UNIVERSIDAD DE SALAMANCA

Facultad de Economía y Empresa

Departamento de Administración y Economía de la Empresa

Doctoral Thesis

Corporate Governance in Family Firms. Effects of Family Control on Firm Value and Corporate Financial Decisions

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Salamanca, 2010

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CERTIFICAN

Que la presente tesis doctoral, que lleva por título *“Corporate Governance in Family Firms. Effects of Family Control on Firm Value and Corporate Financial Decisions”* y que presenta D. Ignacio Requejo Puerto para optar al grado de Doctor por la Universidad de Salamanca, ha sido realizada bajo su dirección en el Departamento de Administración y Economía de la Empresa de la Universidad de Salamanca y que cumple todos los requisitos necesarios para proceder a su defensa pública.

Y para que así conste y surta los efectos oportunos, se expide el presente certificado en Salamanca a 14 de septiembre de 2010.

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To my family and my supervisors

Acknowledgements

There are many people to whom I am indebted for helping and supporting me during my doctoral studies. First and foremost, I would like to thank my supervisors, Julio Pindado and Chabela de la Torre, who have always been available whenever I needed them. They have provided me with the skills and knowledge necessary to work in academia, and taught me how to face the difficulties and hard times that lie in the road ahead. I am very grateful to them for their guidance and advice, and especially for putting their trust in me during these years of hard and endless work.

I would like to pay special thanks to Colin Mayer and Julian Franks for giving me the opportunity to spend some time as a visiting doctoral student at *Saïd Business School* (*University of Oxford*) and *London Business School* (*University of London*), respectively. They were incredibly kind hosts and the conversations I had with them greatly contributed to improving the thesis. The months I spent and the experience I acquired in these institutions have been vital for my doctoral formation.

In the UK, I also owe a debt of gratitude to David Hillier and Kevin Keasey for inviting me to *Leeds University Business School* (*University of Leeds*), where I presented part of the dissertation. More importantly, during our meetings they have shown me that the academic profession is more than just a job; it is a way of life. Thus, to succeed both as an academic and in a more general sense, it is of paramount importance to build one’s own network of colleagues and friends.

As a doctoral student, I have had the opportunity to make some good friends and learn from other students enrolled in the doctorate programs in Salamanca, Oxford, and London. At the Prato Symposia, in Italy, which I have attended since the first time it was held, I have been very fortunate to meet many pleasant scholars and PhD students from different universities from all over the world. All of these people have contributed in one way or another to this project. For this reason, here I express my most sincere thanks to them.

Similarly, I must acknowledge the support and encouragement received from the faculty members at the *Departamento de Administración y Economía de la Empresa*, *Universidad de Salamanca*. My first contact with most of them took place during my undergraduate degree and, therefore, they have played a significant part in my formation in the Business Economics field. In addition, prior to and during the doctorate program they provided me with valuable advice for my career as an academic.

Last but not least, I would like to mention my sister and my brother for their love and support; and I wish to thank my parents for listening to my concerns and encouraging me to keep on working at all stages of the thesis. I owe immense gratitude to my family for everything.

Finally, I am grateful to the Spanish Ministry of Education and Science (*Ministerio de Educación y Ciencia*) for providing me with financial support throughout the doctoral studies and for financing my two research stays abroad (under the program for the training of the university teaching staff—*Formación del Profesorado Universitario*, *FPU*—). I greatly appreciate this support.

Ignacio Requejo
Salamanca (Spain), September 2010

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Chapter I

Introduction

In this chapter, we present our subject of study, the family control of corporations, and argue the need to analyze this issue from a corporate finance and corporate governance perspective. By reviewing previous studies most closely related to ours, we aim to provide a broad overview of the different aspects of family firms that we cover in this dissertation as well as the perspective that we adopt throughout the present investigation. First of all, we lay out the main arguments that motivate our research. Specifically, we document the prevalence of family companies all over the world and their important role in the economy, and explain the uniqueness of family control by specifying the peculiarities associated with the family business model. After arguing why family control is a particularly interesting corporate ownership structure per se, we detail the specific research questions that we attempt to answer in order to formulate the main thesis of the study. Specifically, the second part of the introduction documents the importance of family control through its impact on firm performance and highlights the need to provide additional evidence on the ownership–value relation by differentiating between family and non-family firms. Then, in the third and fourth sections, we point out why an analysis of the influence of family control on investment, financing, and dividend decisions might prove to be fruitful to provide additional explanations for the performance difference of family businesses as compared to their non-family counterparts from an economic and financial point of view. Finally, we conclude the introduction by detailing the specific objectives that we aim to achieve in the following chapters and formulating the thesis to be defended in the present dissertation.

