FOB variable is positive ( $\beta_1 = 0.08$ ) and negative for its square ( $\beta_2 = -0.078$ ). These results confirm our first hypothesis (*H1*) that an inverted U-shaped relationship exists between FOB and firm performance in family SMEs. This result demonstrates the existence of an optimal level of FOB, which stands at approximately 52.56 percent (Figure 1).



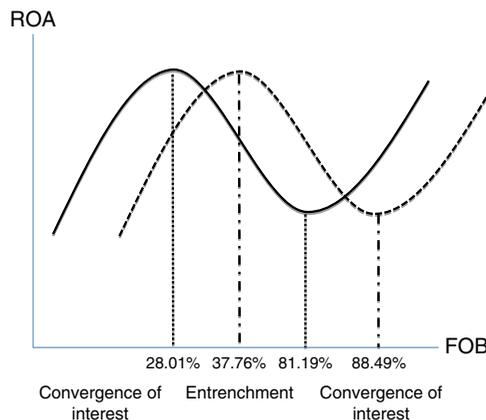
**Note:** The hypothesized S-shaped family board ownership–performance link

**Figure 1.**  
U-shaped relationship between family board ownership and firm performance

In Table III, Column II,  $\beta_1$  and  $\beta_3$  are positive and  $\beta_2$  is negative, which supports the S-shaped specification for the value proposed by the second hypothesis ( $H2$ ). There is evidence of a significant cubic relationship between FOB and firm profitability in family firms. Firm performance increases with relatively high and low levels of FOB and falls at intermediate levels. Once  $H2$  is supported, the next step is to calculate the breakpoints. We note that when FOB is between 0 and 28.01 percent, an increase in the percentage of ownership positively improves firm performance. However, when FOB is between 28.01 and 81.19 percent, the firm performance decreases as the percentage of ownership increases (Figure 2).

In order to fulfill the second objective of the study, we compared the behavior of family firms when second- and later-generations run family firm. We analyzed whether significant differences exist in the optimal FOB proportion for the sample firms based on their generational stage. We included three variables to indicate the generation that is managing the firms (first, second and later generations). Our statistical results provide support for first-generation family firms. The coefficient is positive and significant ( $\beta_4 = 0.279$ , Column III) and its square is negative and significant ( $\beta_7 = -0.260$ , Table III, Column III). Therefore, the results indicated an inverted U-shaped relationship because the coefficients  $\beta_1$  and  $\beta_2$  are significantly positive and negative, respectively. This result demonstrates that the optimal level of FOB of first-generation family firms stands at approximately 53.65 percent. Nevertheless, for second-generation and subsequent generation family firms, the coefficients are not significant. The results exhibit no relationship between the proportion of FOB and firm performance when the second- and later-generations run family firms.

Finally, we test whether there is evidence of a significant cubic relationship between FOB and firm performance based on the generation that manages the firm. The results shown in Table III (Column IV) confirmed the existence of a cubic relationship between FOB and profitability in family firms run by the first generation. The coefficients  $\beta_4$  (0.427) and  $\beta_{10}$  (0.491) are positive and significant and  $\beta_7$  (-0.893) is negative and significant. Therefore, our results indicate that the break-point at which the relation between FOB and firm performance turns from positive to negative is 32.76 percent in first-generation family firms. Over that level of ownership, an increase of FOB negatively influences firm performance. The break-point in which the relationship turns from negative to positive stands at approximately 88.49 percent. Nevertheless, for second- and later-generation family firms no cubic relationship is supported. Although if we compare the values of the breakpoints for the whole sample *vis-à-vis* Gen1 we see that the former is lower which suggests that the



**Figure 2.**  
S-shaped relationship  
between family  
board ownership and  
firm performance

inclusion of later generations in the sample lowers the break-point offering some support (albeit not conclusive as such) to the idea posited in *H3*. This is the case in both the quadratic and cubic equations.

## 5. Discussion, implications and limitations

Most of the previous studies that explore the agency problem of family firms have focused on managerial ownership instead of board ownership. The present study is one of the few empirical articles that examine the relationship between FOB and performance in family SMEs as the shares held by the family directors can be an indicator of the control and influence of majority (family) owners. The results provide evidence that the composition of the board is one mechanism which can explain agency relationships within family firms.

We suggest an inverted U-shaped relationship between the percentage of ownership by the family directors and firm performance. The results confirm our hypotheses, both in the set of family firms sample and in the specific case of first-generation family firms, the family firm performance is maximized when the proportion of family ownership of the board reaches 52.56 and 53.65 percent, respectively. However, beyond those points of optimal ownership concentration, performance is negatively affected.

