The effect of ownership structure and family control on firm value and performance. Evidence from Continental Europe

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Abstract

We investigate the relation between ownership structure and firm performance in Continental Europe, using data from 675 publicly traded corporations in 11 countries.
We find that firm valuation and operating performance decrease when the control rights of the largest shareholder exceed its cash-flow ownership. This is consistent with the hypothesis that control power unrelated to cash-flows ownership allows extraction of private benefits and/or entrenchment of less efficient management.
We also find that operating performance increases with the largest shareholder's cash-flow ownership, that is consistent with the hypothesis that more cash-flows rights lead to more wealth production and less expropriation of minority shareholders. We don't find, however, a clear relation between stock market valuation and cash-flows ownership.
Families are the type of owners that most recur to control-enhancing devices associated with lower performance. However, even after taking into account that family-controlled corporations exhibit larger separation between control and cash-flow rights, our results do not support the hypothesis that family control hampers firm performance. Valuation and operating performance are significantly higher in founder-controlled corporations, and are at least not worse than average in descendants-controlled corporations. Thus, our results lead to the conclusion that family control is not negative for firm value and operating performance in Continental European firms.
More specifically, when we consider as explanatory variables both a family-dummy and the continuous variables representing cash-flow rights and wedge, the effect of family control results neatly positive, meaning that for a given cash-flow and voting rights combination the average family firm performance is better. If we consider the effect of family control jointly with ownership (by including as independent variable a family-dummy and omitting the other ownership variables), we obtain that large part of the former positive effect is wasted by the high use of wealth-reducing control-enhancing devices, but a residual positive effect still seems to remain. Thus, our results – that are novel in supplying multi-country non-U.S. evidence about family-controlled corporations – provide a contribution to the existing literature by warning that the simple observation of a large use of control-enhancing devices by family firms does not imply a global negative effect of family control, as it is often assumed.

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The ownership structure of stock-market-listed corporations has been a much debated policy issue in Europe in recent years. Following the EC "High Level Group of Company Law Experts" report – also known as Winter report (HLG, 2002 a and b) – a harsh debate took place about the desirability of an EC Takeover Directive that, in its earlier drafts, would have practically put an end to the control-enhancing devices (dual-classes shares, pyramids and others[1]) that are used throughout Continental Europe. The content of the proposed Takeover Directive will probably end up substantially watered down, but the point is far from settled in the public opinion. Both proponents and opponents of the EC regulation recur generously to theoretical arguments or country-level evidence on corporate governance systems[2].

The debate is not based, however, on any systematic multi-country evidence about the link between performance and ownership structure in European corporations. This contrasts with the relevance that ownership structure issues have reached in the academic finance literature, starting from the seminal paper of Jensen and Meckling (1976). The interest for the issue grew after the theoretical and empirical studies by Stulz (1988), Morck, Shleifer and Vishny (1988) and McConnell and Servaes (1990), which qualify the basic intuition of a positive relation between firm value and share-ownership of insider shareholders. They show that the relation between firm value and share-ownership may be non-monotonic, because the positive incentive effect of a larger ownership stake can be counterweighted by an entrenchment effect.

Research in the ownership structure field received a further push after Shleifer and Vishny (1997) suggested to extend the financial agency costs paradigm to a global perspective. They observe that in countries where investor protection is low, agency costs arising from separation of ownership and management can be quite large, so that

[1] One example of these "other devices", that assumed a special emotional meaning in the debate, is the special law that prevents hostile takeovers on Volkswagen.

[2] Several papers highlight aspects of corporate ownership and governance in single European countries that are preliminary to the study of the relation between performance and ownership. See Edwards and Fischer (1994), Franks and Mayer (2003), Gorton and Schmid (2002), Nicodano (1998), Renneboog (2000), Zingales (1994), the country studies in Barca and Becht (2001) and all the other European studies quoted in the review of Denis and McConnell (2003).

separation of ownership and management can be expected to be limited. This is actually found out by La Porta, Lopez-de-Silanes and Shleifer (1999) in a wide-ranging cross-country study, and confirmed by others like Claessens, Djankov and Lang (2000) on East Asian corporations, and Barca and Becht (2001) and Faccio and Lang (2002) on Western European corporations. The further step in this avenue of research has been to analyze in a global context the relationship between value and ownership. La Porta *et al*. (2002) test the relation between investor protection and corporate value across several countries throughout the world, finding that when investor protection is low, there is a positive correlation between firm value and ownership. Claessens *et al*. (2002) detect on a large sample of East Asian corporations that the two opposite effects of ownership – incentive and entrenchment – do both exert their influence: the incentive effect shows up in a monotonically positive relation between value and cash-flow rights, while the entrenchment effect leads to a negative relation between value and the wedge between voting and cash-flow rights (see also Lins (2003); similar effects have been then found to hold for U.S. corporations (Gompers, Ishii and Metrick, 2004; Villalonga and Amit, 2004)).

A first aim of our paper is to study the relation between performance and the size of voting and cash-flow rights of the largest shareholder for Continental European corporations, thus producing a result that can also be fruitful for the development of the policy debate taking place in Europe.

There are however other dimensions in the relation between value and ownership that are not simply identifiable with the size of the stake of the largest shareholders. It has recently come to attention that families remain the prevailing largest shareholder in the public corporations of most countries, and several scholars and regulators manifest concerns about this. They observe that the control-enhancing devices under discussion at the EC level are usually the means by which a family extend its grasp on large corporations, and they question – on the basis of theoretical suggestions like those in Bebchuk, Kraakman and Triantis (2000) – whether this is socially desirable.

Once more, there is a large empirical literature on the effect of family control in U.S. public corporations, starting from Shleifer and Vishny (1986) and Morck, Shleifer and

Vishny (1989). Denis and Denis (1994) study majority-owned firms, and find that, although most of them are characterized by family involvement, they do not exhibit specific inefficiency features. Founder-CEOs have a positive effect on corporate performance (McConnaughy *et al*., 1998; Palia and Ravid, 2002; Anderson and Reeb, 2003; Adams, Almeida and Ferreira, 2003; Falenbrach, 2003; Villalonga and Amit, 2004). A critical event for family control is clearly the retirement of the founder coupled to the "passing of the baton" to a heir, that often leads to a decline in the performance of the firm (McConnaughy *et al*., 1998; Pérez-González, 2001, Villalonga and Amit, 2004). On the balance, Anderson and Reeb (2003) suggest that family ownership is an effective organizational structure in the U.S, while Villalonga and Amit (2004) remark that family control exhibits specific weaknesses when descendants are involved in top management.

Outside the U.S., recent theoretical analysis has highlighted the role families can be expected to play, especially when the financial markets are underdeveloped and the legal protection of investors is poor (Bhattacharya and Ravikumar, 2001; Burkart, Panunzi and Shleifer, 2003; Almeida and Wolfenzon, 2004). The empirical evidence about the effect of family control tends to be less benign than in the U.S.. Morck, Strangeland and Yeung (2000) find that family ownership does have negative implication for the efficiency of Canadian firms, and suggest that this "Canadian disease" can be spread in other parts of the globe. Faccio, Lang and Young (2001) report that family ownership in East Asia leads to severe conflicts with other claimants and hampers firm performance. Their results are supported by Claessens *et al*. (2002) who find that their own evidence about the effect of separation between ownership and control is largely driven by family control. There is no comprehensive evidence, as usual, concerning European corporations, while the results of single-country studies (Gorton and Schmid, 2000; Volpin, 2002; Cronqvist and Nilsson, 2003; Sraer and Thesmar, 2004) give rise to a contrasted picture about the effect family control.

In this paper we test some main hypotheses concerning the link between valuation (or operating performance) and corporate ownership in Continental Europe, that we take by the literature just quoted, and may be summarized as follows;

- market valuation and operating performance grow with the share of the cash-flow rights held by the largest shareholders,
- market valuation and operating performance decrease as the dissociation between cash-flow and voting rights ownership grows,
- while it is difficult to predict the effect of family ownership, it is expected that it may be detrimental for valuation and operating performance, especially when descendants of the founder hold CEO positions.

The results we obtain are strongly supportive of the hypothesis that market valuation and operating performance decrease as the dissociation between cash-flow and voting rights ownership grows. Both Tobin's Q and ROA decrease as the wedge between cash-flow and voting rights held by the largest shareholder grows. The evidence is less clear as far as the relation between performance and cash-flow rights is concerned. While Claessens *et al*. (2002) and Gompers, Ishii and Metrick, (2004) find that, in line with theoretical expectation, Tobin's Q increases with cash-flow rights held by the largest shareholder, we find an analogous result only when ROA is the dependent variable, since the relation between Tobin's Q and the cash-flow rights seems to be flat.

We then consider the effect of family control. The intriguing feature of the results we obtain is that families are the type of owners that most recur to control-enhancing devices associated with lower performance, yet there is no evidence that family control is negative for firm value and operating performance. If we consider as explanatory variables both a family-dummy and the continuous variables representing cash-flow rights and wedge, the effect of family control results neatly positive, meaning that for a given cash-flow and voting rights combination the average family firm performance is better. If we consider the effect of family control jointly with ownership (by including as independent variable a family-dummy and omitting the other ownership variables), we obtain that large part of the former positive effect is wasted by the high use of wealth-reducing control-enhancing devices, but a residual positive effect still seems to be left. Thus, our results – that are novel in supplying multi-country non-U.S. evidence about family-controlled corporations – provide a contribution to the existing literature by warning that the simple observation of a large use of control-enhancing devices by

family firms does not imply a global negative effect of family control, as it is often assumed.

We finally move to consider what happens to family firms' performance when the company is still run by its founder, and what is the role that founders and/or descendents take up in the corporation. We obtain a confirmation of U.S. results about the positive effect of founders. The presence of founders – in our case, also when the founder stays as non-executive director – is associated with outstandingly high market valuation and operating performance. However, there is no evidence at all that descendants-controlled corporations underperform non-family firms, though performance is better when descendants limit themselves to the role of non-executive directors. In this last respect, theoretical predictions are validated by our empirical evidence.

I. Sample selection and data

A. Sample selection

Faccio and Lang (2002), in their study on the ownership structure in Western Europe, analyze a sample of 5,547 corporations, roughly corresponding to the universe of the stock market listed corporations in 13 countries. Given the amount of data needed for the present study, we focus our attention on relatively larger companies – with assets worth more than € 300 millions as of the end of year 1999, according to Worldscope – on the assumption that more information can be found for them at a reasonable cost. We consider only Continental Western European countries, excluding Ireland and UK because their corporations are commonly considered to follow a different – "anglo-saxon" and more "shareholder-value-oriented" – style of management[3]. Therefore, we select corporations, according to the previously mentioned criterion, from 11 countries (Belgium, Denmark, Finland, France, Germany, Italy, Netherlands, Norway, Spain,

[3] Faccio and Lang also show persuasive evidence that this is associated with a different ownership structure pattern, featuring far more dispersed shareholdings and less relevance of family control.

Sweden and Switzerland[4]). We exclude financial (SIC 6000-6999) and regulated utilities (SIC 4900-4999); corporations in which the largest shareholder holds more than 95% of the share capital are also excluded[5]. We obtain the final sample composed of 675 corporations[6].

In Table I we present the number of corporations in the sample by year, country[7] and industry (using Campbell's (1996) classification of industries). The 675 corporations in 1999 decrease to 640 in 2000 and 606 in 2001 because of mergers, going-private and bankruptcies. The breakdown by countries shows that, quite surprisingly, the largest number of corporations belong to France (144 in 1999, or 21.3% of the total), and not to Germany (119, 17.5%), by far the largest economy of the area. Three countries, Netherlands, Italy and Switzerland, weigh in the sample for around 10%, the others for around 5%[8]. Finally, the breakdown of the corporations by industries shows a fairly widespread distribution. Basic industry (14.3%), consumer durables (12.2%) and capital goods (11.5%) are the most represented industries.