I.1. The prevalence and uniqueness of family-controlled corporations

There is nowadays a consensus in the finance and economic literature as to the relevance and pervasiveness of family firms worldwide (see, e.g., La Porta, Lopez-de-Silanes, and Shleifer, 1999; Morck, Wolfenzon, and Yeung, 2005; Holderness, 2009). Indeed, these corporations account for a large percentage of the gross domestic product (GDP) and the workforce not only in developing countries but also in the most developed economies of the world (Miller, Steier, and Le Breton-Miller, 2003; Institute for Family Business, 2008; European Commission, 2009; among others). Studies that investigate different issues related to the ownership structure of corporations show that family control represents a large proportion of the corporate sector in countries with very different institutional and legal characteristics, such as the United States and Canada (see, e.g., Bhattacharya and Ravikumar, 2001; Anderson and Reeb, 2003a; Gadhoum, Lang, and Young, 2005; King and Santor, 2008), Western European countries (see, for instance, Franks and Mayer, 2001; Faccio and Lang, 2002; Sraer and Thesmar, 2007; Andres, 2008; Franks, Mayer, Volpin, and Wagner, 2009), and East Asian economies (Mok, Lam, and Cheung, 1992; Lam, Mok, Cheung, and Yam, 1994; Claessens, Djankov, and Lang, 2000; among others). It should also be noted that most of these studies point to the predominance of family control among publicly listed corporations as opposed to privately owned ones, which indicates that this organizational form is not only restricted to small- and medium-sized enterprises (SMEs) as many people tend to think.

Moreover, recent works that focus on the relation between family ownership and specific aspects of corporations (see, e.g., Anderson, Duru, and Reeb, 2009; Villalonga and Amit, 2009; Chen, Chen, Cheng, and Shevlin, 2010; Chen and Nowland, 2010) highlight the growing interest among academics and practitioners in better understanding the peculiarities of family firms and the family business model. Indeed, family companies are particularly interesting and deserve a thorough investigation by scholars due to their unique traits and peculiarities, which play an important role in shaping a firm's behavior and corporate decision-making processes.

Among the characteristics that make family businesses unique, there are several worth mentioning.

First of all, it is important to take into account that family companies are the result of combining two entities that are very different from each other, namely the family and the business. As a consequence, family firms have their own specificities attached to their corporate culture and values (see, for instance, Lee, 2004; McVey and Draho, 2005), which in most cases are set by the founder of the company and then shaped by the controlling family over time. Second, family firms are also characterized by their concern for survival, given that the family involved in the foundation of the business contemplates it as an asset to bequeath to successive generations rather than a good to consume during its lifetime (Anderson and Reeb, 2003a). Third, as a result of their concern for survival, family companies are less likely to boost short-term profits at the expense of long-term performance, since this would hamper the family's ultimate goal, which is passing the company on to succeeding generations. Therefore, owner families usually focus on the long-term when making corporate decisions and family firms have longer investment horizons compared to other corporations (James, 1999; McVey and Draho, 2005). Fourth, given that the family firm is conceived by its founders as a project that is going to be operating over a long period of time, the family also cares about the business reputation (see, e.g., Wang, 2006; Ali, Chen, and Radhakrishnan, 2007; Chen, Chen, and Cheng, 2008; Chen, Chen, Cheng, and Shevlin, 2010). In fact, it is not only the reputation of the company that is a major concern for family owners but also their own name, which in many cases coincides with the firm's name or the product brand. Finally, another feature widely recognized in the finance literature as defining family companies is the convergence between ownership and management. Contrary to widely held corporations, where control is concentrated in the hands of managers and ownership is dispersed among minority shareholders (Jensen and Meckling, 1976), family businesses are characterized by the involvement of the owner family in managerial activities either directly or indirectly (Anderson and Reeb, 2003a; Andres, 2008).

We have just mentioned several features that make family control different from other organizational forms. Most of these peculiarities of family businesses are indeed likely to represent a source of competitive advantage with respect to non-family corporations. However, it is also important to note that family ownership is not exempt from some potential disadvantages that can constitute a hurdle for business success. On the one hand, although family control is usually associated with convergence between ownership and management, thus mitigating the classic owner–manager agency conflict, the presence of a controlling family in the firm can give rise to a new agency problem, namely that between large and minority investors (see, for instance, Shleifer and Vishny, 1997; Villalonga and Amit, 2006). In fact, if the costs to minority shareholders of this new agency conflict exceed the benefits of alleviating the classic agency problem, family firms will find it more difficult than other corporations to expand their shareholder base and to attract minority investors. This potential disadvantage of family companies is due to the risk of expropriation of minority shareholders' wealth by the owner family. Such risk increases within family business groups whose structures are so opaque that rent extraction activities cannot be easily identified, thus increasing the scope of controlling families to engage in expropriation activities (see, e.g., Buchanan and Yang, 2005).

On the other hand, the combination of the family and business can turn from a source of competitive advantage into an impediment for the development of the family firm. In this respect, family owners sometimes make decisions that benefit the family while at the same time hampering the survival of the business. For instance, a key issue in which controlling families are likely to fail is the transmission of the firm to the next generation (Smith and Amoako-Adu, 1999; Pérez-González, 2006; Bennedsen, Nielsen, Pérez-González, and Wolfenzon, 2007; Cucculelli and Micucci, 2008; among others). As recognized in the finance and family business literature, appointing a family successor as chief executive can sometimes be detrimental to corporate performance, although the founder and the controlling family might benefit to some extent from this type of appointment because they enjoy the so-called private and personal benefits of corporate control (Volpin, 2002; Holderness, 2003; Enriques and

Volpin, 2007). Now, contrary to outright expropriation of minority shareholders by the owner family, as suggested above, the controlling family can maximize its own utility instead of acting in the best interest of all the firm's shareholders. In either case, these potential disadvantages of family control suggest that companies with this type of ownership structure are not necessarily in a better position to outperform other corporations or to adopt more efficient financial policies from the point of view of the organization.

