

# **DOES FAMILY OWNERSHIP IMPACT POSITIVELY ON FIRM VALUE?**

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## **ABSTRACT**

Given the importance of family firms all over the world, our main objective is to determine whether family ownership contributes to increase the market value of the firm. Additionally, we study whether family firms outperform non-family corporations. Our results show that family ownership positively impacts on firm value. Nevertheless, when ownership concentration in the hands of the family is too high, firm value decreases; thus giving rise to a non-linear relation between family ownership concentration and firm value. Finally, we find that family firms perform better than non-family ones, even when nonlinearities are taken into account.

**KEYWORDS:** family firm, ownership concentration, firm value.

## **RESUMEN**

Dada la importancia de las empresas familiares en todo el mundo, nuestro principal objetivo es determinar si la propiedad familiar contribuye a incrementar el valor de mercado de la empresa. Además, estudiamos si las empresas familiares obtienen mejores resultados que las no familiares. Nuestros resultados revelan que la propiedad familiar influye positivamente en el valor empresarial. No obstante, cuando la concentración de propiedad en manos de la familia es demasiado elevada, el valor de la empresa disminuye; dando lugar a un relación no lineal entre concentración de propiedad familiar y valor empresarial. Finalmente, demostramos que las empresas familiares obtienen mejores resultados que las no familiares, incluso cuando se tienen en cuenta las no linealidades.

**PALABRAS CLAVE:** empresa familiar, concentración de propiedad, valor empresarial.

## **1. INTRODUCTION**

The importance of family firms throughout the world has been highlighted in abundant theoretical and empirical literature. In this respect, La Porta, Lopez-de-Silanes and Shleifer (1999) empirically document that family control is the most widespread form of organizational structure except in countries with strong protection of minority shareholders. Additionally, Morck, Wolfenzon and Yeung (2005) stress the ubiquity of family firms in most economies, paying special attention to the concentration of corporate control in the hands of very wealthy families and the rarity of ownership dispersion.

Regarding particular regions of the world, control by a family appears to be common among large U.S. companies (Bhattacharya and Ravikumar, 2001; Gadhoun, Lang and Young, 2005) as well as among corporations that operate in Western Europe (Franks and Mayer, 2001; Faccio and Lang, 2002). Additionally, several studies document the importance of family firms in the East Asian region (Mok, Lam and Cheung, 1992; Lam, Mok, Cheung and Yam, 1994; Claessens, Djankov and Lang, 2000). Despite the prevalence of family firms throughout the world, the evidence on the effect of family ownership on corporate performance is still

scarce. There are, however, some previous studies that provide empirical evidence on this issue, but their results are inconclusive as to whether family control is beneficial or detrimental to minority shareholders.

On the one hand, several papers find a positive relationship between both family ownership and control, and different measures of corporate performance. In the U.S., McConaughy, Walker, Henderson and Mishra (1998), Anderson and Reeb (2003) and Villalonga and Amit (2006) empirically document that under particular circumstances family ownership and control have a positive impact on firm performance. According to Martikainen, Nikkinen and Vähämaa (2008) this positive effect is in part due to the higher productivity of U.S. family firms in relation to non-family ones. In line with these results, Maury (2006) and Barontini and Caprio (2006) find that family-controlled companies perform better as compared to non-family corporations in Western Europe.

On the other hand, several investigations empirically show a negative impact of family control on minority shareholders' wealth. For example, Miller, Le Breton-Miller, Lester and Cannella (2007) conclude that only lone founder businesses perform better than other U.S. public corporations, while family businesses that include several family members as major owners or managers do not show superior market valuations. With respect to Western Europe, Cronqvist and Nilsson (2003) and Barth, Gulbrandsen and Schone (2005) find that family ownership can be detrimental to minority shareholders in Sweden and Norway, respectively. Additionally, Faccio, Lang and Young (2001) conclude that controlling families in East Asian corporations are in a better position to expropriate wealth from minority shareholders than in Western Europe, suggesting that family ownership does not always benefit minority shareholders.

In this scenario of conflicting evidence, it is our main objective to investigate how ownership concentration influences firm value in the particular case of family firms. In addition to studying whether family ownership concentration and firm value are positively or negatively related, we contemplate the possibility of a non-linear relation between both variables. Finally, we analyze the relationship between ownership concentration and firm value comparing family firms to non-family ones. Furthermore, we consider the possibility of nonlinearities when determining whether family firms perform better than non-family corporations.

To achieve the objectives of our investigation, we have developed two empirical models that are estimated by using data on the family firms in our sample. We then propose two additional models that are estimated using the whole sample, which allows us to analyze the ownership-performance relationship comparing family firms to non-family ones. To empirically test our hypotheses, we use a unique sample of companies from Western Europe for which we can get valuable ownership data.

With respect to the estimation methodology, our choice has been motivated by the importance of taking into account two important problems that arise when studying the impact of the firm's ownership structure on its market valuation, namely the unobservable heterogeneity and the endogeneity problems. In regard to the former, family firms have several individual characteristics that make them different from other organizational structures. Consequently, the firm's unobservable heterogeneity must enter the models since it could impact on firm value. In regard to the latter, several studies highlight the potential endogeneity of ownership concentration, which may seriously affect the ownership-performance relationship. We thus use panel data methodology to eliminate the unobservable heterogeneity and estimate our models by using the Generalized Method of Moments (GMM) to control for endogeneity.

Our study contributes to the existing finance and management literature in several different ways. First, we provide empirical results on one of the main corporate governance mechanisms that influences firm value (i.e., ownership structure), considering not only the level of ownership concentration but also the identity of the controlling shareholder. Second, we contribute to the existing controversy about the benefits and costs of family control by considering the possibility of nonlinearities between family ownership concentration and firm value. Third, we go more deeply into the influence of family control on the ownership-performance relationship by comparing family firms with non-family corporations. Fourth, our estimations are performed using a unique sample representative of the different institutional environments that exist in Western Europe, for which we have obtained valuable ownership data difficult to get for a large number of corporations. And fifth, our estimation method eliminates unobservable heterogeneity and controls for endogeneity of the explanatory variables in a more efficient way than previous studies related to ours.