[4] Of the continental Western European countries, we omit to consider Austria, Greece, Luxemburg and Portugal. For Austria, Luxemburg and Portugal, preliminary research showed that inclusion would have increased the sample size to a negligible extent. We included corporations of Greece at an early stage of the research, but we realized that during the period covered by the study this country's firms experienced a major change in accounting rules, that made not comparable across years the valuation and performance variables.

[5] We include this requirement because in some countries, given the lack of efficient freeze-out regulations, corporations that are just nominally public, whose shares are not actually traded, may be still in the stock market list (this is relatively frequent in Germany).

[6] After excluding financial corporations and non-financial corporations smaller than the specified threshold, or with a too large first shareholder, we obtain 761 companies, 70 of which have more than one class of shares outstanding, but only the inferior voting rights one is listed (this is particularly relevant in the four Nordic countries, Germany and Switzerland). We exclude these companies because we cannot measure Tobin's Q on the basis of the market value of their equity. We exclude also 12 companies that are public limited partnership (*accomandites* in French, *Kommanditgesellschaften* in Germany), and 4 companies for which we are not able to find reliable ownership structure data. We thus arrive to a final number of 675.

[7] In the table, the four Nordic countries are presented as a single aggregate. This is done for compactness in tables I, II and III. In the regression analysis we present later, each Nordic country is individually considered.

[8] The weight of the single countries is affected by the elimination of those dual-class corporations that list only one class. If we measure the weights on the total including them, Sweden weighs nearly as much as Italy and Netherlands, and also the weight of Denmark and – to a lesser extent – Switzerland is to be revised upward.

B. The construction of the dataset

Given the objectives of the paper, we can divide the variables forming the dataset in three groups; i) ownership, ii) valuation and iii) control variables. The measures of these variables are collected for the years 1999, 2000 and 2001.

i) Ownership variables

We have to obtain the identity of the ultimate largest shareholder, and the size of its cash-flow and voting rights according to the now standard methodology developed by La Porta, Lopez-de-Silanes and Shleifer (1999), and followed by Claessens, Djankov and Lang (2000), Faccio and Lang (2002), Claessens *et al.* (2002), to which we refer for a more in-depth description.

To do this, we work on the following sources, that we quote in the order of preference. Best sources of information were considered 1) official registers held by stock market authorities and 2) information disclosed by the corporations, either in the "investor relation" section of their websites, or inside the body of their annual reports (that we could download from the websites in the vast majority of cases). If we find all the information needed in 1) or 2) we end the search of data about the ownership. Less reliable sources of information were considered 3) Worldscope, Extel and Osiris, 4) information contained in the various national annual directories of listed companies published by private entities, 5) information contained in the financial press, that we obtain both through Lexis-Nexis and web-search engines. For sources 3-5 we considered an information valid only if confirmed by two different sources. In appendix A we make a list of sources used by country.

We collect from these sources also some additional information about corporate governance, concerning; the size and composition of the board[9], with separate indication of executive and non-executive directors[10]; the number of members of the board belonging to the controlling family, when there is one; in this case, whether the founder is still alive and has a role in board, or the family members controlling the

[9] Or of the two boards, in countries where dual boards are mandatory – Germany and the Netherlands – or eligible – Finland and France.

[10] With dual boards, member of the Supervisory boards are considered non-executive, and members of the Management boards executive.

company have to be classified as descendants. To obtain the latter variable we have to perform a particularly careful scrutiny of the documentation supplied by family companies in their websites, and of information available through the press.

The starting point for the ownership variables are thus the *Direct voting rights* and *Direct cash-flow rights* held by the largest shareholders[11], that are two different figures in case of a share capital structure departing from one share/one vote. A particular case in point is France, where it is possible for companies to adopt a provision whereby all shareholders that register by the company and hold their shares for more than a pre-specified number of years[12] obtain two votes for each share held. Since stock market regulations require that companies disclose separately in annual reports the voting and the cash-flow rights, we collect also this information and thus obtain differences between *Direct voting rights* and *Direct cash-flow rights* arising in France for this reason.

We then trace the map of the ownership of the stakes, in order to identify the ultimate shareholders and their ultimate ownership of voting rights and cash-flow rights. The final result is the measure of the share of voting and cash-flow rights of the largest ultimate shareholder in each corporation. Therefore, the *Ultimate cash-flow rights* are those held by the largest shareholder after taking into account the whole chain of control[13] (if family A owns 50% of direct cash-flows of B and B owns 40% of direct cash-flows of C, family A owns ultimately 50%*40% = 20% of cash-flows of C) and *Ultimate voting rights* are the voting rights held in the weakest link of the control chain. 10% is the cutoff point for the existence of a control chain, in the sense that a listed company that has no shareholder larger than 10% can be the apex of a control chain, but is considered widely held and therefore not controlled.

The benefit of working on a not too large sample was evident in the search for the identity of the ultimate largest shareholder. While Faccio and Lang (2002), given the

[11] The detail of mandatory disclosure about the minimum size of shareholdings varies across countries between 2% and 5%. We collect the largest three available, whatever the national regulation. In doing this, we sum up the direct shareholdings pertaining to a single ultimate owner, even if they are held through different juridical subjects.

[12] That we find to be comprised between two and four years.

[13] We also consider multiple control chains and cross-holdings in the sense defined by Faccio and Lang (2002).

huge size of the sample of firms they deal with[14], had to accept unavoidable limits in their effort to trace the ultimate owners, we can gather the identity of the ultimate shareholder for the quasi totality of the eligible firms.

ii) Valuation variables

The valuation and operating performance variables we employ are Tobin's Q and the accounting Return on Assets (ROA) measured at the end of 1999, 2000 and 2001.

We define Tobin's Q as the ratio between (Book value of total assets - Book value of shareholders' equity + Market value of shareholders' equity), and Book value of total assets. Book value is taken from Worldscope. The Market value of equity is from Datastream, and is the sum of the Market value of profit-participating shares. The Market value of equity is equal to the total number of shares outstanding multiplied by the market price at the end of each of the three years (1999, 2000 and 2001).

We define as *Return on Assets* (*ROA*) the ratio between *Operating Profit* and *Total Assets*. Both variables are taken as supplied by Worldscope.

We wish to remark that 9 of the 11 countries belong to the European Community. This has positive implications for the homogeneity of accounting data across countries, because national accounting standards must comply with EC regulation concerning annual reports. Also in the two countries that do not belong to EC – Norway and Switzerland – the national rules tend to conform to EC regulation. A further consequence of EC regulation, is that in corporations of our sample, full consolidation of the financial statements of controlled companies is the norm.

iii) Control variables

In regression analysis we employ the following control variables that are standard in the literature: the *Industry* in which each firm operates (two-digit SIC code)[15]; the *Size* of

[14] When Faccio and Lang failed to identify the owners of an unlisted firm, they classified them as a family. Whilst in their paper it is absolutely reasonable, in our paper exact identification of the ultimate shareholder is necessary. In Faccio and Lang less than half of the family controlled firms are controlled by an identified family, the remaining are controlled by an unlisted firm. However, it is to remark that the results we present in this paper do in general agree with theirs for what concerns the statistical diffusion of family control in Continental European countries.

the corporation, measured by Total Assets (in the regressions, the logarithm of) as provided by Worldscope at the end of each year; a *Growth* variable, that we measure as the percent increase in sales in the previous year from Worlsdcope; and *Leverage*, defined as the book value of total financial debt divided by the book value of equity at the end of each year (these data too are from Worldscope).[16]

II. Descriptive Statistics

In this section we present descriptive statistics for the variables we employ in the regressions analysis discussed in the following section III. In part A of the section we focus on the concentration of voting rights and cash-flow rights, and in part B on the descriptive evidence about family control.

A. Ownership concentration

In Table II we present descriptive statistics for some variables of main interest by country (data for year 1999). In the upper part of the table we present the average and median values of the ultimate voting and cash-flow rights of the largest shareholder in the 675 companies (1999). These data provide evidence that is perfectly in line with Barca and Becht (2001) and Faccio and Lang (2002). European companies exhibit ownership pattern that are among the most concentrated in the world, even after discarding the smallest caps. In our total sample half of the companies have a shareholder with more than 37% of the ultimate voting rights, that is much more of

[15] We actually considered two alternative criteria for defining this control variable. The first one is Campbell's classification (1996) of SIC codes into 12 industrial sectors. The second is the two-digit SIC code. Since the two-digit SIC yields more explanatory power in the regressions, we normally use in the paper, and employ the more compact Campbell's classification only when showing descriptive statistics.

[16] We also considered as control variables the *Age* of the corporation and the *Number of years since IPO*. However, we have many missing observations for these two variables, even after performing a search on several sources. Since the results when we employ them are very similar to those we obtain without, we prefer usually to show in the paper the latter. We measure *Age* as the natural logarithm of the number of years from the foundation of the firm to 1999. *Number of years since IPO* is the natural logarithm of the number of years from the IPO to 1999.

what is observed not only in U.S. and Great Britain, but also in Asia (Claessens *et. al*, 2002, report that 77% of the companies of their sample do not have a controlling shareholder with 40% or more of ultimate voting rights).

The difference between the share of voting and cash-flows rights of the largest shareholder, arising from both dual-class shares and pyramiding, is also relevant though not huge (the median is 8.5%) and so it is in nearly all economies. In the table we present also the proportion of companies by the various types of controlling entities. *Families* are by far the most frequent controlling entity, being there in 52.3% of the cases. After the families, the most relevant controlling entity are the *widely held corporations*[17] (16.9%), *financial institutions* (15%), the *state* (8%), and *other entities* (6.9%).

In Table III we present more analysis about the empirical distribution of cash-flow and voting rights across the corporations in the sample. In Panel A data are grouped according to the ultimate cash-flow rights held by the largest shareholder. The evidence confirms the high concentration of ultimate cash-flow right already noted in Table II. High cash-flow right ownership, however, does not preclude the existence of separation of voting and cash-flow rights, so that in the whole sample 42.4% of the corporations have some extent of separation between the two. Finally, in Panel A also the average Tobin's Q, ROA and size for the different cash-flow rights classes are shown. Their observation does not suggest the presence of univariate association between cash-flow rights on one side and Tobin's Q and ROA on the other.

In Panel B data are grouped according to the wedge between voting and cash-flow rights. It is interesting to consider the evidence in the right hand of Panel B, where we provide data about the sources of separation between voting and cash-flow rights. The separation, that we already noted to be present in 42.4% of the corporations, is due in 21.5% of the 675 corporations to dual classes of shares (including double voting shares in France), in 13% to pyramidal control[18], and in 7.4% to the presence of both dual classes and pyramidal control. This means that nearly 80% of the corporations in our

[17] In this group we include both widely-held corporations and corporations by the widely-held ones.

[18] In this table and in all the others, we include under "pyramidal control" also the cases of control through multiple control chains and cross-holdings.

sample are not controlled through a pyramidal scheme, suggesting that groups of companies are in Continental Europe fairly common, but not pervasive as they are in Asia[19].

B. Family control

In Table IV we present summary statistics about the type of the largest shareholder in the 675 corporations (Panel A), and about the involvement in the corporations of controlling families (Panels B and C). In Panel A, corporations are grouped in the five traditional types *Widely held*, *Family*, *State*, *Financial* and *Other*. We already observed, while commenting the content of Table II, the prevalence of family controlled corporations, that is clearly visible also in the first column of Table IV.