Given this scenario, our main objective in the present work is to shed some light on the effect that family control of firms has on the value of the company, and on the main financial policies of corporations, namely the investment, financing, and dividend decisions. In particular, we attempt to answer each of the research questions that head the following sections of the introduction. First of all, we focus on whether family firms, given their unique characteristics and peculiarities, are different from non-family companies in terms of market valuation. Then, we provide some explanations for the performance difference between family and non-family firms by examining how family control affects the investment, financing, and dividend decisions of companies.

I.2. Do family firms differ from their non-family counterparts in their corporate performance?

Earlier finance literature supports a positive effect of ownership concentration on corporate performance as compared to diffuse ownership, which creates free riding problems and hampers the monitoring of managers. In particular, Shleifer and Vishny (1986) confirm a positive relation between ownership concentration and firm value, which implies that the classic owner–manager problem can in part be resolved by the monitoring role of large investors. Along the same lines, Holderness and Sheehan (1988) conclude that firms with majority shareholders do not perform poorly relative to widely held corporations and show that they survive over time. And Shleifer and Vishny (1997) indicate that large shareholders address the agency problem between owners and managers because of their greater interest in profit maximization. In this context, a series of studies has analyzed whether insider ownership and ownership concentration are important determinants of firm value and performance (see, e.g., Morck, Shleifer, and Vishny, 1988; McConnell and Servaes, 1990; Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Miguel, Pindado, and de la Torre, 2004; López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal, 2007). Overall, although evidence from around the world suggests that ownership structure influences corporate performance in different ways depending on the country and the blockholder identity, concentrated ownership most often has a positive effect on firm value (Denis and McConnell, 2003).

Regarding family control as a unique type of ownership structure, the finance and family business literature that investigates the relation between family ownership and corporate performance has not reached a consensus on whether family firms outperform their non-family counterparts or not. Whereas some papers find that overall family companies obtain better economic outcomes, others point in the opposite direction, namely a poorer performance on the part of family firms. Meanwhile, a third set of works indicates that family businesses seem to outperform non-family corporations under specific circumstances, but exhibit worse performance in other instances.

McConaughy, Walker, Henderson, and Mishra (1998) were among the first to show that family firms obtain better performance in terms of efficiency and market valuation in the United States. Consistent with these findings, Anderson and Reeb (2003a) conclude that US family companies perform better than their non-family counterparts. However, they also confirm a curvilinear relation between family control and performance, which suggests that beyond a certain level of ownership concentration in the hands of the controlling family the effect of family control on performance turns from positive to negative. In support of a better performance of family firms, Anderson and Reeb (2003b) show that this type of corporation is more valuable than non-family firms, after analyzing whether family companies seek to reduce firm-specific risk through corporate diversification and capital structure policies.

Additional evidence on the relation between family control and performance in the US context is provided by Villalonga and Amit (2006, 2009). The former study concludes that only family firms with either founder or outside chief executive officers (CEOs) outperform non-family firms, while in family companies in which a descendant serves as CEO firm value is destroyed, thus being detrimental from minority shareholders' point of view. The latter article goes a step further by investigating the way in which owner families control their corporations. In particular, Villalonga and Amit (2009) examine the impact that the use of different control-enhancing mechanisms by controlling families has on firm value. Overall, they conclude that family control in excess of the family's cash flow rights through dual-class stock and disproportionate board representation is negative for the company in terms of market valuation. By contrast, when controlling families use voting agreements or pyramids to enhance their control, firm value increases.

Further contributing to the debate on whether family-controlled corporations are indeed superior performers, Miller, Le Breton-Miller, Lester, and Cannella (2007) cast doubt on the superior performance of US family firms suggested in previous studies. By proposing a more refined definition of family firm, these authors show that only lone founder businesses outperform, whereas family businesses in which multiple family members are involved either as owners or managers never achieve higher market valuations. Therefore, the empirical evidence on the influence of family control on performance in the United States seems to indicate that overall family firms achieve superior economic outcomes, although family firms with certain firm-specific characteristics do not always act in the best interest of minority shareholders, thus reducing firm value.

Similarly, the evidence on how family ownership and control affect corporate performance in the Western European region is not conclusive. Both Maury (2006) and Barontini and Caprio (2006) investigate the relation between family ownership and performance using a cross-country sample of corporations. On the one hand, the first paper shows that family firms generally outperform their non-family counterparts, although there are some hints that point to a nonlinear effect of family control on performance. Maury (2006) further highlights that the benefits of family control in Western Europe are mainly due to countries where minority shareholders are strongly protected. On the other hand, Barontini and

Caprio (2006) find that in Continental Europe family-controlled corporations perform better than non-family firms, except when a descendant serves as CEO. In this case, the valuation and performance of family businesses is not statistically different from that exhibited by non-family ones.

Although the evidence provided by Maury (2006) and Barontini and Caprio (2006) seem to point in the same direction, results from specific countries within Europe are much more mixed. Focusing on the downside of family control, Cronqvist and Nilsson (2003), and Barth, Gulbrandsen, and Schone (2005) conclude that family ownership is negatively related to corporate performance in Sweden and Norway, respectively. The former provides empirical evidence that Swedish family firms are associated with larger agency costs and lower market values relative to other ownership structures, while the latter concludes that family firms are less productive than non-family ones in Norway.