By testing our hypotheses, we provide empirical evidence supporting previous literature that argues that family control is beneficial to minority shareholders. Furthermore, we find a non-linear relationship between ownership concentration in the hands of the family and firm value. This suggests that there is a level of family ownership concentration at which family control begins to be negative in terms of value creation, due to the risk of expropriation of minority shareholders. Finally, our results confirm that family firms are superior performers to non-family ones in Western Europe. Furthermore, family firms continue to outperform non-family ones after controlling for nonlinearities.

The remainder of the paper is organised as follows. The second section reviews previous literature and empirical evidence related to family control, and presents our hypotheses and models. Section 3 describes the data and estimation method used in our analysis. The results are discussed in Section 4 and the last section highlights our conclusions.

## **2. THEORY, HYPOTHESES AND EMPIRICAL MODELS**

Berle and Means (1932) already suggested the importance of ownership concentration to alleviate the agency problems between owners and managers in the modern corporation. In the same vein, Shleifer and Vishny (1986) confirm a positive relationship between ownership concentration and firm value; whereas Holderness and Sheehan (1988) conclude that firms with majority shareholders do not perform poorly relative to widely held corporations. Additionally, Shleifer and Vishny (1997) mention that large shareholders address the agency problem between owners and managers in that they have a great interest in profit maximization, while Denis and McConnell (2003) conclude that concentrated ownership most often has a positive effect on firm value.

In the framework of the aforementioned literature, our first objective is to empirically analyze whether a positive relationship between ownership concentration and corporate performance also applies to the case of family firms. In this respect, several arguments in favour of a positive relation between family ownership concentration and corporate performance have already been proposed.

First, family owners are more interested in firm survival and they often focus on longer horizons than other categories of large shareholders. In fact, the extended horizons of family firms may induce them to invest following criteria that maximize the value of the company (James, 1999). Furthermore, the sustained presence of family owners in the company and their longer investment horizons relative to managers of widely held

corporations are likely to reduce managerial myopia (Anderson and Reeb, 2003), while the survival concern of family owners may help to alleviate the agency costs between bondholders and shareholders (Anderson, Mansi and Reeb, 2003). Likewise, the long-term presence of family members in the company may increase earnings quality (Wang, 2006) and may facilitate superior knowledge of the firm's technology improving firm's productivity (Martikainen, Nikkinen and Vähämaa, 2008).

Second, the reputation concern and the intention to preserve the family name are likely to entail a significant commitment on the part of family owners, which may lead to positive economic consequences. Family ties and reputation can limit managerial self-dealing when family members run the company (Denis and Denis, 1994). Moreover, family's reputation may facilitate long-term relationships with other stakeholders (Anderson and Reeb, 2003), and may allow family firms to have a lower cost of debt financing and to reduce the conflicts of interests between shareholders and bondholders (Anderson, Mansi and Reeb, 2003). Additionally, the reputation concern of family firms may also be a possible explanation for the significant association between founding family ownership and higher earnings quality found by Wang (2006) in U.S. corporations.

Third, agency problems due to the separation of ownership and control (Jensen and Meckling, 1976; Fama and Jensen, 1983) may be resolved in family firms run by members of the owner family. In fact, individual large shareholders usually occupy management positions (Holderness and Sheehan, 1988). Furthermore, after confirming that firms with majority owners do not underperform, Denis and Denis (1994) conclude that family management seems to be necessary for concentrated ownership. Additionally, Lemmon and Lins (2003) confirm that an owner-manager with a significant stake in the company, as in the case of family firms managed by members of the family, may be beneficial thanks to the alignment of interests between owners and managers. In short, it is possible to state that owner-managers are frequent in family firms and that they may be beneficial as compared to outside managers due to their superior knowledge of the company and their particular interest in increasing firm value.

Considering the aforementioned studies, we posit the following hypothesis:

*Hypothesis 1: Family ownership concentration positively impacts on firm value.*

To test this hypothesis, we have developed the following model:

$$V_{it} = \beta_0 + \beta_1 FOC_{it} + \phi X_{it} + \varepsilon_{it} \quad (1)$$

where  $V_{it}$  and  $FOC_{it}$  stand for firm market valuation and family ownership concentration, respectively; whereas  $X_{it}$  is a vector of control variables that have been usually considered in the literature on ownership structure. Specifically, vector  $X_{it}$  includes debt, investment, dividends, size, intangible assets, cash flow, return on assets, the firm's beta, the stake of the second largest shareholder and firm age as control variables. A detailed definition of all variables included in our models is provided in Table 1. It is worth noting that we only use data on the family firms in our sample to estimate this model. We consider a company as being family-controlled if the largest shareholder is an individual or a family with at least 10 percent of the company's voting rights. The idea behind using 10 percent of the votes is that this is usually enough to have effective control of the company. Furthermore, previous papers on ownership structure also use this percentage to determine whether companies have a controlling shareholder or not (Maury, 2006; Dahya, Dimitrov and McConnell, 2008).