In the second and third column, average Tobin's Q and ROA for each class are presented. No clear pattern emerges from their observation, and we can anticipate that some inferences that could be suggested by this first evidence are not confirmed by the regressions we present later[20]. More relevant is actually the evidence about the average size of the corporations across the different groups, where it is clear that family control – as could be largely expected – is more diffused in the comparatively smaller firms.

The remaining columns provide evidence about the degree of separation between control and ownership across the different groups. Family- and state-controlled firms are those where the controlling shareholder invests more, in the average more than one third of the total shareholder capital in terms of ultimate cash-flow rights. But, what better distinguishes family controlled corporations is their larger wedge between voting and cash-flow rights, higher than 10%. Actually, the majority of the family corporations

[19] Claessens et al. (2002) report that in their non-financial and non-utilities sample of 1301 corporations there are only 88 cases of dual-class shares. On the contrary, the vast diffusion of separation between control and cash-flow rights through pyramids in their sample can be inferred by the fact that when they collapse companies belonging to the same group into a single observation, the sample size shrinks from 1301 to 872.

[20] For instance, the average Tobin's Q of state-controlled companies seems to be comparatively high, but this is simply an effect of the industries in which these corporations tend to cluster.

in our sample (close to 57% of them) are controlled through some control-enhancing device[21].

In Panels B and C of Table IV we present descriptive statistics about the involvement of families in the management of corporations. In the table we refer to a sub-sample composed of 314 family-controlled corporations in 1999[22].

In Panel B we can observe that in nearly 35% of the 314 corporations the CEO is a member of the family; in half of them the CEO is not a member of the controlling family, but at least one member of the family sits in the board of directors[23]; in just 15% the family does not sit in the board at all. Average valuation and performance measures between corporations with family CEO and family-non-executives are quite similar, but they are lower for corporations in which the family stays outside of the board. The average family-CEO corporation is smaller. The percentage of corporations that are controlled through control-enhancing devices is quite similar across the three types. However, the average size of the wedge between voting and cash-flow rights is smaller for family-CEO corporations.

In Panel C we split the sample by founder[24] and descendants corporations. Founder-controlled corporations are 82 out of 285[25], or about 29% of family corporations. In more than half of them the founder is also the CEO, and in about one-third the founder

[21] Anyway, the use of control-enhancing devices is relevant also for corporations controlled by miscellaneous entities (nearly 45% of them) state-controlled corporations (more than 35%) and financial-controlled corporations (close to 30%). Remember that this group if formed mainly by corporations controlled by non-profits, cooperatives and employees-controlled-schemes. Closer examination of data shows that cooperatives and employees-controlled-schemes often recur to control-enhancing devices.

[22] The reason why we focus on 314 of the 355 family-controlled corporations is explained in footnote 28.

[23] Often being its non-executive chairman (it happens in 49.3% of the corporations in which the CEO is not from the family, but at least one non-executive is).

[24] We have to explain what we mean with the term "founder". The simplest case is the one of a corporation whose founder is still alive (and, obviously, has voting-right control, alone or together with other members of his family). However, we consider a corporation founder-controlled also when it is controlled by an other corporation that, in its turn, is controlled by its own founder. Finally, we consider founder-controlled a corporation controlled by an individual that did not found it, but took control of it without being a descendant of the previous controlling family (a notorious example that can be done is the one of Mr. Arnault, who became the controlling person of the Dior-LVMH group). We consider this individual as the founder of a new family dynasty. Consistently, we consider descendants also the descendants of someone that took control of a corporation without being its founder.

[25] We refer to a total of 285, because For 2 of the 314 family-controlled corporations we miss information about the composition of the board of directors, and for further 27 we were not able to conclude whether the corporation is still run by the founder or by his descendants.

is non-executive director (but then, it is not rare that the CEO is an other member of the family). In descendants-corporations the proportion between top-management and board-level family participation reverses. In little more than 20% of these corporations the CEO is a member of the family, while in about 55% one or more members of the family take a non-executive position in the board.

Founder corporations are better off in term of average Tobin's Q. Founder corporations also exhibit far less separation between voting and cash-flow rights. This can be seen both in the percentage of corporations without such separation, that are more than the half in founder-corporations and just about one-third in descendants-corporations, and in the average wedge, that is clearly higher in descendants-corporations.

III. The effect of ownership concentration and family control on firm value and performance

We can then move to the core of the paper, i.e. the regression analysis of the relation between market valuation (Tobin's Q) and operating performance (ROA) on one side, and the variables representing ownership concentration and family control, on the other side. It is convenient to recall the hypotheses we want to test:

- market valuation (and operating performance) grows with the share of the cash-flow rights held by the largest shareholder;
- market valuation (and operating performance) decreases as dissociation between cash-flow and voting rights held by the largest shareholder grows.
- family control affects market valuation and operating performance, possibly in a negative way.

The economics behind the first hypothesis suggest that the incentives of the controlling entity for producing wealth and not expropriating minority shareholders should grow with the size of the cash-flow rights held. Those behind the second hypothesis suggest that the larger is its controlling power unrelated to the ownership of the cash-flows, the larger will be its incentives to extract private benefits at the expense of the public value

of the corporation, and to entrench itself in control. For what concerns the third hypothesis, the existing theoretical and empirical literature does not generate so clear-cut expectations. While the analysis of Anderson and Reeb (2003), points to a beneficial effect of family affiliation in the U.S., other papers indicate there is an important weakness in family control when descendants do not relinquish top managerial positions to outsiders (Morck, Strangeland and Yeung, 2000; Villalonga and Amit, 2004). Some authors suggest that the agency costs afflicting the relation between inside and outside investors may be larger, especially in less well developed financial markets, when the insiders are a familiar dynasty (Faccio, Lang and Young, 2001; Cronqvist and Nilsson, 2003).

In order test these hypotheses, we perform regressions of Tobin's Q and ROA on the ownership variables and some control variables. We have to discuss shortly some methodological issues we had to deal with in this statistical analysis.

A first problem, highlighted in some multi-countries studies (La Porta *et al.*, 2002; Claessens *et al.*, 2002; Doidge, 2004; Doidge, Karolyi and Stulz, 2004) is that regression error terms may reflect a common country effect, since companies' valuation and operating performance are probably affected by unobservable country characteristics. Since the diagnostics we employ are consistent with this evidence, in order to deal with within-country correlations we use a country random-effects specification, adding to industry and year fixed-effects a country random-effect. A further problem is the presence of outliers in Tobin's Q observations. In the years 1999-2001 the stock market conditions produce a number of very high Tobin's Q that is larger than in previous studies (average Tobin's Q are 4.22 in Campbell's classification "unregulated utilities" industry, and 3.08 in the "services" industry). Although we use the natural logarithm of Tobin's Q, we note that some extreme values of ln(Q) affect the results in a significant way, even after applying a winsorizing procedure to clean data. So, we decide to deal with this problem by employing a statistical device able to handle heavy-tailed data with an high degree of efficiency. We use the robust regression Biweight estimator, that belongs to the class of estimators known as M-estimators of location, and works by minimizing a function of the deviations of each observation

from the estimate of location[26] (Huber, 1981). This regression method does not allow for country random-effects, so we include country fixed-effects and employ this method beside OLS with country random-effects[27].

Summing up, we employ two different regression equations, corresponding to the two different methods, that are :

1) Random effects OLS

$$\textit{Firm performance}_{it} = a + b(\textit{family firm}_{it}) + c(\textit{ownership variables}_{it}) + d(\textit{control variables}_{it}) + e(\textit{two digit SIC code dummy variables}) + f(\textit{year dummy variables}) + \eta_i + \varepsilon_{it}$$

2) Robust

$$\textit{Firm performance}_{it} = a + b(\textit{family firm}_{it}) + c(\textit{ownership variables}_{it}) + d(\textit{control variables}_{it}) + e(\textit{two digit SIC code dummy variables}) + f(\textit{year dummy variables}) + g(\textit{country dummy variables}) + \varepsilon_{it}$$

where

Firm performance = Tobin's Q (natural logarithm of) and ROA;

Family firm = binary variable that equals one when a corporation is controlled by a family[28], and zero otherwise.

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[26] Least squares estimates are very sensitive to contaminated observations and sometimes outliers can not be detected by looking at residuals, since they affect the estimator in such a way that outlier diagnostics are not able to discover them anymore. M-estimators may be used to address this inconvenience, though these estimators are not robust with respect to leverage points (i.e. outliers in the space of the covariates). We used this procedure because in our dataset the main source of bias comes from contamination in the error term (vertical outliers) and not in the explanatory variables (leverage points).

[27] The procedure used consist of the following steps:

1) estimate the residuals from OLS regression;
2) identify deviant cases by comparing residuals with the MAD (Median Absolute Deviation) estimates, and find the weights according to Hubert or Biweight methodologies;
3) perform a robust regression using weighted least squares;
4) estimate the residuals from WLS and continue iteratively with step 2), until weights converge (usually within 10 iteration).

The biweight procedure downweighs outlying data points more than the Huber methodology. Results from this last weighing function, not presented in the paper, are however similar to the Biweight estimates.

[28] We employ a strict definition of family control, that leads to a number of 314 family-controlled corporations, instead of the 355 reported in Table IV, Panel A. In this definition it is not enough that the largest shareholder at the 10% cut-off is a family, but it must be true also that either the family controls more than 51% of direct voting rights, or controls more than the double of the direct voting rights of the second largest shareholder. The reason of this, is that we do not aim to measure the relevance of family affiliation as such, but more precisely the relevance of family control. Negative expectations about the effect of families are actually associated to cases in which the family acts autonomously as the controlling entity. Therefore, we want to exclude from the definition of family control those cases in which the

Ownership variables	= a vector composed by the share of ultimate cash-flow rights, and the difference between share of voting and share of cash-flow rights (wedge);
Control variables	= a vector of variables composed by total assets (natural logarithm of), leverage (book value of total financial debt / book value of equity), sales growth in the previous year;
Two-digit SIC code dummy	= 1.0 for each two-digit SIC code in our sample;
Year dummy variables	= 1.0 for each year of our sample period;
Country dummy variables	= 1.0 for each of the 11 countries (in the robust regression);
η	= random error term representing the extent to which the intercept of each country differs from the overall intercept (in the random effects regression).

In the following part A we present the results about the general relation between corporate performance, ownership concentration and family control; in part B the results of further analysis about the different cases of family control.

A. *The relation between corporation performance, ownership concentration and family control*

In Tables V and VI we present the results about the general relation between corporate performance, ownership concentration and family control. In Table V are the results of random-effects regressions, and in Table VI the results of robust regressions. It is easy to note that the two different regression methods yield qualitatively similar results, although the value of the point-estimates and the statistical precision for the independent variables of interest is higher with robust regressions.

In columns 1 and 4 of Tables V and VI, we report the results for the regression specification in which the dummy-variable for family control is omitted. In this specification we simply test the relationship between the performance variables on one side, and the share of cash-flow rights and the wedge between the voting and the cash-flow rights held by the largest shareholder on the other side, abstracting from family control matters, similarly to what Claessens *et al*. (2002), Lins (2003) and Gompers,

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family may be simply the largest shareholder of a coalition, that is forced to share control power with other large shareholders.