In contrast to these findings, later papers by Sraer and Thesmar (2007) and Andres (2008) support a better performance of family firms in the French and German stock markets, respectively. On the one hand, Sraer and Thesmar find that all types of family firms—not only founder-controlled and professionally managed, but also descendant-controlled ones—outperform widely held corporations in France, which seems to be explained by family firms' policies related to workforce and capital structure. On the other hand, Andres' results support a superior performance of family firms as compared to widely held corporations and companies with other types of blockholders. However, he also points out that family firms only achieve better performance when family members are actively involved in the company management by serving on either of the boards that German law requires. In line with family firms' superiority in terms of corporate performance, recently Margaritis and Psillaki (2010) confirm that small- and medium-sized manufacturing family businesses that operate in France exhibit on average higher efficiency.

To sum up, the findings from Western European economies suggest that in the aggregate family control is beneficial in terms of market valuation and performance, thus benefiting minority investors. But when we focus on specific countries, we find contradictory results as to whether family firms really outperform their peers. Overall, in light of the studies just reviewed, we can conclude that it is not clear whether the family business model contributes or not to value creation inside the company, but given the important role that family firms play in the economy there is great interest among scholars in disentangling this issue.

I.3. Does family control play a moderating role in the investment–cash flow sensitivity?

As some of the papers reviewed in the previous section suggest, the performance difference between family and non-family corporations is likely to be explained, at least to some extent, by their differences in specific financial policies. In this sense, companies' investment behavior and the difficulties that they face to finance new projects are likely to affect firm performance. As a result, the relation between corporate investment and financial variables, such as cash flow, has been a widely researched topic in the finance field for decades (since the pioneering work by Fazzari, Hubbard, and Petersen, 1988). Moreover, the controversy over the investment–cash flow sensitivity is still open, as evidenced by recent studies (Guariglia, 2008; Carpenter and Guariglia, 2008; Hovakimian, 2009). The main reason for a significant and positive influence of internal cash flow on a firm's investment spending lies in the imperfections that characterize capital markets, contrary to Modigliani and Miller's (1958) assumptions. Due to both the financial constraints that derive from asymmetric information problems and the agency conflicts of free cash flow, corporate investment not only depends on the existence of investment opportunities, but also on the company's ability to finance them and in particular the amount of internally generated funds inside the business.

Overall, there is an optimal level of investment that maximizes the market value of the company, as shown in prior research (Morgado and Pindado, 2003). But the incentive and information problems in capital markets lead companies to deviate from this desirable investment level because of their dependence on internal cash flow and the difficulties involved in obtaining external finance (see, e.g., Whited, 1992; Kathuria and Mueller, 1995; Hadlock, 1998; Goergen and Renneboog, 2001; Pawlina and Renneboog, 2005; Ascioglu, Hegde, and McDermott, 2008; Pindado and de la Torre, 2009). The empirical evidence provided thus far is conclusive and suggests that in many cases companies either invest beyond the level that would maximize shareholders' wealth (i.e., they overinvest), or they forgo some good investment projects unless they have sufficient cash flow to undertake them (i.e., they underinvest).

The interest aroused by the investment decision and its influence on firm value has led researchers to develop different theoretical and empirical models that relate a firm's investment to different sets of variables (see, for instance, Fazzari, Hubbard, and Petersen, 1988; Bond and Meghir, 1994; Lang, Ofek, and Stulz, 1996; Aivazian, Ge, and Qiu, 2005a, 2005b; Whited, 2006; Cleary, Povel, and Raith, 2007). And more recently, the finance literature has acknowledged the important role that a firm's ownership structure can play in the relation between investment and cash flow. Indeed, corporate ownership structure can be considered as a governance mechanism that can either attenuate or exacerbate the agency and asymmetric information problems that exist in capital markets.

There are some papers that analyze the effects of insider ownership and ownership concentration on the investment–cash flow relation in an attempt to disentangle how the ownership structure of the company affects overinvestment and underinvestment problems. Oliner and Rudebusch (1992) are among the first to investigate the role of a firm's ownership structure in its preference for financing investments with internal funds, but they conclude that it does little to explain the influence that cash flow has on investment spending. Hadlock (1998) also examines the effect of ownership and liquidity on the level of corporate investment; and, contrary to Oliner and Rudebusch, he finds that the sensitivity of investment to cash flow is moderated by the level of insider ownership, and that the relation between insider holdings and the investment–cash flow sensitivity is non-monotonic, depending on whether companies are characterized by convergence of interests or managerial entrenchment.

These earliest findings are complemented by Goergen and Renneboog (2001), who analyze the effect of ownership concentration on the investment–cash flow sensitivity in the United Kingdom. According to these authors, cash flow no longer influences corporate investment when there are institutional investors in the company. On the contrary, the presence of powerful industrial shareholders increases the investment–cash flow sensitivity. Hadlock's (1998) and Goergen and Renneboog's (2001) empirical evidence is consistent with a later investigation by Pawlina and Renneboog (2005). These authors find an S-shaped relation between insider ownership and the sensitivity of investment to cash flow, consistent with the alignment of interests and the managerial entrenchment hypotheses; further, they document that outside blockholders reduce investment–cash flow sensitivities in UK corporations by means of effective monitoring.

Additional results in this same direction are provided by Koo and Maeng (2006) for Korean corporations. They focus on the impact of foreign ownership on investment decisions and find that the investment–cash flow sensitivity decreases as the stake of foreign investors in the company increases, which indicates that firms with high foreign ownership are more likely to be able to raise external funds at lower costs and that managers of these firms are less likely to use cash flow at their discretion. For his part, Hobdari (2008) investigates the dependence of investment spending on internal and external funds using a sample of Estonian firms and focusing on employee ownership. His main findings are that employee-owned firms' investment levels are sensitive to both internal and external funds and that manager-owned firms in Estonia seem to face barriers in obtaining external finance.