**Table 1: Definitions and calculations of the variables in our models**

Variable	Definition
<i>Firm value</i>	<p><math>V_{it} = MVE_{it} / K_{it}</math> where <math>MVE_{it}</math> and <math>K_{it}</math> denote the market value of equity and the replacement value of total assets, respectively. The replacement value of total assets is obtained as follows:</p> <p><math>K_{it} = RF_{it} + (TA_{it} - BF_{it})</math> being <math>RF_{it}</math> the replacement value of tangible fixed assets, <math>TA_{it}</math> the book value of total assets and <math>BF_{it}</math> the book value of tangible fixed assets. The latter two have been obtained from the firm's balance sheet and the first one has been calculated according to the proposal by Perfect and Wiles (1994):</p> $RF_{it} = RF_{it-1} \left[ \frac{1 + \phi_t}{1 + \delta_{it}} \right] + I_{it}$ <p>for <math>t &gt; t_0</math> and <math>RF_{it_0} = BF_{it_0}</math>, where <math>t_0</math> is the first year of the chosen period, in our case 2000. On the other hand, <math>\delta_{it} = BD_{it} / BF_{it}</math> and <math>\phi_t = (GCGP_t - GCGP_{t-1}) / GCGP_{t-1}</math>, being <math>BD_{it}</math> the book depreciation expense of the firm in year t and <math>GCGP_t</math> the growth of capital goods prices extracted from the <i>Main Economic Indicators</i>, published by the Organization for Economic Cooperation and Development (OECD).</p>
<i>Family ownership concentration</i>	$FOC_{it}$ is the percentage of common shares held by the owner family.
<i>Ownership concentration</i>	$OC_{it}$ is the percentage of common shares held by the largest shareholder of the firm.
<i>Family dummy</i>	$FD_{it}$ is a dummy variable that equals one if the largest shareholder is an individual or a family with at least 10 percent of the votes, and zero otherwise.
<i>Debt ratio</i>	<p><math>DEBT_{it} = \frac{MVLTD_{it}}{MVLTD_{it} + MVE_{it}}</math> where <math>MVLTD_{it}</math> is the market value of long term debt obtained from the following formula:</p> $MVLTD_{it} = \left[ \frac{1 + l_{it}}{1 + i_l} \right] BVLTD_{it}$ <p>where <math>BVLTD_{it}</math> is the book value of the long term debt, <math>i_l</math> is the rate of interest of the long term debt reported in the <i>OECD-Main Economic Indicators</i> and <math>l_{it}</math> is the average cost of long term debt that is defined as <math>l_{it} = (IPLTD_{it} / BVLTD_{it})</math>, where <math>IPLTD_{it}</math> is the interest payable on the long term debt, which has been obtained by distributing the interest payable between the short and long term debt depending on the interest rates. That is:</p> $IPLTD_{it} = \frac{i_l BVLTD_{it}}{i_s BVSTD_{it} + i_l BVLTD_{it}} IP_{it}$ <p>where <math>IP_{it}</math> is the interest payable, <math>i_s</math> is the rate of interest of the short term debt, also reported in the <i>OECD-Main Economic Indicators</i>, and <math>BVSTD_{it}</math> is the book value of the short term debt.</p>
<i>Investment</i>	$INV_{it} = (NF_{it} - NF_{it-1} + BD_{it}) / K_{it}$ where $NF_{it}$ denotes net fixed assets of the firm in year t and $BD_{it}$ is the book depreciation expense of the firm corresponding to year t. This variable has been calculated according to the proposal by Lewellen and Badrinath (1997).

**Table 1 (continued)**

<b>Variable</b>	<b>Definition</b>
<i>Dividends</i>	Since AMADEUS does not provide the value of dividends paid by the company, we compute dividends by using the following formula: $DIV_{it} = [NP_{it} - (OSF_{it} - OSF_{it-1})] / K_{it}$ where $NP_{it}$ stands for net profit of the firm in year t and $OSF_{it}$ denotes other shareholders funds different from capital corresponding to year t.
<i>Size</i>	$SIZE_{it} = Ln(K_{it})$ .
<i>Intangible assets</i>	$IA_{it} = IFA_{it} / K_{it}$ where $IFA_{it}$ is the book value of the intangible fixed assets.
<i>Cash flow</i>	$CF_{it} = (NP_{it} + BD_{it}) / K_{it}$ where $NP_{it}$ and $BD_{it}$ denote the net profit and the book depreciation expense of the firm corresponding to year t, respectively.
<i>Return on assets</i>	$ROA_{it} = EBIT_{it} / TA_{it}$ .
<i>Beta</i>	$BETA_{it}$ is a proxy measure of the market risk of the firm calculated using the stock data provided by AMADEUS. We have calculated this variable according to the standard formula of the beta. That is, $BETA_{it} = \frac{COV(R_{it}, R_{Mt})}{VAR(R_{Mt})}$ .
<i>Stake of the second largest shareholder</i>	$SOC_{it}$ is the percentage of common shares held by the second largest shareholder of the firm.
<i>Age</i>	$AGE_{it} = Ln(YEAR_{it} - INC_i)$ where $YEAR_{it}$ is the corresponding period of time and $INC_i$ is the date of incorporation of the firm.

Although we have initially proposed a positive relationship between family ownership concentration and firm value, the existence of a large shareholder in the company can give rise to agency problems between the controlling owner and minority shareholders (Shleifer and Vishny, 1997). Consistent with this argument, several papers find a non-linear relation between ownership concentration and corporate performance; positive at low levels of ownership concentration as a result of the monitoring hypothesis, and negative afterwards as a consequence of the expropriation hypothesis (see, for instance, Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Miguel, Pindado and de la Torre, 2004).

Besides the empirical evidence showing that ownership concentration is non-linearly related to corporate performance, the potential costs of family ownership may explain by themselves this nonlinearity. The logic behind this reasoning is that the drawbacks of having a family as the largest shareholder of the company are more likely to arise when the stake of the family in the firm is too high; increasing corporate performance first as family ownership concentration rises and then decreasing after a certain level of ownership concentration in the hands of the family. There are two main potential costs of family ownership which may lead to a negative impact on firm value at certain ownership levels.

The first one is the expropriation of minority shareholders by the controlling family. In fact, Anderson and Reeb (2003) argue that controlling families have both the incentive and the ability to take actions that benefit themselves at the expense of firm performance when their stake in the company is substantial. They also indicate that large concentrated shareholders (such as families that own a substantial fraction of their company) may tend to pursue other objectives different from the value maximization of the firm. In line with this argument, high levels of family ownership may be associated with less efficient investment decisions leading to a reduction in the market value of the company (Cronqvist and Nilsson, 2003).

The second potential cost of family control stems from the fact that high levels of family ownership concentration are generally associated with a significant influence of the controlling family on the management of the company. This situation may be connected with greater managerial entrenchment (Gomez-Mejia, Nunez-Nickel and Gutierrez, 2001). Furthermore, the influence of controlling families on management decisions might lead to suboptimal policies in terms of value creation. In fact, prior literature suggests that large shareholders, such as families with a great stake in the company, will ensure that management serves the family interests instead of pursuing the value maximization of the company (DeAngelo and DeAngelo, 2000).