Ishii and Metrick (2004) do. The general picture emerging from their works – that regard respectively East-Asia, various emerging markets, and U.S. – is that i) valuation and performance *increase* in the cash-flow rights of the largest shareholder and ii) valuation and performance *decrease* in the wedge between the voting and the cash-flow rights of the largest shareholder. Our results are imperfectly in line with theirs, as far as i) is concerned, perfectly as far as ii) is. The evidence about i) is imperfectly in line with expectations because the regression actually yields positive coefficients for the share of cash-flow rights when we employ as dependent variable ROA, both with the random-effects (significant 5%) and the robust method (significant 1%). On the contrary, when we employ the valuation measure Tobin's Q, the sign of the share of cash-flow rights is negative and close to zero, and statistically not significant. The picture is different as far as ii) is concerned, since it can be observed that, both on Tobin's Q and ROA, performance decreases as the difference between the share of cash-flow and voting rights held by the largest shareholder grows, and the coefficient of this "wedge" variable is not only negative but also highly statistically significant (at the 5% level in random-effects regressions, at the 1% level in robust regressions). Our European evidence therefore completes the robustness of international evidence in showing the existence of negative association between corporate valuation and the control-enhancing devices that boost the voting power of the largest shareholder. For what regards the relation between valuation and cash-flow rights, unfortunately, the bottle can be seen either as half-full or as half-empty, given the divergence between the response to market valuation and operating performance[29].

[29] The bottle may be actually more full than empty. We tried to analyze more in-depth the relation between Tobin's Q and cash-flow rights, looking for the existence of a non-linear relation of the kind that Morck, Shleifer and Vishny (1988) and McConnell and Servaes (1990) find. Although, given the focus and the length of the present paper, we prefer not to treat the issue, we can say that piece-wise regressions (results available by the authors) provide some evidence consistent with the hypothesis of a non-linear relation.
We further suggest a possible explanation of the different response to the share of cash-flow rights when we employ ROA instead of Tobin's Q as the dependent variable may be the following. The results for ROA imply that the efficiency with which assets in place are managed improves with the cash-flow rights held by the controlling shareholder. Tobin's Q, however, is a measure that compares the book-value of current assets to the discounted value of future cash-flows, obtained through the use of both the assets in place and the assets that the market forecasts will be put in place in the future. A divergence between the response to Q and ROA could therefore be due to a lower growth propensity of corporations tightly

These conclusions are supported by consideration of the large economic relevance of the coefficients, except for the relationship between Q and cash-flow rights. We can use as a benchmark the analysis of Claessens *et al.* (2002), who obtain an increase of 6.4% of the average Tobin's Q for one standard deviation increase of the share of cash-flow rights, and a decrease of 5.3% for one standard deviation increase of the difference between voting and cash-flow rights. Our results are very similar (except for the relationship between Q and cash-flow rights). As for the difference between voting and cash-flow rights, we obtain that one standard deviation increment decreases Tobin's Q by 5.6% and ROA by 6.9% (random-effects regressions). As for the share of cash-flow rights, one standard deviation increment increases ROA by 8.3%. On the contrary, the relationship between Tobin's Q and the share of cash-flow rights is confirmed to be inexistent, given that one standard deviation increment of the latter causes a (statistically not significant) decrease of Q of 0.25%.

Although these first results may be considered in themselves of some relevance, they are just of preliminary significance for the analysis of the interplay between quantitative ownership measures and family control provided by the results in columns 2, 3, 5, 6 of Tables V and VI, where we report the outcome of two different regressions specifications in which the dummy-variable for family control is included.

Before considering the results, we wish to explain the meaning of the chosen regression specifications. Much of the current diffidence about family control across the world stems from the evidence that families grant their control by recurring heavily to control-enhancing devices that seem tailored to majority shareholders willing to expropriate minority shareholders and/or entrench themselves in control. The empirical evidence just presented about the relation between valuation and the wedge between voting and cash-flow rights is consistent with this theoretical argument. However, the result that families are in the average a "bad" majority shareholder should not be taken for granted.

Suppose for instance we were in a world in which there are two types of controlling

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controlled by a single shareholder, that in turn could be due to the fear of losing control, should the growth path lead the company to seek more external equity financing. The relevant correlation we find between Q and sales growth, and the absence of correlation of the latter with ROA, is empirically consistent with this guess, but we are not able to directly test its validity with the available dataset.

shareholders, A (families) and B (non-families), endowed with two different managerial skill levels, such that A is inherently more profitable than B. Suppose also corporate performance depended both on the skill of the controlling shareholder and on the controlling devices chosen between α (one share-one vote) and β (control-enhancement devices), such that α is more profitable than β. Even though a larger proportion of A controlling shareholders chose β strategies, it could still be possible that A were in the average better for of corporate valuation, depending on the actual numeric values of the variables at play.

Suppose now that we perform a cross-sectional regression of corporate valuation on ownership variables, in the following two different ways:

i) a cross sectional regression of valuation on a dummy-variable taking value 1 for families and 0 for non families, without including in the regression quantitative ownership variables;

ii) a cross sectional regression of valuation on the same dummy-variable, and on quantitative ownership variables (the first one, the cash-flow rights of the largest shareholder, the second one, the wedge between cash-flow and voting rights).

Both regression specifications would be useful for the understanding of the empirical effect of the controlling shareholder type. The result of specification i) would inform us about the overall difference in average corporate valuation between the two types, without distinguishing the sources of this difference. The result of specification ii) would add something, informing us about how much the final effect is due to a differential skills effect – measured by the coefficient of the dummy – and to an ownership structure effect – measured by the coefficients on the two quantitative ownership variables. We have finally to add that, in order to allow for the possibility that the ownership structure effect is different between the two types, we could in a third specification include interaction terms (type*quantitative ownership variables) among the regressors.

This is actually what we do on our sample. In the first specification (columns 2 and 5), that we can define "*gross*-of-the-controlling-strategy", we do not include in the regressors the share of ultimate cash-flow rights and the difference between the share of

voting and cash-flow rights. In the second one (columns 3 and 6), "*net*-of-the-controlling-strategy", we include in the multivariate regression the dummy-variable for family along with the two continuous variables representing the share of cash-flow rights and the wedge between the voting and the cash-flow rights held by the largest shareholder. We can then look at the results for an answer to the question whether family-control is beneficial or harmful to value and operating performance.

The answer is in the end clearly favorable for family control in Continental Europe. In regressions 3 and 6 (*net*-of-the-controlling-strategy) the coefficients of the family-dummy are positive and statistically significant both in Table V (random-effects regressions) and in Table VI (robust regressions). This means that, for any given combination of cash-flow rights and wedge, family corporations tend to exhibit better valuation and operating performance than non-family firms (in the terms of the previous example, the families' skill is higher).

However, although it cannot be said that separation of voting and cash-flow rights is a necessary corollary of family control (in 43.1% of family-controlled corporations the family has an identical share of voting and cash-flow rights), we have seen in the descriptive statistics section that family corporations do recur more often to control-enhancing devices, that make their ownership structure inefficient in terms of valuation and operating performance[30]. Therefore, when we measure the joint effect of family control and ownership structure, as we do in regressions 2 and 5 (the *gross* specification), the effect of family control turns out to be still positive, but weaker. The coefficient for the family-dummy remains positive with both dependent variables and both regression methods, but is no longer statistically significant in the random-effects regressions in Table V, whilst it remains largely significant in the robust regressions in Table VI.

[30] To be more precise, it should be noted that families have in the average more both cash-flow rights and more wedge. Having more cash-flow rights is expected to be efficient, but regressions 1 show this is not the case when Tobin's Q is the dependent variable. When ROA is the dependent variable, the efficiency of more cash-flow rights has an opposite effect to the inefficiency of more wedge, but empirically the latter prevails.

By reading together the output of the regressions we find a clear economic result. *Coeteris paribus*, European family firms enjoy a higher market valuation and operating performance. However, in a large number of family-controlled corporations, the potentially beneficial qualities of family control are wasted – at least in part – by inefficient control strategies, i.e. by high separation of control and cash-flow rights. Anyway, it is to remark that even after accounting for the control strategy, there is still some evidence that family-controlled firms exhibit better performance, and absolutely clear evidence that family control has not a negative effect.

Once more, this interpretation is reinforced when we consider that the economic significance of the point-estimates is quite high. Even if we take into account only the more moderate results of random-effects regression, we observe that family firms' Tobin's Q is in the average 16.6% higher than in non family firms in the *net*-of-the-controlling-strategy specification, 8.5% in the *gross* specifications. ROA is 15.2% higher in the *net* specification, 11.07% higher in the *gross* specification.

Finally, we run regressions specifications (not reported in the tables) in which we include as independent variables also the interaction terms family*cash-flow rights, and family*wedge. The estimates for the interaction terms are not significant when we employ ROA as the dependent. On the contrary, the estimates are significant when we employ Tobin's Q, since the value of the family-dummy becomes higher, and the regression line for both cash-flow rights and wedge is more steeply downward sloping in the case of family-controlled corporations. On one side, this suggests that the market is more diffident towards management-entrenching strategies when they are put in place by family firms (a similar result is documented for Swedish firms by Cronqvist and Nilsson, 2003). On the other side, this reinforces the evidence about the positive properties of family control once we separate it from the effect of the quantitative ownership variables.

We wish to spend a few comments on the relevance of our results for the ownership structure issue and policy issues.

Although the theory has highlighted costs and benefit of family control without concluding for a clear prevalence of either of the two, there has been recently a

widespread negative inclination towards it. For instance, Anderson and Reeb (2003) seem nearly surprised in finding an overall positive effect of family affiliation in the U.S., and they conclude that in a well-regulated and transparent market, family ownership can be an effective organizational form. Continental European markets are not as well-regulated and transparent as in the U.S., however the same result holds. This is in our view a warning about the need not to overlook the possible positive properties of family control around the world, on the basis of partial observations like the high average separation of control and cash-flow rights in this type of firms[31]. In terms of policy implications, then, our results suggest that the large diffusion of family control and the means by which it is exerted are not a major problem for the efficiency of "corporate Europe".

B. The relation between firm performance and family involvement

Family control in general seems to exert a positive effect, but what about different cases of family control? There is evidence, mainly from the U.S., that the performance of corporations run by their founders is actually above the average (McConnaughy *et al*., 1998; Palia and Ravid, 2002; Anderson and Reeb, 2003; Adams, Almeida and Ferreira, 2003; Falenbrach, 2003), but the same cannot be said when descendants take the reins (McConnaughy *et al*., 1998; Pérez-González, 2001; Villalonga and Amit, 2004). Furthermore, it is possible to argue that outside managers can take into the corporation skills and experiences that not only descendants, but sometimes also founders, may not have. In this case, the mere fact that the CEO is a member of the family should have a negative effect on performance. Therefore, in the present section we turn to analyze different cases of family control.

In Table VII we report results of regressions in which we include dummy-variables representing the different types of family involvement in the corporation that we described in Table IV. The regressions are run on the whole 675 corporations sample,

[31] Actually, the economic rationale by which in low-investor-protection markets the possibility of investor expropriation – made possible by a lax legal regime and/or other institutional factors – should be exploited by families more than by other subjects in control is to our eyes not clear.

therefore the coefficients of dummy-variables inform us if corporations characterized by a given type of family participation are different in their average valuation and operating performance from the remaining non-family corporations.

We seek in the results of the regressions evidence about the following points. First, we wish to understand the effect of family control when a member of the controlling family is CEO of the company. Second, we look at possible differences between family firms controlled by founders and by descendants, following the mainly U.S. evidence about superior performance of founders. Third, we are particularly interested about performance of family firms whose CEO is a descendant, a case that can be seen as a negative outcome of family control, since it is *a-priori* likely that the descendants do not share the founder's distinctive entrepreneurial skills.

In Panel A we abstract from the founder-descendants alternative, and simply consider different degrees of involvement of the family, by considering a first dummy-variable that takes value one when the CEO belongs to the family, a second dummy-variable that takes value one when the CEO is not a member of the family but at least one member of the family sits on the board of directors, and a third one for the case of family not present on the board at all. The results tell us of no clear difference in value and performance between the corporations where the CEO is from the family and those where the family is represented just by non-executive directors[32], that are both better off than non-family firms. However, there are clues that the absence of the family from the board has negative effects, though we have to observe that only one of the negative point-estimates for these dummy-variables is statistically different from zero. The obvious economic interpretation is that families can exert a positive effect only if they are directly involved in top management or at least do closely monitor the corporation.