Pindado and de la Torre (2009) complement previous studies regarding the influence of a firm's ownership structure on the investment decision-making process by accounting for the ownership–value nonlinearities and disentangling overinvestment and underinvestment problems. Overall, they show that under convergence of managers' and owners' interests and under monitoring by large shareholders, investment–cash flow sensitivities are mitigated in both financially constrained companies and firms more likely to overinvest. By contrast, when managers become entrenched and when large investors' scope for expropriation is higher, sensitivities are exacerbated.

To date, scarce evidence has been provided as to whether family and non-family firms differ from each other in terms of investment–cash flow sensitivities, and whether family control contributes either to alleviate or to increase the financial constraints and agency problems associated with the corporate investment decision. By investigating the investment–cash flow sensitivity in a cross-country setting, Gugler, Mueller, and Yurtoglu (2007) conclude that asymmetric information problems as well as managerial discretion conflicts are more acute in Continental Europe than in Anglo-Saxon countries, and that family-controlled corporations in Continental Europe are those with the highest sensitivity of investment to internally generated funds. These results support Gugler's (2003) evidence that family firms in Austria experience a positive and robust relation between investment and cash flow.

However, these findings are at odds with the empirical evidence provided in other papers. For instance, Galeotti, Schiantarelli, and Jaramillo (1994) find that cash flow has no significant effect on investment when estimating a *q*-model with a sample of large firms from Italy, where a high proportion of companies are family-controlled (Lotti and Santarelli, 2005; Cucculelli and Micucci, 2008). And Wei and Zhang (2008), by focusing on East Asian countries, conclude that the firm's investment–cash flow sensitivity decreases as the cash flow rights of the largest shareholder in the company rise, but it increases with the degree of divergence between cash flow rights and control rights owned by the largest shareholder. Moreover, as Wei and Zhang (2008) report in their study, East Asian economies are characterized by the prevalence of family firms. Overall, Galeotti, Schiantarelli, and Jaramillo (1994) and Wei and Zhang (2008) both explain their results in terms of the solution of agency problems when ownership is concentrated in the hands of a large shareholder. Therefore, whether family control contributes to mitigating the two problems most commonly associated with the investment decision-making process—i.e., the information asymmetries and free cash flow agency problems—remains an open question and the answers to it could provide some explanations for the different firm value of family-controlled companies.

I.4. Are financing and dividend decisions affected by family control of corporations?

Other financial policies, in addition to corporate investment, that are likely to explain differences in performance between family and non-family firms are the capital structure and dividend decisions. Moreover, given that debt and dividends, along with a firm's ownership structure, have been previously recognized as corporate governance mechanisms that can complement or substitute for each other in the task of reducing agency problems (see, e.g., Miguel, Pindado, and de la Torre, 2005), an analysis of the moderating role that family control plays in shaping companies' financing and dividend choices will help clarify the differences between family and non-family firms in terms of performance. All in all, despite the great attention paid by scholars to the capital structure and dividend policies of corporations since the early works by Modigliani and Miller (1958) and Miller and Modigliani (1961), few studies have investigated whether family control, given its own peculiarities, affects these corporate decisions. Although recent papers examine the factors that influence a firm's debt (Frank and Goyal, 2009) and dividend preferences (Denis and Osobov, 2008), the finance literature on the relation between companies' ownership structures and these financial policies, and specifically on the differences between family and non-family firms when it comes to debt and dividend choices, is still scarce.

Regarding corporate financing policy, a series of models and theories has been developed whose main objective is to determine the factors that affect a firm's debt ratio. Among the different explanations provided for how companies determine their capital structures, most of them are based on the pecking order (Myers, 1984; Myers and Majluf, 1984) and trade-off theories. Indeed, there is a debate in the finance literature with respect to the superiority of one of these two theories in explaining a firm's financing behavior (Shyam-Sunder and Myers, 1999; Chirinko and Singha, 2000; Frank and Goyal, 2003). However, it is not clear that one theory is more valid than the other and, thus far, the empirical evidence supports some of the postulates from the pecking order as well as some propositions from the trade-off theory (see, e.g., Hovakimian, Opler, and Titman, 2001; Fama and French, 2002;

Leary and Roberts, 2005). Several papers also investigate whether country-level factors influence the financing policies of corporations (Demirgüç-Kunt and Maksimovic, 1999; Giannetti, 2003; Beck, Demirgüç-Kunt, and Maksimovic, 2008; González and González, 2008; Antoniou, Guney, and Paudyal, 2008). However, there are still many unanswered questions with respect to the main determinants of companies' financing mix (Rajan and Zingales, 1995) and, as highlighted in recent literature, the effect of ownership structure on capital structure remains largely unexplored (Margaritis and Psillaki, 2010).