Taking into account the abovementioned arguments, we pose the following hypothesis:

*Hypothesis 2: There is a non-linear relationship between family ownership concentration and firm value; value first increases and then decreases as the stake of the family in the firm rises.*

To test this hypothesis, we extend model (1) by including the square of the  $FOC_{it}$  variable as an explanatory variable:

$$V_{it} = \beta_0 + \beta_1 FOC_{it} + \beta_2 FOC_{it}^2 + \phi X_{it} + \varepsilon_{it} \quad (2)$$

In the two previous hypotheses we have posited how ownership concentration might influence firm value by focusing on the particular case of family firms. It is now our objective to analyze whether family firms perform differently than non-family ones. Previous research has already investigated the relationship between ownership structure and corporate performance comparing family firms to non-family ones, but their results are inconclusive.

On the one hand, there are several studies that find a better performance of family firms relative to non-family ones. McConaughy, Walker, Henderson and Mishra (1998) and Anderson and Reeb (2003) are among the first to show that family firms outperform non-family ones in the U.S. Additionally, Martikainen, Nikkinen and Vähämaa (2008) find that family firms are more productive than non-family ones in the U.S. context, whereas Maury (2006) and Barontini and Caprio (2006) empirically show that family control leads to better performance in Western European corporations.

On the other hand, there is also evidence that family firms do not perform better than non-family ones. Miller, Le Breton-Miller, Lester and Cannella (2007) find that whereas lone founder businesses perform better than other public corporations in the U.S., family businesses in which multiple family members are involved do not show superior market valuations. In the same vein, Cronqvist and Nilsson (2003) and Barth, Gulbrandsen and Schone (2005) conclude that family ownership is negatively related to corporate performance in Sweden and Norway, respectively. Moreover, there is also evidence showing that family ownership may be detrimental to minority shareholders when investors' protection is weak (Faccio, Lang and Young, 2001; Lins, 2003).

Considering the aforementioned evidence and consistent with the potential benefits of family firms that motivated Hypothesis 1, we propose the following hypothesis:

*Hypothesis 3: There is a stronger positive relationship between ownership concentration and firm value in family firms than in non-family firms.*

To test our third hypothesis, we have developed a linear specification that will be estimated by using the whole sample. Specifically, the resultant model is as follows:

$$V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it}) OC_{it} + \phi X_{it} + \varepsilon_{it} \quad (3)$$

where  $OC_{it}$  stands for ownership concentration, as measured by the percentage of votes in the hands of the company's largest shareholder. This variable has been interacted with  $FD_{it}$ , a dummy variable that equals one

when a company is considered to be family-controlled, and zero otherwise. Therefore, in the case of family firms  $OC_{it}$  takes the same value as  $FOC_{it}$  in models (1) and (2).

There is previous research that predicts a non-monotonic relation between ownership concentration in the hands of the family and corporate performance. In the U.S., Anderson and Reeb (2003) show that there is a breakpoint at which the positive effect of family ownership on corporate performance disappears, being the expropriation hypothesis a possible explanation for the negative impact of family ownership concentration on corporate performance on the right-hand side of the breakpoint. A non-monotonic relationship between family ownership concentration and firm performance is also found by Maury (2006) when comparing family firms to non-family ones in the Western European region.

Therefore, we formulate our fourth hypothesis as follows:

*Hypothesis 4: There is a stronger non-linear relationship between ownership concentration and firm value in family firms than in non-family firms.*

To test this hypothesis, we incorporate into model (3) the square of the ownership concentration and its interaction with the family dummy variable. We thus obtain the following quadratic specification:

$$V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it})OC_{it} + (\alpha_2 + \gamma_2 FD_{it})OC_{it}^2 + \phi X_{it} + \varepsilon_{it} \quad (4)$$

### 3. DATA AND ESTIMATION METHOD

To test our hypotheses, we need three different types of firm-level data. First, stock data is needed to calculate the market value of the company. Second, we need the distribution of the firm's equity among its shareholders to determine the level of ownership concentration and the identity of the largest shareholder to identify family firms. And third, the firms' financial statements are needed to calculate a set of control variables. We have therefore used AMADEUS database as our main source of information. Additionally, some macroeconomic data needed to calculate the variables as explained in Table 1 have been extracted from the *Main Economic Indicators* published by the Organisation for Economic Cooperation and Development (OECD).

The main reason for choosing AMADEUS to obtain the needed information is that it is a database containing comprehensive data on market valuation, shareholding and financial statements of companies that operate in European countries. Specifically, we have extracted the firm-level information from the "TOP 1.5 million module" of AMADEUS, which comprises the largest 1.5 million corporations that operate in the Eastern and Western European regions. Nevertheless, we have restricted our analysis to Western European corporations. Furthermore, to have a representative sample of listed companies that operate in Western Europe, we have focused on countries whose institutional environment is classified in La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998). We thus ensure that the different legal systems identified by these authors are represented in our sample.

The time period of our study is restricted by the type of information needed to test the hypotheses proposed in Section 2. Particularly, our study period ranges from 2000 to 2006 since these are the years for which we can obtain sufficient ownership data from AMADEUS. Finally, our methodology imposes an additional restriction to control for unobservable heterogeneity and endogeneity; that is, we need information for at least four consecutive years per company in order to test for the absence of second-order serial correlation, as Arellano and Bond (1991) point out. We need to test for the second-order serial correlation because our estimation method, the Generalized Method of Moments (GMM), is based on this assumption. Therefore, our



final sample is an unbalanced panel comprising 779 companies (4,333 observations) for which the information is available for at least four consecutive years between 2000 and 2006. It is worth noting that our sample comprises 262 companies (1,415 observations) classified as family firms. Therefore, about one third of the corporations (33.63%) are family controlled. The structure of the total and the family firm samples, by number of companies and number of observations per country, is provided in Table 2. The main summary statistics of the variables included in our models are shown in Table 3.