We can move to Panels B and C, to check if also consideration of the alternative between founder and descendants produces so unexciting results. In Panel B the alternative is considered in its simplest form, by including one dummy-variable for founder and another for descendants. The content of the Panel is more interesting than

[32] A different result is reached by Volpin (2002) who finds that in Italian corporations family CEOs are associated with lower market valuation. Actually this is true also in our sub-sample of Italian corporations, but the same result does not hold in any other country we cover.

that of Panel A, since results are neat and statistically strong. The first relevant evidence is that family firms perform much better when they are still controlled by their founders. The size of the difference in their average valuation and operating performance with respect to non-family corporations is impressive. Using random-effects point-estimates, we note that founder-controlled corporations' average Tobin's Q is 33.5% higher than in non-family corporations, and similarly ROA is 30.1% higher (*gross*-of-the-controlling-strategy specification)[33]. We can add that this strong result is not due to the omission of control variables representing age since foundation or since IPO. When we run regressions on the sub-samples formed by the corporations for which these data are available, the results for the founder dummy-variable is unchanged[34].

It is also true that founder-corporations perform significantly better than descendants-corporations. However, this evidence is not accompanied by the result that descendants-corporations are in a bad position *vis-à-vis* the non-family firms, as the coefficients on the dummy-variable *descendants* show. If we look at random-effects regressions we cannot reject the hypothesis that descendants-controlled firms are the same in terms of value and performance as non-family firms, yet the point-estimates are positive in 3 out of 4 regressions, and economically large[35]. If we look at robust regressions, results are neater as usual, and descendants-controlled firms seem better off than non-family firms (results are statistically significant except in the "*gross*-of-the-controlling-strategy" specification Tobin's Q regression).

Our results seem thus fully in line with the results of U.S. studies in showing a strongly positive effect of the presence of the founder, but we do not yet find negative evidence

[33] A so large overperformance of founder-led corporations is found in the U.S. too, see Adams, Almeida and Ferreira (2003).

[34] To appreciate this, consider that only 20% of the 264 corporations whose IPO took place after 1988, and 30% of the 65 corporation founded after 1978, are still run by their founder. Therefore, we can effectively measure the distinct effects of the age and of the presence of the founder. The coefficient on the age variable is always positive, that means that younger corporations, in term of foundation date or IPO date, do actually perform better. However, the size and the statistical significance of the *founder* dummy-variable do not change. We interpret this as evidence that the founder effect is distinct from a general young-firm effect.

[35] Average Tobin's Q of descendants-controlled corporations is 7.6% higher than in non-family firms in the *net*-of-the-controlling-strategy specification, while it is practically zero in the *gross* one, because of the effect of the high level of separation of control and ownership. Average ROA is 15.1% higher in the *net* specification, and 8.1% in the *gross* one.

concerning descendant corporations. However, U.S. papers usually (the exception being Anderson and Reeb, 2003) find negative evidence in the specific case in which a descendant assumes the role of CEO of the company.

In Panel C we present therefore a finer partition of the family involvement in management, by considering both the founder/descendants alternative and the different roles in the board.

A first result – that at this point is not a surprise – is that founder-corporations confirm to be the best performing, provided that the founder still exerts a role in the corporation, both when he is CEO and when he is non-executive director (this last result parallels that obtained by Villalonga and Amit, 2004). Also not surprising, given the results in Panel B, is that when the founder is alive but neither the founder nor any other member of the family sit on the board, the coefficient is negative (although not statistically significant), as much as it occurs in descendants-corporations without family members on the board.

When we move our attention to descendants, it is easy to note better performance in the case of descendants that limit themselves to the role of non-executives, and in this respect our European evidence is in line with U.S. one. However, a result that no U.S. paper except Anderson and Reeb (2003) obtains, is that corporations with non-executive descendants perform better than non-family firms, at least for operating performance, as is shown by the results of the regressions in which ROA is the dependent variable. When the dependent variable is Tobin's Q, corporations in which a descendant is non-executive are once again significantly better than non-family firms in the *net* robust regression (although the same cannot be said in random-effects regressions). What about CEO-descendant corporations? There is a clear suggestion that not only CEO-descendants are less valuable than founders, but also that their presence leads to a lower valuation than in the case of descendents that sit on the board as non-executives. What we do not find, differently from U.S. evidence, is that CEO-descendants have a lower valuation than non-family corporations. CEO-descendants corporations' performance and valuation is statistically indistinguishable from those of non-family corporations.

The final evidence about family control in Europe is therefore positive. Family-controlled corporations are largely better than non-family-controlled ones when the founder is still present in the firm, either as a CEO or as a simple director. U.S. results about superior performance of founders are confirmed in our European sample, and the theoretical argument that descendants cannot be in the average as good as the founders, since they cannot inherit entrepreneurial skills, proves to be universally valid. The other point that matches U.S. evidence is that the performance of CEO-descendants is worse than in the case in which descendants limit themselves to a monitoring role by sitting in the board. However, the distinctive feature of family control in Europe is the better results for descendants corporations *vis-à-vis* non-family corporations. There is some evidence that non-executive-descendants corporations perform better than non-family corporations, and no evidence that CEO-descendants corporations are worse than non-family corporations[36]. A last proof of the beneficial properties of family involvement in European corporations lies in the observation that only in the case of family control without monitoring (as can be defined the case in which no member of the family is on the board) the average difference in performance and value with respect to non-family firms is negative (although not statistically significant).

These results are surprising if it is a-priori expected that aptitudes to minority expropriation and self-entrenchment – supposedly inherent in family control – should weigh more as we move away from the best practice of investor protection found in Anglo-American financial markets. However, the better performance of family firms goes together with the larger diffusion of family firms in Europe compared to U.S., and suggests that this ownership structure is fitter to the European environment. An obvious suggestion for future research is trying to understand what makes family control more effective than in Anglo-American markets (or non-family control less effective). As for the policy debate at the EU level, the results of this section reinforce our view that the diffusion of family control in Europe is not a major problem of corporate Europe.

[36] Even stronger results in favor of families are found for France, in this respect, by Sraer and Thesmar, (2004).

IV. Further analysis and discussion of the statistical evidence

A. Single year and pooled (average) regressions

To check the robustness of the results presented in the previous sections, we run separate regressions for each year and pooled (average regressions). The single-year cross-sectional regressions yield results fully consistent with the whole-sample evidence[37]. The sign of the point-estimates for the coefficients of the ownership variables are always in line with those we obtain on the whole sample, although the statistical significance of results is less strong. We conclude that, even though the correlation in the dependent variables across years is far from perfect[38], the results we obtain are stable in the three years considered.

In Table VIII we report the results of pooled (average) regressions. The check supplied by these results is of interest, because in the random-effect and robust regressions we can apply no method to deal with correlation across residuals at the firm level in the three years. The estimates we obtain for the relevant variables through pooled regressions are nearly identical in size to those we reported in Tables V, VI and VII. The economic relevance of results is thus the same, but statistical significance is indeed lower for some coefficients. However, we can still confidently state that value and performance decrease with the wedge between cash-flow and voting rights, and increase with cash-flow rights when ROA is the dependent variable (at least in robust regressions). The coefficient on the family-dummy turns out to be always positive, and significant in three out of four robust regressions. The coefficient on the founder-dummy remains always positive and highly statistically significant. Descendants-corporations do not appear to be statistically different from non-family ones. Overall, the results of pooled regressions are supportive of the evidence presented in the previous sections.

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[37] For reasons of space, we do not report the results, but limit ourselves to a qualitative summary and some comments (detailed results are available by the authors).

[38] The correlation coefficient between Tobin's Q (log of) 1999 and 2001 is .76. The same correlation coefficient for ROA is .66.

B. On the endogeneity of ownership variables and firm performance

Possible endogeneity problems in the regressions results have to be considered. In its simplest form, a problem of endogeneity might arise if firm performance caused choices about the share of cash-flow rights held by the largest shareholder. This could happen if under- or over-valuation prompted adjustments in the stakes of controlling shareholders, who could take advantage of special information they probably have about the true value of corporations. There could be however other more elaborate reasons for endogeneity. Demsetz and Lehn (1985) and Himmelberg, Hubbard and Palia (1999) argue that both firm performance and managerial ownership may be endogenously determined by unobserved characteristics in the firm's contracting environment.

Endogeneity arguments could apply also to the relation between performance and family control (Anderson and Reeb, 2003), and to the relation between performance and CEO-founder persistence (Adams, Almeida and Ferreira, 2003).

We believe that some of these problems are of less concern in the Continental European setting. An equilibrium interpretation of optimal managerial compensation design does not look fit to the European ownership structures, since family control and the share of voting and cash-flow rights that families hold can hardly be interpreted as the outcome of compensation contracts between the corporations and the family. We also share the skepticism that some authors manifest (Claessens *et al.*, 2002; La Porta *et al.*, 2002) towards the possibility that in concentrated ownership settings outside Anglo-Saxon markets, the share of voting and cash-flow rights may be determined by the fluctuations of valuation and performance of corporations, given the strong stability of shareholdings in time. However, the possible relevance of the endogeneity point cannot be ruled out just on the basis of *a-priori* beliefs. Therefore, we test the robustness of our results by employing linear instrumental variable regressions, in which the ownership variables representing the cash-flow rights of the first shareholder, the wedge between its voting and cash-flow rights, and the occurrence of family control, are estimated using instrumental variables. As instrumental variables we employ the alfa and the beta

of the ordinary share[39] and the age of the corporation (log of). To avoid potential problems of 'weak instruments" (Stock, Wright and Yogo, 2002) due to the modest correlation between the endogenous variables and our instruments, we perform LIML estimates (Anderson, Kumitomo and Takamitsu, 1982). The results in Table IX show that the main conclusions of simple regression analysis still hold after controlling for endogeneity. When the dependent variable is Tobin's Q, it still results negatively correlated with the wedge between voting and cash-flow rights estimated via instrumental variables. As for the relation between performance and family control estimated by instrumental variables, a positive result continues to hold neatly both when the quantitative ownership variables are included and when they are not. When the dependent variable is ROA, the only result at variance with the outcome of simple regression analysis is the loss of statistical significance of the negative coefficient of the wedge between voting and cash-flow rights.

V. Summary and conclusion

In the paper we highlighted the link existing also in Continental Europe between corporate performance and ownership structure. European corporations exhibit concentrated ownership structures, a relevant degree of separation between control and cash-flow rights, and widespread diffusion of family control. Family control is clearly associated with the control-enhancing devices that allow separation between control and cash-flow rights.

However, regression analysis of the link between corporate valuation and ownership structure shows that, notwithstanding the negative effect of the more frequent recourse to control-enhancing devices, family control is positive for European corporations. It is highly positive at the founder stage – provided the founder still exerts an active role as CEO or non-executive director, usually Chairman – much in the same way as it is in the U.S. The different result with respect to U.S., is that it still remains positive at the

[39] Estimated by regressing 40 months of returns in excess on treasury bills on the excess returns of an index representative of the country stock market.

descendants stage – when descendants limit themselves to non-executives roles – or at least non-negative – when descendants assume the role of CEO. Only when the family is not represented in the board family-controlled firms seem to perform worse than non-family firms.