In this sense, it is to be expected that the ownership structure of a company is a relevant determinant of a firm's financing policy. From a corporate governance perspective, ownership structure and debt can be seen as internal control mechanisms aimed at alleviating the agency conflicts that exist between different types of stakeholders inside corporations (Miguel, Pindado, and de la Torre, 2005; Zhang, 2009; D'Mello and Miranda, 2010; Margaritis and Psillaki, 2010). Moreover, different types of owners are likely to prefer different sources of funds depending on the relative costs and benefits related to each financing source. Hence, it seems reasonable to argue that a firm's ownership structure will significantly influence its financing decisions. Specifically, the differentiation between family and non-family control proves to be a very important one given the unique traits and peculiarities associated with the family business model, and in light of prior research that finds that family businesses enjoy a lower cost of debt financing (Anderson, Mansi, and Reeb, 2003).

However, few studies address the issue of whether ownership structure impacts on a firm's financing choices and whether family and non-family firms significantly differ from each other when it comes to the capital structure policy. And the theoretical arguments and empirical evidence provided to date do not point in the same direction. Anderson and Reeb (2003b) are among the ones that examine the relation between family ownership and leverage, and propose that family firms could be expected to use less debt given owner families' condition of large, undiversified shareholders. Contrary to this prediction, Anderson and Reeb (2003b) find that US family firms use similar amounts of debt compared to their non-family counterparts. But these findings have been challenged by subsequent studies that show that family-controlled corporations have different preferences for debt. King and Santor (2008) examine the relation between family control and leverage accounting for the possibility that family owners use control-enhancing mechanisms. Consistent with their hypotheses, King and Santor find that family firms with no control-enhancing mechanisms issue more debt to avoid the dilution of control and to reduce the risk of a hostile takeover. However, family companies with dual-class shares prefer more expensive equity to cheaper debt to avoid creditors' monitoring and because they are able to issue equity without diluting the family's control. Other studies also support the view that controlling shareholders increase debt usage to prevent the dilution of their dominant position (see, e.g., Du and Dai, 2005; Ellul, 2008).

In a more recent paper, Margaritis and Psillaki (2010) analyze the interrelation between ownership structure, capital structure, and firm performance. They argue that family ownership can be either positively or negatively related to the debt ratio. On the one hand, as long as family firms are perceived as less risky by debtholders, this type of business could tend to use more debt. On the other hand, insider blockholders, such as family owners, might prefer lower levels of debt due to their lack of diversification, thus pointing to a negative relation between family control and debt. Margaritis and Psillaki's results suggest that ownership type does not significantly influence a firm's debt usage, in line with Anderson and Reeb's (2003b) findings. However, Margaritis and Psillaki show that higher levels of ownership concentration are associated with higher leverage, which suggests that blockholders perceive debt as a governance mechanism that can be used to reduce the agency costs of managerial discretion and that these benefits of debt outweigh the potential bankruptcy costs.

In relation to the corporate payout policy, since the early empirical evidence by Lintner (1956), it is widely accepted that companies are reluctant to cut or omit dividend payments and, as a consequence, dividends are stable over time. As occurs with the capital structure policy, several theories attempt to explain the behavior of corporations when it comes to the decision of whether to pay dividends or not, and how much to distribute to investors in the form of dividends. In this respect, although dividend decisions have been explained from different perspectives, the agency theory and explanations based on agency issues are supported by prior dividend literature (see, e.g., Rozeff, 1982; Easterbrook, 1984; Jensen, 1986; Moh'd, Perry, and Rimbey, 1995). And given that different ownership structures are associated with varying severity of agency conflicts, it is highly likely that a firm's ownership structure influences its dividend decisions.

In fact, recent investigations focus on the relation between the ownership structure of the company and its payout policy. For instance, Farinha (2003) finds a U-shaped relation between insider ownership and dividend payouts in the United Kingdom, which points to a substitution effect between both monitoring devices. Farinha further shows that ownership dispersion among shareholders has a positive influence on dividend payments, which suggests that dividends are a mechanism to alleviate agency problems related to free riding. Gugler and Yurtoglu (2003) also investigate how the firm's ownership structure is related to the dividend policy, but these authors focus on blockholder ownership and argue that, while signalling and free cash flow explanations for dividends might be particularly suitable for an Anglo-Saxon setting, in Continental Europe dividends can be used to signal the severity of agency conflicts between large and minority investors. Based on this idea, they analyze the relation between dividends, and ownership and control of the largest and second largest shareholders in Germany. Overall, Gugler and Yurtoglu show that companies with a large shareholder and with no second blockholder have the lowest payout ratios, while companies with a controlling owner and a second large investor exhibit the highest payout ratios. For their part, Goergen, Renneboog, and Correia da Silva (2005) examine dividend policies of German corporations in an attempt to sort out whether these companies enjoy more flexibility in their dividend choices compared to their Anglo-Saxon counterparts. In general, their findings indicate that German firms have more flexible dividend policies, which is in part explained by the ownership structure of German companies. Goergen, Renneboog, and Correia da Silva find that bank control is associated with a higher likelihood to omit dividends when losses occur, which indicates that banks mitigate information asymmetry and agency costs, and thus reduce the need for dividends as a disciplining device. By contrast, it seems that in Germany other categories of large shareholders, such as corporations, and individuals and families, do not influence the dividend decision.