These findings suggest that the degree of performance is increasing as the percentage of FOB and convergent-of-interest effect increases. However, when family directors own a substantial percentage of shares which gives them the complete control and influence on the board, firm performance decreases and the entrenchment hypothesis prevails. Thus, the convergence of interest hypothesis and expropriation hypothesis have opposite predictions in determining board ownership concentration and performance relationship in family SMEs. The positive perspective suggests that FOB is an important tool to supervise management by effective monitoring. The interest of family directors in monitoring and supporting top management is shared with minority shareholders and their representatives on the board, and thus, the effect of convergence of interests prevails. The negative perspective supports the idea that the positive impact of an effective monitoring activity in the board is mitigated by a substantial voting power and a high degree of influence of family owner-directors. To reduce the expropriation effect, one strategy could be to consider opening up family firms' equity to other shareholders or to introduce active (independent) outside directors whilst retaining family influence, which would secure the advantages of concentrated ownership.

Moreover, our results suggest that the percentage of ownership which is required to maximize FOB–performance relationship is higher in first-generation family firms than in the overall of the family firms. The reason can be that second, third and later generations of family firms need a lower percentage of ownership to control and influence the firm since there is a tendency for share ownership to become dispersed among larger numbers of family branches/members. It should also be noted that the family influence can be measured not only on the basis of ownership, but also on whether a family member holds the position of chief executive officer or family members are in the senior management. In this regard, it should also be noted that though we found the results support the convergence of interest and entrenchment effects for first-generation family firms, in second and later generations there is no significant relationship between FOB and firm performance. It is not possible to predict a specific relationship.

This study expands on several others exploring non-linear effects of FOB on firm performance. Specifically, it also hypothesized a cubic relationship between those variables. Our statistical results provide support for this hypothesis and indicate that an S-shaped form is not only significant in the overall sample, but also in the specific case of first-generation family firms. In this sense, the results are consistent with those of Morck *et al.* (1988) and De Miguel *et al.* (2004) for large publicly listed firms. The breakpoints for first-generation family firms also are higher than those of the overall sample, which

includes all generations. In first-generation family firms, the optimal level of FOB stands at 32.76 percent compared with 28.01 percent for the entire sample of family firms. Beyond those breakpoints, an increase in the percentage of shares held by family directors negatively influences firm performance. In addition, the S-shaped form allows the possibility that the relationship becomes positive again above a break-point of 81.19 and 88.49 percent of FOB, in the case of first generation and the overall sample of family firms, respectively. Put differently, when family members own a substantial percentage of shares, their interests are also aligned with minority shareholders. This situation could be possible in family firms with different family groups or family branches because it implies a greater convergence of interests between different members of the board of directors. In firms whose ownership is concentrated in different family branches, family directors can help align the different interests of branches which also allow the interests of minority shareholders to be aligned with controlling owners.

Although our results are exploratory in nature, they have meaningful practical implications for the effective composition of board of directors. Families have a strong interest in firm survival since most of them consider the family firm as an asset that should be passed on from generation to generation. Families are not just a large shareholder, they are part of the firm and may even feel responsible for other outside shareholders. Family directors should therefore have incentives to monitor firm activity closely. Board of directors can mitigate agency problems because directors can improve communication between family shareholders involved in the firm and outside non-family members (minority shareholders) as well as with outside family members (or their representatives in the family council). Hence, the importance of selecting representatives in the board who work as a link and point of union between the family and the firm helping to align the respective interest of family branches. Moreover, it could be important to introduce active outsiders into boards because they have other skills and knowledge that can help board of directors' monitoring and strategic tasks.

A limitation found in this research derives from the size and composition of the sample itself, which was composed of 313 family SMEs. There is no guarantee that the results obtained can be generalized to other contexts. However, non-response bias was not observed. Therefore, a similar study could be conducted in countries other than Spain in order to increase the validity of our result. Another limitation is related to the use of cross-sectional data, together with the fact that part of the data was collected from a survey as all the necessary information were not publicly available. A research design based on longitudinal data would be more suitable for this type of research in order to increase the reliability of causality directions.

Nevertheless, this study can contribute to improve our knowledge of ownership characteristics and types of owners in the corporate governance literature. Since ownership is an essential dimension of corporate governance research, it is important to take into account the ownership structure in SMEs, most of which being family firms. As Daspit *et al.* (2018) asserted, the nature of involvement of owners in governance bodies such as the board of directors, family council, etc., can have influential behavioral and performance implications at the firm and/or family levels. In this regard, future lines of research could analyze the influence of different governance bodies on family firm.

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