We therefore provide a confirmation of non-European results about the negative effect of control-enhancing devices. However, we show that although control-enhancing devices are associated throughout the world with family control, this does not *per se* allow to jump to the conclusion of a negative effect of it. Outside of U.S., U.K. and a few other countries, the majority of listed non-financial corporations are family-controlled, and it is important to reach conclusions about the desirability of this type of control. The Continental European evidence tells that, notwithstanding the frequent preference of family corporations for apparently inefficient ownership structures, the general effect of family control may still be positive.

Our evidence raises some issues for future research. A first question is what makes family control more effective (or non-family control less effective) in Continental Europe than in Anglo-American markets. A second question is why, if European family firms are in the average more effective than non-family, do they recur more often to control-enhancing devices? The standard view sees such arrangements as a vehicle for minority expropriation and management entrenchment. In accordance, we might ask ourselves whether these are simply deadweight costs, or can be interpreted as a price paid for inducing controlling shareholders with special skills to stay. An other possibility we wish to suggest is that control-enhancing devices are the legacy of historical periods in which European financial markets were quite unregulated and little developed, that are still in place because they are costly to dismantle[40].

Finally, our findings suggest an empirical argument of caution – that adds to the several theoretically-founded others that have been deployed (Berglof and Burkart, 2002) –

[40] Actually, our data show that if we partition all the corporations in our sample by IPO date, and divide them in the two groups i) one-share one-vote and ii) dual-classes, we find that the proportion of the latter falls abruptly starting from the IPOs in the'80s, to become close to zero in the '90s. In this sense can be seen also the trend towards undoing dual-class structures observed in the '90s in Nordic countries and Italy, and the reorganization of various European family (for instance the FIAT and Telecom groups in Italy, the Bollorè and the Schneider groups in France) towards reduction of pyramidal structures.

towards the usefulness of a regulation aiming to prohibit separation of control and cash-flow rights, of the kind that is debated at the E.C. level. It is true that separation *per se* is associated with lower performance. However, separation may have in several cases a role in allowing control of subjects who are able to better manage or monitor corporations, whose beneficial skills may more than counterweight the costs of an inefficient ownership structure. Therefore, it is not clear that abrupt dissolution of existing controlling equilibria would lead to a more efficient European corporate sector.

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Appendix A : Data sources

For all countries: Worldscope and Extel (Thomson financial); Osiris (Bureau Van Dijck); corporations' websites; news searched on lexis-nexis and the world wide web (google search engine).

Belgium: Euronext (www.euronext.com); L'Echo (www.lecho.be).

Denmark: Copenhagen Stock Exchange (www.cse.dk).

France: AMF (www.amf-france.org), Euronext (www.euronext.com).

Germany: Wer gehoert zu wem (Commerzbank), Onvista (www.onvista.de).

Italy: CONSOB (www.consob.it), Il taccuino dell'azionista (Il Sole 24 Ore Libri)

The Netherlands: Euronext (www.euronext.com); Elsevier Ondernemings Rapport (available on Lexis-Nexis).

Spain: CNMV (www.cnmv.es).

Switzerland: Bilanz on line (www.aktienfuehrer.ch); Guide des Actions suisses (Verlag Finanz und Wirtschaft).

For Finland, Norway and Sweden we do not rely on specific national data sources.

Table I: The composition of the sample of publicly traded European corporations

In the first three rows, we present the number of corporations in the sample across the different countries in each year. In the second part of the table we present the breakdown by industrial classification for the year 1999, based on Campbell (1996). Industries are defined as follows: Petroleum (SIC 13, 29), Consumer durables (SIC 25, 30, 36, 37, 50, 55, 57), Basic industry (SIC 10, 12, 14, 24, 26, 28, 33), Food and tobacco (SIC 1, 2, 9, 20, 21, 54), Construction (SIC 15, 16, 17, 32, 52), Capital goods (SIC 34, 35, 38), Transportation (SIC 40, 41, 42, 44, 45, 47), Unregulated utilities (SIC 46, 48), Textiles and trade (SIC 22, 23, 31, 51, 53, 56, 59), Services (SIC 72, 73, 75, 76, 80, 82, 87, 89), and Leisure (SIC 27, 58, 70, 78, 79). The sample excludes financial companies (SIC 60-69) and regulated utilities (SIC 49), however, we look at the financial statements of holding companies and investment companies. When they present consolidated financial statements that are typical of operating companies, we include them in the twelfth category Other, together with companies whose SICs are not assigned to any of the 11 Campbell industries. In order to reduce the size of the table, the 4 countries Denmark, Finland, Norway and Sweden are jointly considered in the single category "Nordic countries".

	All countries	Belgium	France	Germany	Italy	Netherlands	Nordic countries	Spain	Switzerland
All sectors, year 1999	675	33	142	118	65	72	139	44	62
All sectors, year 2000	644	30	137	116	61	66	131	42	61
All sectors, year 2001	610	30	128	111	59	63	120	41	58
Petroleum	2,9%	0,0%	4,2%	1,7%	3,1%	1,4%	5,0%	4,5%	0,0%
Consumer durables	12,2%	12,1%	16,0%	13,4%	16,9%	12,3%	11,5%	4,5%	3,2%
Basic industry	14,3%	15,2%	12,5%	18,5%	6,2%	8,2%	17,3%	13,6%	19,4%
Food and tobacco	8,0%	6,1%	9,0%	5,9%	4,6%	12,3%	6,5%	9,1%	11,3%
Construction	10,8%	12,1%	7,6%	10,9%	15,4%	13,7%	6,5%	29,5%	4,8%
Capital goods	11,5%	6,1%	4,9%	15,1%	9,2%	4,1%	16,5%	2,3%	29,0%
Transportation	5,9%	0,0%	5,6%	3,4%	3,1%	6,8%	10,8%	4,5%	6,5%
Unregulated utilities	5,3%	6,1%	4,2%	5,0%	3,1%	6,8%	6,5%	6,8%	4,8%
Textiles and trade	10,9%	12,1%	13,9%	13,4%	13,8%	12,3%	4,3%	11,4%	8,1%
Services	7,8%	12,1%	10,4%	6,7%	4,6%	6,8%	7,2%	9,1%	6,5%
Leisure	4,4%	3,0%	4,9%	0,8%	10,8%	8,2%	2,9%	4,5%	3,2%
Others	6,0%	15,2%	6,9%	5,0%	9,2%	6,8%	5,0%	0,0%	3,2%
Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Table II: Descriptive data of the sample of publicly traded European corporations

In the table we present the average and median values of some variables of main interest in 1999. Ultimate voting rights is the amount of ultimate voting rights held by the largest (in term of direct voting rights) shareholder. Ultimate cash-flow rights is the amount of ultimate cash-flow rights held by the largest shareholder. We present the breakdown of the companies in the sample according to the type of their control, across the different countries (see the text of the paper, § I.B.i., for the definitions). Tobin q is the ratio between (Book value of total assets - Book value of shareholders' equity + Market value of shareholders' equity), and Book value of total assets. ROA is the ratio "Operating Profit / Total Assets". Size (Total assets) is the amount (millions €) of balance-sheet Total assets, Size (Market value equity) is the stock market value (millions €) of all the shares outstanding of any category. In order to reduce the size of the table, the 4 countries Denmark, Finland, Norway and Sweden are jointly considered in the single category "Nordic countries".

		All countries	Belgium	France	Germany	Italy	Netherlands	Nordic countries	Spain	Switzerland
Ultimate voting rights	average	38,2	44,7	46,5	40,8	47,6	23,9	33,8	31,8	31,4
	median	37,0	40,1	49,0	39,5	51,6	14,2	32,4	30,4	28,3
Ultimate cash-flow rights	average	32,0	40,6	35,9	36,0	40,7	23,0	26,5	30,1	26,1
	median	28,5	34,9	33,8	32,0	45,4	14,2	22,0	28,4	20,2
Type of control (% of the total of each country)	family	52,6%	64,5%	63,2%	48,3%	76,9%	35,6%	43,5%	43,2%	51,6%
	state	8,3%	3,2%	9,7%	5,9%	7,7%	4,1%	14,5%	4,5%	6,5%
	financial institution	15,1%	6,5%	11,1%	24,6%	7,7%	17,8%	13,8%	20,5%	14,5%
	other entity	7,0%	12,9%	2,8%	8,5%	7,7%	2,7%	11,6%	6,8%	4,8%
	widely held corp.	17,0%	12,9%	13,2%	12,7%	0,0%	39,7%	16,7%	25,0%	22,6%
	Total	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%
Tobin's q	average	1,59	1,49	1,67	1,56	1,64	1,59	1,54	1,51	1,64
	median	1,22	1,15	1,26	1,18	1,17	1,29	1,15	1,23	1,37
ROA	average	4,6%	2,6%	5,0%	2,6%	4,0%	7,0%	4,8%	5,8%	5,0%
	median	4,7%	2,6%	4,9%	2,8%	3,4%	7,9%	5,0%	5,4%	5,9%
Size (Total assets)	average	5.421	1.824	6.924	7.890	7.304	3.697	2.825	5.010	4.833
	median	1.256	842	1.598	1.184	1.593	1.337	1.022	1.413	1.179
Size (Market value equity)	average	5.168	1.375	6.787	5.825	5.442	4.051	4.385	3.955	5.794
	median	767	703	970	587	792	745	659	938	935
Growth	average	14,9%	17,2%	14,1%	12,6%	14,2%	21,3%	12,7%	27,0%	9,2%
	median	10,2%	11,2%	10,6%	8,1%	8,4%	12,7%	9,6%	16,5%	8,5%
Leverage	average	120	132	116	168	119	123	97	98	98
	median	96	84	89	142	80	94	86	76	81

Table III: Descriptive statistics for cash-flow rights and the wedge between cash-flow and voting rights

In Panel A, each row presents descriptive statistics for a class of ultimate cash-flow rights held by the largest shareholder. In the column Number is presented the count of corporations in each class. In the columns Tobin' s Q, ROA, Size are presented the averages of these variables in each class. In the columns under the header Wedge classes are presented, in each row, the percentage of the total number of corporations of that cash-flow rights class, by classes defined in terms of wedge size.
In Panel B, each row presents descriptive statistics for a class of wedge between the cash-flow and the voting rights held by the largest shareholder. In the columns under the header Sources of wedge are presented, for each wedge class, the percentage of the total number of corporations in that class divided in the three groups Dual shares only, Pyramidal control only, Both devices. In the group Dual shares only corporations non controlled through a pyramid, but that have dual classes of shares with different voting .rights. In the group Pyramidal control only we include corporations with a one share-one vote structure, controlled through a pyramidal scheme. In the group Both devices we include companies that have a dual class structure and are controlled through a pyramid.