**Table 2: Structure of the total and family firm samples by country**

Country	Total sample				Family firm sample			
	No. firms	% firms	No. obs.	% obs.	No. firms	% firms	No. obs.	% obs.
<i>Switzerland</i>	56	7.19	266	6.14	25	9.54	120	8.48
<i>Germany</i>	78	10.01	407	9.39	33	12.60	169	11.94
<i>Spain</i>	60	7.70	332	7.66	15	5.73	85	6.01
<i>Finland</i>	57	7.32	293	6.76	17	6.49	84	5.94
<i>France</i>	19	2.44	89	2.05	12	4.58	57	4.03
<i>U.K.</i>	312	40.05	1,834	42.33	68	25.95	396	27.99
<i>Greece</i>	97	12.45	526	12.14	72	27.48	394	27.84
<i>Netherlands</i>	53	6.80	337	7.78	5	1.91	29	2.05
<i>Sweden</i>	47	6.03	249	5.75	15	5.73	81	5.72
<b>Total</b>	<b>779</b>	<b>100</b>	<b>4,333</b>	<b>100</b>	<b>262</b>	<b>100</b>	<b>1,415</b>	<b>100</b>

Data was extracted for companies for which information was available for at least four consecutive years between 2000 and 2006. The family firm sample was used to estimate models (1) and (2), whereas the total sample was used in the estimation of models (3) and (4). Of the total sample, 33.63 % are family firms. The percentage of family firms by country in our sample is as follows: 44.64 % family firms in Switzerland, 42.31 % family firms in Germany, 25 % family firms in Spain, 29.82 % family firms in Finland, 63.16 % family firms in France, 21.79 % family firms in U.K., 74.23 % family firms in Greece, 9.43 % family firms in Netherlands and 31.91 % family firms in Sweden.

**Table 3: Summary statistics**

Variable	Mean	Standard deviation	Minimum	Maximum
$V_{it}$	.7755147	.7667635	.0094477	11.83221
$OC_{it}$	.2377827	.1861315	.0023	.97
$OC_{it}^2$	.0911776	.1422904	.0000	.9409
$DEBT_{it}$	.0801155	.096938	.0000	.8206548
$INV_{it}$	.0514904	.0939043	-.8456203	.8495425
$DIV_{it}$	.0372883	.0920452	.0000	4.372647
$SIZE_{it}$	13.02269	1.78898	10.14099	19.37096
$IA_{it}$	.1152815	.1470127	.0000	.9427326
$CF_{it}$	.0747769	.0869959	-.9124711	.780748
$ROA_{it}$	.0599775	.0832049	-.459415	.5491031
$BETA_{it}$	.8707274	1.143297	-9.866145	18.13789
$SOC_{it}$	.1015407	.0737581	.0000	.5
$AGE_{it}$	3.466118	.9661666	.6931472	6.44254

$V_{it}$  is the firm's value,  $OC_{it}$  and  $OC_{it}^2$  denote ownership concentration and its square, respectively (note that  $FOC_{it}$  and  $FOC_{it}^2$  totally coincide with  $OC_{it}$  and  $OC_{it}^2$ , respectively, in the case of family firms),  $DEBT_{it}$  is the debt ratio,  $INV_{it}$  denotes investment,  $DIV_{it}$  denotes dividends,  $SIZE_{it}$  is the firm's size,  $IA_{it}$  stands for intangible assets,  $CF_{it}$  denotes cash flow,  $ROA_{it}$  is the return on assets,  $BETA_{it}$  denotes the firm's beta,  $SOC_{it}$  is the stake of the second largest shareholder and  $AGE_{it}$  is the firm's age.

We used the panel data methodology to estimate our models. This choice was motivated by the importance of considering two significant problems that arise when studying the impact of a firm's ownership structure on its market valuation, namely the companies' unobservable heterogeneity and the endogeneity problems. First, unlike cross-sectional analysis, panel data allows us to control for individual heterogeneity. This

issue is very important in our analysis since every firm (and especially family firms) has its own specificity that gives rise to a particular behaviour closely linked to the culture of the company, which in family firms is imposed by the owner family. Therefore, to eliminate the risk of obtaining biased results, we have controlled for such heterogeneity by modelling it as an individual effect,  $\eta_i$ , which is then eliminated by taking first differences of the variables. Consequently, the error term in our models,  $\varepsilon_{it}$ , has been split into four different components. The first one is the aforementioned individual effect,  $\eta_i$ . The second one,  $d_t$ , measures the temporal effect with the corresponding time dummy variables, so that we can control for the effect of macroeconomic variables on firm value. The third component,  $c_i$ , consists of country dummy variables included to control for country-specific effects. Finally,  $v_{it}$  is the random disturbance.

The second issue motivating the use of our estimation method is the endogeneity problem. The potential endogeneity of our main explanatory variable (i.e., ownership concentration) may seriously affect the ownership-performance relationship. In fact, the consideration of such endogeneity led Demsetz (1983) to conclude that no relationship exists between ownership concentration and firm value. Furthermore, as Anderson and Reeb (2003) indicate, it is not clear whether family ownership improves corporate performance, or if superior performance leads families to maintain their stake in the company. Consequently, endogeneity may be a problem that has to be controlled for in our models. Hence, to avoid this problem our models have been estimated by using the Generalized Method of Moments (GMM), which allows us to control for problems of endogeneity by using instruments. To be exact, we have used all the right-hand side variables in the models lagged from t-1 to t-6 as instruments for the equations in differences, and t-1 for the equations in levels as Blundell and Bond (1998) suggest when deriving the system estimator used in our paper.

Finally, we checked for the potential misspecification of the models. First, we used the Hansen  $J$  statistic of over-identifying restrictions in order to test for the absence of correlation between the instruments and the error term. The instruments used were valid as can be seen in Tables 4 and 5. Second, we used the  $m_2$  statistic, developed by Arellano and Bond (1991), in order to test for the lack of second-order serial correlation in the first-difference residual. There was not a problem of second-order serial correlation in our models as shown in Tables 4 and 5 (see  $m_2$ ). Third, Tables 4 and 5 provide good results for the following three Wald tests:  $z_1$  is a test of the joint significance of the reported coefficients;  $z_2$  is a test of the joint significance of the time dummy variables; and  $z_3$  is a test of the joint significance of the country dummy variables.

## 4. RESULTS

In this section we present the results of our models paying special attention to the impact of ownership concentration in the hands of the family on firm value.

The results of the models estimated to analyze how family ownership concentration relates to firm value are provided in Table 4. The positive coefficient of family ownership concentration in Column I supports Hypothesis 1. This result is consistent with the positive effect of family ownership concentration on firm performance found by Anderson and Reeb (2003) and Maury (2006). Specifically in family firms, family owners are more motivated to effectively monitor the managers when their stake in the company increases. Furthermore, the extended horizons and the reputation concern of controlling families help to explain this finding.