Gugler (2003) advances prior research in that he examines the effect of ownership concentration on the dividend decision by accounting for the identity of the firm's largest shareholder. Regarding family control, he concludes that family firms in Austria have lower target payout ratios and do not opt for dividend smoothing because in these firms conflicts of interest and information asymmetries between managers and the controlling family are less severe. Renneboog and Trojanowski (2005) also examine how different categories of blockholders influence the payout policy, but using a sample of UK companies. They find that the positive and significant relation between earnings and dividends supported by Lintner's (1956) model decreases in companies with any category of blockholder, but the intensity of the negative impact differs across blockholder categories. Industrial firms and outside individuals are the ones most likely to restrain dividend payments, which is in line with the idea that controlling shareholders balance the benefits against the likely costs of dividends. Khan (2006) provides further evidence on the relation between ownership structure and dividends in the United Kingdom by accounting for the identity of the largest shareholder. The level of insurance company shareholding has a positive effect on dividends, but this effect is negative for shareholding by individual investors. Overall, previous results on the relation between a firm's ownership structure and dividend payments are mixed, which can be explained to a certain degree by the fact that country-level institutional factors and the level of legal protection provided to minority investors by the law are also important determinants of companies' payout decisions (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000).

In addition to the previous works that analyze the corporate financing and dividend decisions, there is a series of studies that attempts to find out whether control mechanisms—such as a firm's ownership structure, debt, and dividends—either complement or substitute for each other to alleviate the agency conflicts and asymmetric information problems that exist in corporations (see, e.g., Noronha, Shome, and Morgan, 1996; Jensen, Solberg, and Zorn, 1992; Lozano, Miguel, and Pindado, 2002; Miguel, Pindado, and de la Torre, 2005; Setia-Atmaja, 2010). Moreover, whether companies use these mechanisms jointly or separately will depend on the institutional environment in which they operate (Miguel, Pindado, and de la Torre, 2005).

In this scenario, family firms' financing and dividend behavior, and the moderating role of family control in these corporate policies form an interesting research topic. Moreover, the importance of investigating how family control affects debt and dividend decisions is reinforced by the idea that in countries where minority shareholders are weakly protected by the law (which is where family companies are most widespread) companies could have to use alternative control mechanisms, such as debt and dividends, to ensure good protection of minority investors' interests. Finally, given that capital structure and dividend decisions are among the factors that have been linked to firm value (Shyu and Lee, 2009), an analysis of the effects of family control on the financing and dividend decisions could provide additional hints as to why family businesses perform differently.

I.5. Objectives and formulation of the thesis

Taking into account previous theoretical developments in the finance literature and considering the empirical evidence provided thus far as to the effects of a firm's ownership structure on corporate performance and companies' financial policies, specifically the investment, financing, and dividend decisions, it is our main objective in the present dissertation to disentangle whether family and non-family firms differ from each other in terms of firm value, and to investigate the moderating role of family control in the investment–cash flow sensitivity as well as in the debt and dividend decisions. In doing so, we aim to contribute to the ongoing debate over the benefits and costs of the family business model as compared to other organizational forms, and to shed some light as to whether family control can be beneficial from minority investors' point of view.

To attain this general objective, the rest of the document has been divided into four chapters. In Chapter II, we analyze the influence that family control exerts on firm value. We also investigate whether other firm-level characteristics as well as the institutional environment in which companies operate affect the relation between family control and performance. Additionally, we examine the possibility of nonlinearities in the ownership–value relation and derive the optimal breakpoints at which the effect of ownership concentration on performance turns from positive to negative for family and non-family businesses. The results presented in this chapter are based on the Amadeus database because this allows us to contribute to the finance literature and to complement prior research on the relation between family ownership and performance by proposing different family firm definitions, which is one of the most controversial aspects in the family business field. Another important contribution in this chapter relates to the interrelations between family control and the legal system in which companies operate.

Subsequently, in Chapter III our goal is to examine whether the presence of a controlling family in the company contributes either to mitigate or to exacerbate the widely documented investment–cash flow sensitivity. In the analyses presented in this chapter, we further consider other aspects of family firms' ownership structures and account for the source of the positive and significant relation between investment spending and internal funds. In this chapter and the following one, we extract corporate ownership data from Faccio and Lang's (2002) data set. The advantage of using this source of information is that they provide detailed data on companies' ownership structures and they identify family-controlled corporations. Furthermore, using different databases throughout the document allows us to obtain more robust conclusions as to the differences between family and non-family businesses and mitigates concerns that our results are driven by the data source or the family firm definition. In this part of the study, we also contribute to the literature on the investment–cash flow sensitivity by proposing a new proxy measure of financial constraints that improves the criteria used in previous investigations.

Chapter IV contains our analyses with regard to the moderating role of family control in the corporate financing and dividend decisions. In this case, we take several stylized facts from previous capital structure and dividend theories as a starting point, and also classify family companies in different categories according to specific firm characteristics related to their ownership structures. With the empirical evidence that we obtain in this chapter, we contribute to prior research on firms' capital structure and dividend policies by identifying a new determinant of these financial decisions, namely family control, at the same time that we propose additional explanations for the performance difference between family and non-family companies. In addition, our results help clarify how different firm-level corporate governance mechanisms, such as debt, dividends, and block ownership, interact with each other.

Finally, the last chapter of the study, Chapter V, presents our main conclusions based on the findings obtained throughout the dissertation, which allow us to defend our

Thesis: *"Family firms outperform their non-family counterparts in Western Europe, and this performance difference can be explained by the moderating role of family control in the investment, financing, and dividend decisions, which depends on family firms' characteristics and other ownership patterns"*.