Panel A

Cash-flow	Number	Tobin's Q	ROA	Size	Wedge classes				
					No wedge	<10%	10-19.99%	> 20%	Total
0-9.99%	157	1,82	5,33	6.941	47,8%	16,6%	20,4%	15,3%	100,0%
10-19.99%	126	1,71	4,87	5.437	60,3%	16,7%	10,3%	12,7%	100,0%
20-29.99%	91	1,72	4,64	4.246	47,3%	14,3%	20,9%	17,6%	100,0%
30-39.99%	79	1,93	4,13	2.964	63,3%	5,1%	16,5%	15,2%	100,0%
40-49.99%	67	1,88	4,40	3.455	47,8%	17,9%	22,4%	11,9%	100,0%
50-59.99%	79	1,92	5,16	2.683	72,2%	12,7%	12,7%	2,5%	100,0%
60-69.99%	39	1,56	5,56	4.229	66,7%	17,9%	15,4%	0,0%	100,0%
>69.99%	37	1,59	4,82	1.500	86,5%	10,8%	2,7%	0,0%	100,0%
Total	675	1,79	4,88	4.521	57,9%	14,4%	16,1%	11,6%	100,0%

Panel B

Wedge	Number	Tobin's Q	ROA	Size	Sources of wedge				
					type	dual shares only	pyramidal control only	both devices	Total
no wedge	391	1,85	5,15	4.566					
0< to 9.99%	97	1,75	4,38	5.543	frequency within the class	71,1%	25,8%	3,1%	100,0%
10-19.99%	109	1,61	4,75	3.989		51,4%	34,9%	13,8%	100,0%
20-29.99%	39	1,70	3,60	2.687		25,6%	38,5%	35,9%	100,0%
30-39.99%	29	2,05	5,55	4.719		34,5%	20,7%	44,8%	100,0%
>39.99%	10	1,45	3,97	5.975		10,0%	40,0%	50,0%	100,0%
Total	675	1,79	4,88	4.521	frequency in the sample	21,5%	13,0%	7,4%	41,8%

Table IV: Descriptive statistics of the 675 corporations, by the type of their largest shareholder and by different types of family control

In panel A corporations are grouped according to the following classification. We consider a corporation to be Widely held when it has no controlling shareholder with 10% ultimate voting rights or more, or is controlled by a widely held non financial corporation. We consider a corporation to fall into the groups Family, State, Financial, Others when a corporation is controlled at the 10% level by (respectively) a family, the State, a widely held financial institution or an other entity. In panels B and C we present descriptive statistics of the 314 family-controlled corporations in our sample, grouped by the degree of involvement of the family in the corporation. In panel B we include in the CEO group corporations in which the CEO is a member of the family. In the Non-executive group we include corporations in which the CEO does not belong to the controlling family, but at least one member of the family serves as non-executive director (non-executive chairman included). In the None group we include corporations in which no member of the controlling family sits in the board. In Panel C we analyze 285 of the 314 corporations partitioned in two groups. In the group founder we include corporations whose founder is still alive. Founder CEO is when the founder serves as CEO. Founder non-executive is when the founder serves as non-executive director. Other member CEO is when the founder serves serves as non-executive director, and an other member of the family is CEO (these corporations are also included in the previous group). No member director is when no member of the family sits in the board. In the columns Tobin' s Q, ROA, Size, Ultimate CF and Wedge, the averages of these variables in each class are presented. In the column No separation the percentage of corporations with no difference in the voting and cash-flow rights of the largest shareholder. In the column Dual classes, the percentage of corporations with dual classes of shares, not controlled through a pyramid. In the column Pyramid, the percentage of corporations with a one share-one vote structure, controlled through a pyramidal scheme. In the column Both we include companies that have a dual class structure and are controlled through a pyramid.

Panel A: Type of the largest shareholder

	number	%	Tobin' s Q	ROA	Size	Ultimate CF	Wedge	No separation	Dual classes	Pyramids	Both	Total
Widely held	115	17%	1,98	5,74%	6.492	18,3	0,5	90,4%	8,7%	0,9%	0,0%	100,0%
Family	355	53%	1,78	4,84%	2.892	35,6	10,4	43,1%	30,7%	14,6%	11,5%	100,0%
State	56	8%	1,93	4,38%	9.339	36,6	5,1	64,3%	10,7%	19,6%	5,4%	100,0%
Financial	102	15%	1,44	4,15%	5.346	17,3	2,4	70,6%	6,9%	17,6%	4,9%	100,0%
Other	47	7%	2,01	5,26%	4.779	32,7	7,0	55,3%	25,5%	12,8%	6,4%	100,0%
Total	**675**	**100%**	**1,79**	**4,88%**	**4.521**	**29,7**	**6,8**	**58,0%**	**21,3%**	**13,0%**	**7,7%**	**100,0%**

Panel B: Family participation in the board of directors, all family controlled corporations (n = 314)

	number	%	Tobin' s Q	ROA	Size	Ultimate CF	Wedge	No separation	Dual classes	Pyramids	Both	Total
CEO	109	35%	1,76	5,18%	2.151.414	44,4	8,6	43,5%	42,6%	8,3%	5,6%	100,0%
Non-executive	157	50%	1,79	5,00%	3.538.610	36,6	12,0	42,9%	30,1%	12,8%	14,1%	100,0%
None	48	15%	1,66	4,08%	2.943.845	28,6	12,2	41,7%	12,5%	27,1%	18,8%	100,0%

Table IV (follows): Descriptive statistics of the 675 corporations, by the type of their largest shareholder and by different types of family control

Panel C: Family participation in the board of directors, founder controlled corporations (n = 82) and descendants controlled corporations (n = 203)

1) Founders

	number	%	Tobin' s Q	ROA	Size	Ultimate CF	Wedge	No separation	Dual classes	Pyramids	Both	Total
Founder CEO	46	56%	2,13	5,48%	2.306.316	47,6	6,7	52,2%	39,1%	4,3%	4,3%	100,0%
Founder non-executive	26	32%	2,04	3,42%	3.866.803	39,7	8,2	53,8%	30,8%	11,5%	3,8%	100,0%
- Other member CEO	*10*	*12%*	*2,74*	*7,81%*	*856.914*	*47,5*	*3,0*	*70,0%*	*30,0%*	*0,0%*	*0,0%*	*100,0%*
No member director	10	12%	1,81	6,54%	2.175.716	43,6	7,8	50,0%	20,0%	20,0%	10,0%	100,0%
Total / Average	82	1	2,13	5,36%	2.574.466	44,5	7,3	52,4%	34,1%	8,5%	4,9%	100,0%

2) Descendants

	number	%	Tobin' s Q	ROA	Size	Ultimate CF	Wedge	No separation	Dual classes	Pyramids	Both	Total
Descendant CEO	55	27%	1,50	5,17%	2.159.270	42,9	10,5	34,5%	47,3%	10,9%	7,3%	100,0%
Descendant non-executive	111	55%	1,70	5,33%	3.926.657	35,1	14,3	36,9%	30,6%	13,5%	18,9%	100,0%
None	37	18%	1,63	3,74%	3.219.571	24,0	13,7	37,8%	10,8%	29,7%	21,6%	100,0%
Total / Average	203	100%	1,63	5,00%	3.318.930	35,2	13,2	36,5%	31,5%	15,8%	16,3%	100,0%

Table V: The results of regressions of firm valuation and performance on ownership concentration and family control (random-effects regressions)

In the table we report the results of OLS random-effects (country level) regressions, with dependent variables Tobin' s q and ROA, for the years 1999-2001. Family is a dummy variable taking value 1 for family-controlled corporations. Cash-flow rights is the share of cash-flow rights held by the largest shareholder. Wedge is the difference between the share of voting and cash-flow rights held by the largest shareholder. Ln (Size) is the natural logarithm of Total Assets. Leverage is the book value of total financial debt divided by the book value of equity. Sales growth is the growth of sales in the previous year. We include among the regressors the fixed effects for SIC two digits and years (results not reported). T-values are in parentheses.

Dependent variable	Ln (Tobin' s Q)			ROA		
Regression specification	1	2	3	4	5	6
Family		0,0266	0,0550		0,0051	0,0070
		(1,37)	(2,39)		(1,63)	(1,91)
Cash-flow rights	0,0001		-0,0004	0,0002		0,0002
	(0,23)		(-0,80)	(2,96)		(1,93)
Wedge	-0,0017		-0,0028	-0,0003		-0,0005
	(-1,94)		(-2,84)	(-2,28)		(-2,90)
Ln (Size)	0,0164	0,1933	0,2021	0,0039	0,0031	0,0042
	(2,18)	(2,62)	(2,65)	(3,29)	(2,60)	(3,42)
Leverage	-0,0005	-0,0005	-0,0005	-0,0001	-0,0001	-0,0001
	(-5,83)	(-5,79)	(-5,90)	(-9,27)	(-9,37)	(-9,81)
Sales growth	0,1811	0,1869	0,1838	0,0187	0,0190	0,0185
	(5,86)	(5,90)	(5,81)	(3,71)	(3,76)	(3,67)
R-squared adj	32,27%	32,06%	32,45%	18,48%	17,75%	18,66%
N. Observations	1852	1852	1852	1852	1852	1852

Table VI: The results of regressions of firm valuation and performance on ownership concentration and family control (robust regressions)

In the table we report the results of robust regressions (Biweight procedure), with dependent variables Tobin' s q and ROA, for the years 1999-2001. Family is a dummy variable taking value 1 for family-controlled corporations. Cash-flow rights is the share of cash-flow rights held by the largest shareholder. Wedge is the difference between the share of voting and cash-flow rights held by the largest shareholder. Ln (Size) is the natural logarithm of Total Assets. Leverage is the book value of total financial debt divided by the book value of equity. Sales growth is the growth of sales in the previous year. We include among the regressors the fixed effects for SIC two digits, years and countries (results not reported). T-values are in parentheses.

Dependent variable	Ln (Tobin' s Q)			ROA		
Regression specification	1	2	3	4	5	6
Family		0,0332	0,0844		0,0079	0,0092
		(2,59)	(5,58)		(3,67)	(3,62)
Cash-flow rights	0,0000		-0,0008	0,0002		0,0002
	(-0,06)		(-2,50)	(2,69)		(2,78)
Wedge	-0,0027		-0,0045	-0,0003		-0,0004
	(-4,56)		(-6,78)	(-2,38)		(-3,38)
Ln (Size)	0,0233	0,0238	0,0261	0,0041	0,0016	0,0025
	(4,89)	(4,91)	(5,27)	(3,82)	(2,00)	(3,01)
Leverage	-0,0002	-0,0002	-0,0003	-0,0001	-0,0001	-0,0001
	(-4,25)	(-4,28)	(-4,54)	(-8,17)	(-10,30)	(-11,03)
Sales growth	0,1106	0,1149	0,1088	0,0204	0,0192	0,0190
	(5,34)	(5,43)	(5,21)	(4,48)	(5,32)	(5,28)
R-squared adj	38,64%	37,95%	39,21%	28,53%	27,77%	29,17%
N. Observations	1852	1852	1852	1852	1852	1852

Table VII: The relationship between firm value and performance, and family involvement in management

In the table we report results of regressions of Tobin' s Q and ROA on proxy variables for the involvement of the family in managing the corporations. For each dependent variable and specification we present the results of two different regression method. In the columns Random effects, results for OLS with random-effects (country level) specification are reported. In the columns Robust, results for robust regressions (Biweight procedure) are reported. In regressions in columns 1, 2, 5, 6, we include among regressors Cash-flow rights (share of cash-flow rights held by the largest shareholder) and Wedge (difference between the share of voting and cash-flow rights held by the largest shareholder. In panel A Family CEO takes value 1 for corporations in which the CEO is a member of the controlling family. Family non-executive takes value 1 for corporations where the CEO is not a member of the family, but at least one member sits on the board as non-executive director. Family not on the board takes value 1 when no member of the family sits on the board. In panel B Founder takes value 1 when the founder is still alive, Descendants takes value 1 in all other family-controlled corporations. In panel C Founder CEO represents when the founder is CEO, Founder non-executive when the founder sits on the board as non-executive director, Founder not on the board when the founder is still alive but no member of the family sits on the board. Descendants CEO, Descendant non-executive, Descendant not on the board represent equivalent situation for family controlled corporations in which the founder passed away. In all regressions we include as control variables (but do not report the results in the table): Ln (Size) (natural logarithm of Total Assets), Leverage (book value of total financial debt divided by the book value of equity), and Sales growth (growth of sales in the previous year). We then include in both random effects and robust regressions the fixed effects for SIC two-digits and years. In Robust regressions we include also country fixed effects. T-statistics are in parentheses.