Although ownership concentration in the hands of the family appears to be positive in terms of value creation, the estimation of model (2) provided in Column II of Table 4 suggests that family ownership

concentration non-linearly impacts on firm value. Particularly, the coefficient on the family ownership variable is positive ( $\hat{\beta}_1 > 0$ ), and the one on its square is negative ( $\hat{\beta}_2 < 0$ ). This result is in line with previous investigations that find a quadratic relationship between ownership concentration and firm performance (Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Miguel, Pindado and de la Torre, 2004) and allows us to conclude that this functional form also applies to the case of family firms. A possible explanation is that family owners whose stake in the firm exceeds certain level benefit more from expropriating minority shareholders than from maximizing the market value of the company.

**Table 4: Estimation results of the impact of family ownership concentration**

	I	II
Constant	1.634153* (.0811307)	1.516923* (.0783396)
$FOC_{it}$	.3845882* (.0322293)	1.583203* (.0807321)
$FOC_{it}^2$		-1.857989* (.1081484)
$DEBT_{it}$	-1.542076* (.0237833)	-1.556602* (.0330813)
$INV_{it}$	-.0618247* (.017695)	-.0768757* (.0158975)
$DIV_{it}$	1.705702* (.0418407)	1.712171* (.0431653)
$SIZE_{it}$	-.0593511* (.0064721)	-.0623177* (.0067334)
$IA_{it}$	1.795077* (.061831)	1.717188* (.055132)
$CF_{it}$	.2812018* (.0286964)	.191761* (.0316405)
$ROA_{it}$	1.90493* (.0501175)	1.963034* (.0496553)
$BETA_{it}$	.0027575*** (.0015473)	.0021857 (.0013565)
$SOC_{it}$	-.0327313 (.0401014)	-.2594663* (.0524025)
$AGE_{it}$	-.0737107* (.0069313)	-.0564891* (.0075381)
$z_1$	1071.64 (11)	1070.80 (12)
$z_2$	552.41 (5)	425.31 (5)
$z_3$	85.19 (9)	77.97 (9)
$m_1$	0.66	0.68
$m_2$	-1.21	-1.34
Hansen	232.22 (281)	227.09 (306)

The regressions are performed by using the family firm sample described in Table 2. The variables are defined in Table 1. The rest of the information needed to read this table is: i) Heteroskedasticity consistent asymptotic standard error in parentheses. ii) \*, \*\* and \*\*\* indicate significance at the 1%, 5% and 10% level, respectively; iii)  $z_1$  is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as  $\chi^2$  under the null of no relationship, degrees of freedom in parentheses;  $z_2$  is a Wald test of the joint significance of the time dummies, asymptotically distributed as  $\chi^2$  under the null of no relationship, degrees of freedom in parentheses;  $z_3$  is a Wald test of the joint significance of the country dummies, asymptotically distributed as  $\chi^2$  under the null of no relationship, degrees of freedom in parentheses; iv)  $m_i$  is a serial correlation test of order  $i$  using residuals in first differences, asymptotically distributed as  $N(0,1)$  under the null of no serial correlation; v) Hansen is a test of the over-identifying restrictions, asymptotically distributed as  $\chi^2$  under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.

Concerning the control variables, their coefficients are statistically significant (except the stake of the second largest shareholder in model (1) and beta in model (2)) and have the same sign and similar size across all the specifications in Table 4. We find that, on the one hand, firm value is negatively related to debt, investment, size, the stake of the second largest owner and firm age. On the other hand, we note a positive association between firm value and dividends, intangible assets, cash flow, return on assets and the firm's beta. Overall, the results of our analysis with respect to the control variables are generally consistent with findings in previous research on the relation between family ownership and corporate performance (see, for instance, Anderson and Reeb, 2003; Cronqvist and Nilsson, 2003; Villalonga and Amit, 2006; Maury, 2006).

The results of estimating models (3) and (4) are presented in Table 5. The estimated coefficients of the linear specification shown in Column I provide evidence that family firms are superior performers to non-family corporations. Specifically, the positive estimated coefficient of the interaction between ownership concentration

and the family dummy (i.e.,  $\hat{\gamma}_1 > 0$ ) indicates that the impact of ownership concentration on firm value is stronger when the largest shareholder is a family than when it is not. This result supports Hypothesis 3 and is consistent with previous empirical evidence from the U.S. (McConaughy, Walker, Henderson and Mishra, 1998; Anderson and Reeb, 2003) and from Western Europe (Maury, 2006; Barontini and Caprio, 2006). Moreover, the extended horizons, the reputation concern and the better knowledge of the company on the part of controlling families are likely explanations for the better performance of family firms relative to non-family ones.

**Table 5: Estimation results of the comparison between family and non-family firms**

	I	II
Constant	1.406166* (.1573348)	1.280823* (.1399103)
$OC_{it}$	.1385039** (.0573875)	.5368555* (.1203602)
$OC_{it}^2$		-.5329286* (.1371895)
$FD_{it}OC_{it}$	.2285537* (.0817257)	.4222315** (.1723319)
$FD_{it}OC_{it}^2$		-.5902772** (.2911808)
$DEBT_{it}$	-1.405952* (.0883516)	-1.445823* (.0855031)
$INV_{it}$	.002345 (.0306121)	.0060524 (.0281158)
$DIV_{it}$	.244072* (.055465)	.3320697* (.0533478)
$SIZE_{it}$	-.041473* (.0116949)	-.031366* (.0104934)
$IA_{it}$	.9713419* (.0890483)	.9745719* (.0792315)
$CF_{it}$	.1141106** (.0533532)	.1321038* (.0486294)
$ROA_{it}$	1.189676* (.0930583)	1.277377* (.0823571)
$BETA_{it}$	.011396* (.0028788)	.0136574* (.0027057)
$SOC_{it}$	-.1910059** (.0830821)	-.2663389* (.0708364)
$AGE_{it}$	-.0785563* (.0113329)	-.0875492* (.0099658)
$z_1$	59.43 (12)	70.62 (14)
$z_2$	101.21 (5)	121.19 (5)
$z_3$	16.55 (9)	16.90 (9)
$m_1$	-0.75	-0.77
$m_2$	-0.59	-0.70
Hansen	362.25 (306)	402.09 (356)