Panel A: Family CEO vs. family non-CEO

Dependent variable	Ln (Tobin' s Q)				ROA			
Regression method	Random eff.	Robust	Random eff.	Robust	Random eff.	Robust	Random eff.	Robust
Family CEO	0,0682	0,0884	0,0435	0,0445	0,0046	0,0062	0,0049	0,0067
	(2,23)	(4,41)	(1,56)	(2,38)	(0,95)	(1,81)	(1,08)	(2,13)
Family non-executive	0,0738	0,0989	0,0406	0,0434	0,0117	0,0121	0,0094	0,0112
	(2,76)	(5,65)	(1,75)	(2,82)	(2,76)	(4,14)	(2,53)	(4,37)
Family not on the board	-0,0081	0,0467	-0,0369	-0,0032	-0,0080	-0,0023	-0,0114	-0,0050
	(-0,22)	(2,00)	(-1,04)	(-0,14)	(-1,35)	(-0,56)	(-2,00)	(-1,26)
Cash-flow rights	-0,0005	-0,0009			0,0001	0,0002		
	(-1,05)	(-2,71)			(1,83)	(2,68)		
Wedge	-0,0028	-0,0045			-0,0005	-0,0003		
	(-2,86)	(-6,86)			(-2,85)	(-3,15)		
R-squared adj	32,64%	39,38%	32,25%	37,96%	19,09%	29,26%	18,25%	27,73%
N. Observations	1852	1852	1852	1852	1852	1852	1852	1852

Panel B: Founder vs. descendants

Dependent variable	Ln (Tobin' s Q)				ROA			
Regression method	Random eff.	Robust	Random eff.	Robust	Random eff.	Robust	Random eff.	Robust
Founder	0,1310	0,1652	0,1113	0,1290	0,0135	0,0176	0,0138	0,0180
	(4,14)	(7,87)	(3,80)	(6,50)	(2,67)	(4,95)	(2,93)	(5,47)
Descendants	0,0254	0,0571	-0,0045	0,0043	0,0069	0,0073	0,0037	0,0052
	(1,00)	(3,41)	(-0,21)	(0,30)	(1,71)	(2,61)	(1,08)	(2,22)
Cash-flow rights	-0,0005	-0,0009			0,0001	0,0001		
	(-1,01)	(-2,60)			(1,66)	(2,44)		
Wedge	-0,0024	-0,0040			-0,0005	-0,0004		
	(-2,34)	(-5,93)			(-2,89)	(-3,21)		
R-squared adj	32,83%	40,22%	32,56%	39,14%	18,98%	29,18%	18,16%	28,13%
N. Observations	1852	1852	1852	1852	1852	1852	1852	1852

Tab VII (follows): The relationship between firm value and performance, and family involvement in management

Panel C: Founder vs. descendants and involvement in management

Dependent variable	Ln (Tobin' s Q)				ROA			
Regression method	Random eff.	Robust	Random eff.	Robust	Random eff.	Robust	Random eff.	Robust
Founder CEO	0,1323	0,1446	0,1156	0,1239	0,0101	0,0173	0,0109	0,0184
	(3,28)	(5,35)	(2,98)	(4,64)	(1,56)	(3,75)	(1,75)	(4,13)
Founder non-executive	0,1718	0,2142	0,1531	0,1809	0,0185	0,0186	0,0182	0,0187
	(3,95)	(7,66)	(3,63)	(6,52)	(2,66)	(3,84)	(2,70)	(4,01)
Founder not on the board	-0,0299	0,0103	-0,0575	-0,0375	0,0135	0,0130	0,0109	0,0116
	(-0,38)	(0,21)	(-0,73)	(-0,75)	(1,07)	(1,52)	(0,87)	(1,38)
Descendant CEO	0,0188	0,0534	-0,0070	0,0097	0,0067	0,0060	0,0051	0,0051
	(0,50)	(2,23)	(-0,20)	(0,42)	(1,11)	(1,45)	(0,90)	(1,33)
Descendant non-executive	0,0460	0,0603	0,0152	0,0105	0,0126	0,0111	0,0084	0,0089
	(1,58)	(3,18)	(0,59)	(0,62)	(2,70)	(3,47)	(2,03)	(3,18)
Descendants not on the board	-0,0318	0,0183	-0,0564	-0,0254	-0,0040	-0,0013	-0,0088	-0,0052
	(-0,75)	(0,69)	(-1,38)	(-0,97)	(-0,60)	(-0,28)	(-1,35)	(-1,15)
Cash-flow rights	-0,0005	-0,0007			0,0001	0,0001		
	(-1,05)	(-2,21)			(1,44)	(2,22)		
Wedge	-0,0023	-0,0038			-0,0005	-0,0004		
	(-2,29)	(-5,76)			(-3,13)	(-3,23)		
R-squared adj	33,12%	40,83%	32,87%	39,64%	19,15%	29,10%	18,33%	28,36%
N. Observations	1852	1852	1852	1852	1852	1852	1852	1852

Table VIII: The results of pooled time-series average regressions

This table gives the estimated coefficients from regressing Tobin's Q and ROA on ownership and various control variables using a pooled (mean) regression. For each dependent variable and specification we present the results of two different regression method. In Panel A, results for OLS with random-effects (country level) specification are reported. In Panel B, results for robust regressions (Biweight procedure) are reported. In regressions in columns 1, 3, 5, 7, we include among regressors Cash-flow rights (share of cash-flow rights held by the largest shareholder) and Wedge (difference between the share of voting and cash-flow rights held by the largest shareholder. Family is a dummy variable taking value 1 for family-controlled corporations. Founder takes value 1 when the founder is still alive, Descendants takes value 1 in all other family-controlled corporations. In all regressions we include as control variables (but do not report the results in the table): Ln (Size) (natural logarithm of Total Assets), Leverage (book value of total financial debt divided by the book value of equity), and Sales growth (growth of sales in the previous year). We then include in both random effects and robust regressions the fixed effects for SIC two-digits and years. In Robust regressions we include also country fixed effects. T-statistics are in parentheses.

Panel A: random-effects regressions

Dependent variable	Ln (Tobin' s Q)				ROA			
Regression specification	1	2	3	4	5	6	7	8
Family	0,0566	0,0275			0,0085	0,0047		
	(1,55)	(0,90)			(1,49)	(0,99)		
Founder			0,1346	0,1142			0,0164	0,0148
			(2,67)	(2,47)			(2,09)	(2,04)
Descendants			0,0285	-0,0028			0,0076	0,0027
			(0,71)	(-0,08)			(1,22)	(0,51)
Cash-flow rights	-0,0003		-0,0004		0,0001		0,0000	
	(-0,33)		(-0,51)		(0,50)		(0,31)	
Wedge	-0,0029		-0,0025		-0,0005		-0,0005	
	(-1,88)		(-1,62)		(-2,24)		(-2,17)	
R-squared adj	11,26%	8,74%	13,81%	12,07%	16,03%	13,57%	16,32%	14,93%
N. Observations	663	663	663	663	663	663	663	663

Panel B: robust regressions

Dependent variable	Ln (Tobin' s Q)				ROA			
Regression specification	1	2	3	4	5	6	7	8
Family	0,0777	0,0317			0,0079	0,0078		
	(3,32)	(1,60)			(1,95)	(2,24)		
Founder			0,1601	0,1313			0,0148	0,0170
			(5,04)	(4,37)			(2,61)	(3,16)
Descendants			0,0485	0,0001			0,0069	0,0058
			(1,91)	(0,01)			(1,56)	(1,54)
Cash-flow rights	-0,0005		-0,0006		0,0002		0,0002	
	(-0,93)		(-1,09)		(2,18)		(2,01)	
Wedge	-0,0043		-0,0039		-0,0003		-0,0003	
	(-4,24)		(-3,77)		(-1,76)		(-1,73)	
R-squared adj	13,52%	10,96%	15,72%	13,40%	19,23%	17,30%	19,43%	17,35%
N. Observations	663	663	663	663	663	663	663	663

Table IX: Instrumental variable results

In the table we report the results of instrumental variable LIML (limited-information maximum likelihood) regressions (Fuller's modification), with dependent variables Tobin' s q (Panel A) and ROA (Panel B), for the years 1999-2001. The first row reports which independent variable(s), in each regression, is considered endogenous. Instrumental variables are the following: Alfa and beta of the ordinary share (estimated by regressing 40 months of returns in excess on treasury bills on the excess returns of an index representative of the country stock market), and the age of the corporation (log of). Cash-flow rights is the share of cash-flow rights held by the largest shareholder. Wedge is the difference between the share of voting and cash-flow rights held by the largest shareholder. Family is a dummy variable taking value 1 for family-controlled corporations. Ln (Size) is the natural logarithm of Total Assets. Leverage is the book value of total financial debt divided by the book value of equity. Sales growth is the growth of sales in the previous year. We include among the regressors the fixed effects for SIC two digits, years and countries (results not reported). *k* is the stochastic parameter used to estimate the first stage predicted values of endogenous variable(s). Weights are assigned using robust regression results. T-values are in parentheses.

Panel A: Dependent variable = Ln(Tobin's Q)

	Endogenous variable(s)					
	Cash-flow	Wedge	Cash-flow + Wedge	Family	Family	Cash-flow + Wedge+Family
Regression specification	1	2	3	4	5	6
Cash-flow rights	0,0002	0,0002	0,0002		-0,0004	-0,0009
	(0,40)	(0,52)	(0,43)		(-1,20)	(-1,44)
Wedge	-0,0026	-0,0029	-0,0029		-0,0033	-0,0054
	(-4,52)	(-2,84)	(-2,81)		(-5,54)	(-4,53)
Family				0,5040	0,0710	0,1119
				(2,17)	(3,75)	(4,09)
Ln (Size)	0,0249	0,0251	0,0254	0,0248	0,0270	0,0291
	(4,79)	(5,10)	(4,87)	(4,99)	(5,39)	(5,46)
Leverage	-0,0002	-0,0002	-0,0002	-0,0003	-0,0003	-0,0003
	(-4,27)	(-4,36)	(-4,29)	(4,42)	(-4,66)	(-4,66)
Sales growth	0,1119	0,1092	0,1094	0,1171	0,1125	0,1070
	(5,38)	(5,23)	(5,24)	(5,52)	(5,36)	(5,07)
k	72,28%	73,04%	72,30%	74,18%	54,78%	72,80%
R-squared adj	38,64%	38,33%	38,33%	37,89%	38,79%	38,49%
N. Observations	1804	1804	1804	1804	1804	1804

Panel B: Dependent variable = ROA

	Endogenous variable(s)					
	Cash-flow	Wedge	Cash-flow + Wedge	Family	Family	Cash-flow + Wedge+Family
Regression specification	1	2	3	4	5	6
Cash-flow rights	0,0002	0,0003	0,0003		0,0002	0,0002
	(2,85)	(5,24)	(2,98)		(3,99)	(1,67)
Wedge	-0,0003	-0,0002	-0,0002		-0,0003	-0,0003
	(-2,67)	(-0,80)	(-1,01)		(-2,51)	(-2,03)
Family				0,0093	0,0077	0,0100
				(2,37)	(2,39)	(2,31)
Ln (Size)	0,0023	0,0025	0,0023	0,0018	0,0027	0,0026
	(2,64)	(3,00)	(2,70)	(2,12)	(3,19)	(2,96)
Leverage	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001	-0,0001
	(-10,80)	(-10,91)	(-10,79)	(-10,40)	(-11,13)	(-10,97)
Sales growth	0,0199	0,0197	0,0199	0,0199	0,0195	0,0194
	(5,50)	(5,43)	(5,48)	(5,48)	(5,43)	(5,37)
k	71,25%	78,19%	70,44%	74,77%	55,94%	69,63%
R-squared adj	28,42%	28,80%	28,26%	27,87%	29,29%	28,67%
N. Observations	1804	1804	1804	1804	1804	1804