The regressions are performed by using the total sample described in Table 2.  $FD_{it}$  equals one when the largest shareholder is an individual or a family with at least 10 percent of the votes, and zero otherwise. The remaining variables are defined in Table 1. The rest of the information needed to read this table is: i) Heteroskedasticity consistent asymptotic standard error in parentheses. ii) \*, \*\* and \*\*\* indicate significance at the 1%, 5% and 10% level, respectively; iii)  $z_1$  is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as  $\chi^2$  under the null of no relationship, degrees of freedom in parentheses;  $z_2$  is a Wald test of the joint significance of the time dummies, asymptotically distributed as  $\chi^2$  under the null of no relationship, degrees of freedom in parentheses;  $z_3$  is a Wald test of the joint significance of the country dummies, asymptotically distributed as  $\chi^2$  under the null of no relationship, degrees of freedom in parentheses; iv)  $m_i$  is a serial correlation test of order  $i$  using residuals in first differences, asymptotically distributed as  $N(0,1)$  under the null of no serial correlation; v) Hansen is a test of the over-identifying restrictions, asymptotically distributed as  $\chi^2$  under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses.

To test whether family firms continue to outperform non-family corporations when nonlinearities are taken into account, we proposed model (4). The results of estimating this quadratic specification are provided in Column II of Table 5. The estimated coefficients of ownership concentration and its square are positive and negative, respectively. Nonetheless, our interest is in the interaction terms between these two variables and the family dummy, whose estimated coefficients are also positive and negative, respectively (i.e.,  $\hat{\gamma}_1 > 0$  and  $\hat{\gamma}_2 < 0$ ). These findings confirm the results from estimating model (2) and are consistent with previous empirical evidence (Anderson and Reeb, 2003). Moreover, they allow us to conclude that there is a stronger non-linear relationship between ownership concentration and firm value in family firms than in non-family firms as posited in Hypothesis 4.

As can be seen in Columns I and II of Table 5, the estimated coefficients of the control variables remain practically identical in sign as in the previous two specifications. Therefore, once again we corroborate the results of previous studies that also analyze the relationship between family control and firm performance regarding the estimated coefficients of the variables used to control for firm-specific characteristics.

## 5. CONCLUSIONS

This paper examines how family control impacts on the market value of a firm in an effort to disentangle whether family firms are really superior performers to non-family corporations. To achieve this aim, the analysis of the relationship between family ownership concentration and firm value proceeded in two steps. In the first part of the study, we estimated two value models using only data on the family firms in our sample. In the second part of the paper, we estimated two additional models using the whole sample to determine whether family firms performed differently than non-family corporations. In each part, a linear relation between ownership concentration and firm value was first proposed; and then the possibility of nonlinearities was contemplated.

Our results show that family ownership impacts positively on firm value, probably due to the potential benefits associated to family owners, such as their long-term horizons, their reputation concern and their better knowledge of the company. Nevertheless, a more accurate analysis reveals that when family ownership concentration is too high, firm value decreases. This reduction may stem from the risk of expropriation of minority shareholders by the owner family when it owns a large fraction of the firm.

With respect to the different performance of family firms compared to non-family ones, we provide empirical evidence that ownership concentration has a stronger positive impact on firm value when it is in the hands of a family than when it is not. This result is consistent with the aforementioned potential benefits associated to family ownership. Additionally, we show that the stronger effect of ownership concentration in the hands of an owner family holds after controlling for nonlinearities. Overall, our results indicate that family firms outperform non-family corporations, supporting the idea that family ownership may be beneficial to minority shareholders.

## REFERENCES

- Anderson, R.C. and Reeb, D.M. (2003): "Founding-family ownership and firm performance: Evidence from the S&P 500". *The Journal of Finance*, Vol. 58, No. 3, pp. 1301-1328.
- Anderson, R.C. ; Mansi, S.A. and Reeb, D.M. (2003): "Founding family ownership and the agency cost of debt". *Journal of Financial Economics*, Vol. 68, No. 2, pp. 263-285.
- Arellano, M. and Bond, S. (1991): "Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations". *The Review of Economic Studies*, Vol. 58, No. 194, pp. 277-297.
- Barontini, R. and Caprio, L. (2006): "The effect of family control on firm value and performance: Evidence from continental Europe". *European Financial Management*, Vol. 12, No. 5, pp. 689-723.
- Barth, E.; Gulbrandsen, T. and Schone, P. (2005): "Family ownership and productivity: The role of owner-management". *Journal of Corporate Finance*, Vol. 11, No. 1-2, pp. 107-127.
- Berle, A.A. and Means, G.C. (1932): *The Modern Corporation and Private Property*. New York, NY: MacMillan Co.

- Bhattacharya, U. and Ravikumar, B. (2001): "Capital markets and the evolution of family business". *The Journal of Business*, Vol. 74, No. 2, pp. 187-220.
- Blundell, R. and Bond, S. (1998): "Initial conditions and moment restrictions in dynamic panel data models". *Journal of Econometrics*, Vol. 87, No. 1, pp. 115-144.
- Claessens, S.; Djankov, S. and Lang, L.H.P. (2000): "The separation of ownership and control in East Asian corporations". *Journal of Financial Economics*, Vol. 58, No. 1-2, pp. 81-112.
- Cronqvist, H. and Nilsson, M. (2003): "Agency costs of controlling minority shareholders". *Journal of Financial and Quantitative Analysis*, Vol. 38, No. 4, pp. 695-719.
- Dahya, J.; Dimitrov, O. and McConnell, J.J. (2008): "Dominant shareholders, corporate boards and corporate value: A cross-country analysis". *Journal of Financial Economics*, Vol. 87, No.1, pp. 73-100.
- DeAngelo, H. and DeAngelo, L. (2000): "Controlling stockholders and the disciplinary role of corporate payout policy: A study of the Times Mirror Company". *Journal of Financial Economics*, Vol. 56, No. 2, pp. 153-207.
- Demsetz, H. (1983): "The structure of ownership and the theory of the firm". *Journal of Law and Economics*, Vol. 26, No. 2, pp. 375-390.
- Denis, D. and Denis, D. (1994): "Majority owner-managers and organizational efficiency". *Journal of Corporate Finance*, Vol. 1, No. 1, pp. 91-118.
- Denis, D.K. and McConnell, J.J. (2003): "International corporate governance". *Journal of Financial and Quantitative Analysis*, Vol. 38, No. 1, pp. 1-36.
- Faccio, M. and Lang, L.H.P. (2002): "The ultimate ownership of Western European corporations". *Journal of Financial Economics*, Vol. 65, No. 3, pp. 365-395.
- Faccio, M.; Lang, L.H.P. and Young, L. (2001): "Dividends and expropriation". *The American Economic Review*, Vol. 91, No. 1, pp. 54-78.
- Fama, E.F. and Jensen, M.C. (1983): "Separation of ownership and control". *Journal of Law and Economics*, Vol. 26, No. 2, pp. 301-325.
- Franks, J. and Mayer, C. (2001): "Ownership and control of German corporations". *The Review of Financial Studies*, Vol. 14, No. 4, pp. 943-977.
- Gadhoun, Y.; Lang, L.H.P. and Young, L. (2005): "Who controls US?" *European Financial Management*, Vol. 11, No. 3, pp. 339-363.
- Gedajlovic, E. and Shapiro, D. (1998): "Management and ownership effects: Evidence from five countries". *Strategic Management Journal*, Vol. 19, No. 6, pp. 533-553.
- Gomez-Mejia, L.; Nunez-Nickel, M. and Gutierrez, I. (2001): "The role of family ties in agency contracts". *Academy of Management Journal*, Vol. 44, No. 1, pp. 81-95.
- Holderness, C.G. and Sheehan, D.P. (1988): "The role of majority shareholders in publicly held corporations: An exploratory analysis". *Journal of Financial Economics*, Vol. 20, No. 1-2, pp. 317-346.
- James, H.S. (1999): "Owner as manager, extended horizons and the family firm". *International Journal of the Economics of Business*, Vol. 6, No. 1, pp. 41-55.
- Jensen, M.C. and Meckling, W. (1976): "Theory of the firm: Managerial behavior, agency costs and ownership structure". *Journal of Financial Economics*, Vol. 3, No. 4, pp. 305-360.

- Lam, K.; Mok, H.M.K.; Cheung, I. and Yam, H.C.S. (1994): "Family groupings on performance of portfolio selection in the Hong Kong stock market". *Journal of Banking and Finance*, Vol. 18, No. 4, pp. 725-742.
- La Porta, R.; Lopez-de-Silanes, F. and Shleifer, A. (1999): "Corporate ownership around the world". *The Journal of Finance*, Vol. 54, No. 2, pp. 471-517.
- La Porta, R.; Lopez-de-Silanes, F.; Shleifer, A. and Vishny, R. (1998): "Law and finance". *The Journal of Political Economy*, Vol. 106, No. 6, pp. 1113-1155.
- Lemmon, M.L. and Lins, K.V. (2003): "Ownership structure, corporate governance and firm value: Evidence from the East Asian financial crisis". *The Journal of Finance*, Vol. 58, No. 4, pp. 1445-1468.
- Lewellen, W. and Badrinath, S. (1997): "On the measurement of Tobin's Q". *Journal of Financial Economics*, Vol. 44, No. 1, pp. 77-122.
- Lins, K.V. (2003): "Equity ownership and firm value in emerging markets". *Journal of Financial and Quantitative Analysis*, Vol. 38, No. 1, pp. 159-184.
- Martikainen, M.; Nikkinen, J. and Vähämaa, S. (2008): "Production functions and productivity of family firms: Evidence from the S&P 500". *Quarterly Review of Economics and Finance*, in press.
- Maury, B. (2006): "Family ownership and firm performance: Empirical evidence from Western European corporations". *Journal of Corporate Finance*, Vol. 12, No. 2, pp. 321-341.
- McConaughy, D.L.; Walker, M.C.; Henderson, G.V. and Mishra, C.S. (1998): "Founding family controlled firms: Efficiency and value". *Review of Financial Economics*, Vol. 7, No. 1, pp. 1-19.
- Miguel, A.; Pindado, J. and de la Torre, C. (2004): "Ownership structure and firm value: New evidence from Spain". *Strategic Management Journal*, Vol. 25, No. 12, pp. 1199-1207.
- Miller, D.; Le Breton-Miller, I.; Lester, R.H. and Cannella, A.A. (2007): "Are family firms really superior performers?" *Journal of Corporate Finance*, Vol. 13, No. 5, pp. 829-858.
- Mok, H.M.K.; Lam, K. and Cheung, I. (1992): "Family control and return covariations in Hong Kong's common stocks". *Journal of Business Finance & Accounting*, Vol. 19, No. 2, pp. 277-293.
- Morck, R.; Wolfenzon, D. and Yeung, B. (2005): "Corporate governance, economic entrenchment, and growth". *Journal of Economic Literature*, Vol. 43, No. 3, pp. 655-720.
- Perfect, B. and Wiles, K. (1994): "Alternative constructions of Tobin's Q: An empirical comparison". *Journal of Empirical Finance*, Vol. 1, No. 3-4, pp. 313-341.
- Shleifer, A. and Vishny, R.W. (1986): "Large shareholders and corporate control". *The Journal of Political Economy*, Vol. 94, No. 3, pp. 461-488.
- Shleifer, A. and Vishny, R.W. (1997): "A survey of corporate governance". *The Journal of Finance*, Vol. 52, No. 2, pp. 737-783.
- Thomsen, S. and Pedersen, T. (2000): "Ownership structure and economic performance in the largest European companies". *Strategic Management Journal*, Vol. 21, No. 6, pp. 689-705.
- Villalonga, B. and Amit, R. (2006): "How do family ownership, control and management affect firm value?" *Journal of Financial Economics*, Vol. 80, No. 2, pp. 385-418.
- Wang, D. (2006): "Founding family ownership and earnings quality". *Journal of Accounting Research*, Vol. 44, No. 3, pp. 619-656.