Chapter Ⅱ

The Effect of Family Control on Corporate Performance

II.1. Introduction

Family firms play a vital role in the world economy despite the globalization and liberalization that is currently taking place in financial markets, as recently highlighted in the eighth volume of Barclays Wealth Insights (Byrne, 2009). This report further suggests that the global economic crisis that began in 2007, along with growing concern about the weaknesses of the Anglo-Saxon model of ownership structure, is likely to result in a revival of interest in family business as an organizational form that might be more efficient than previously thought. The reasoning behind this idea, suggests Stern (2009), is that some of the qualities inherent in family businesses might provide them with an advantage over “normal” public companies in the current tough trading conditions. However, family-controlled corporations also face their own specific challenges. For instance, passing a family company from one generation to the next is a move fraught with emotional and financial problems, as Gascoigne (2007) points out. Supporting this view, Moules (2009) notes that nepotistic appointments inside family firms can hurt corporate performance. In this scenario, a detailed analysis of the relation between family control and firm performance might be useful, especially when the foundations of the Anglo-Saxon model have been called into question (Baer, Guerrera, and Milne, 2009).

The great interest in the family business model among scholars and the importance of family firms throughout the world has motivated abundant theoretical and empirical literature, as highlighted in recent studies (see, e.g., Anderson, Duru, and Reeb, 2009; Villalonga and Amit, 2009; Chen, Chen, Cheng, and Shevlin, 2010). La Porta, Lopez-de-Silanes, and Shleifer

(1999) show that family control is the most widespread form of organizational structure in the world, except in countries with strong protection for minority shareholders. This finding runs contrary to the classic image of the modern corporation, in which ownership is dispersed among minority investors and control is concentrated in the hands of the managers. When theoretically modeling the evolution of family firms, Bhattacharya and Ravikumar (2001) also stress the predominance of family businesses. They argue the importance of family firms in the initial stages of a country's economic development and their still significant role in all developing countries. Additionally, Morck, Wolfenzon, and Yeung (2005) highlight the pervasiveness of family firms in most economies, paying special attention to the concentration of corporate control in the hands of very wealthy families and the rarity of ownership dispersion.

With respect to the predominance of family firms in particular regions of the world, control by a family appears to be common among large US companies (Bhattacharya and Ravikumar, 2001; Anderson and Reeb, 2003a; Gadhoum, Lang, and Young, 2005) as well as among corporations that operate in Western European countries (Franks and Mayer, 2001; Faccio and Lang, 2002; Sraer and Thesmar, 2007). Additionally, several studies document the importance of family firms in the East Asian region (Mok, Lam, and Cheung, 1992; Lam, Mok, Cheung, and Yam, 1994; Claessens, Djankov, and Lang, 2000). Despite the prevalence of family firms in many countries and despite the influence of family owners throughout the world the evidence on the effect of family ownership on corporate performance is still inconclusive.

On the one hand, there is a stream of literature that points out the potential benefits of family control and supports the positive effect of this type of organizational structure on corporate performance. Specifically, several papers find a positive relation between both family control and family ownership, and different measures of corporate performance. In the United States, McConaughy, Walker, Henderson, and Mishra (1998), Anderson and Reeb (2003a), and Villalonga and Amit (2006) empirically show that under particular circumstances family ownership and control have a positive impact on firm performance. In line with these results, Maury (2006), and Barontini and Caprio (2006) find that family-controlled companies perform better than non-family corporations in Western Europe, and Chang and Shin (2007) provide empirical results against the possibility of wealth expropriation of minority shareholders by controlling families in Korean conglomerates. Andres (2008) also confirms that family firms achieve performance levels superior to other types of corporations by using a sample of German listed companies.

On the other hand, several investigations support a negative impact for family control on minority shareholders' wealth, thus contradicting the conclusions reached in the aforementioned studies. For example, Miller, Le Breton-Miller, Lester, and Cannella (2007) conclude that only *lone founder businesses* perform better than other US public corporations, while *true family businesses* do not show superior market valuations.[1] With respect to Western Europe, Cronqvist and Nilsson (2003), and Barth, Gulbrandsen, and Schone (2005) find that family ownership can be detrimental to minority shareholders in Sweden and Norway, respectively. Additionally, Faccio, Lang, and Young (2001) conclude that controlling families in East Asian corporations are in a better position to expropriate wealth from minority shareholders than in Western Europe, thus suggesting that family ownership is not always beneficial to minority shareholders.

In view of this conflicting evidence, our goal in this chapter is to analyze the influence that family ownership exerts on firm value. Specifically, it is our main objective to disentangle whether the unique attributes of family firms allow these types of companies to perform differently as compared to non-family corporations in Western European countries. In addition, we consider the possibility that the different performance of family firms with respect to their non-family counterparts is affected by specific firm-level characteristics, namely the presence of family members on the board of directors and the generation that controls the business. We then investigate the potential interaction between family control (an internal control mechanism) and the legal system in which companies operate (an external control mechanism)

[1] These authors define *lone founder businesses* as those in which an individual is one of the company's founders and is also a manager or a large owner, with no other family members involved; whereas *true family businesses* are those that include multiple family members as major owners or managers.

to ascertain whether both corporate governance mechanisms complement or substitute for each other. Also, we account for the possibility of nonlinearities in the ownership–performance relation, and investigate whether family firms continue to perform differently when these nonlinearities are incorporated into the model.

To achieve these objectives, we first develop two empirical models that allow us to determine whether there is a stronger positive impact of ownership concentration on firm value in the case of family-controlled corporations. Then, two additional models allow us to analyze whether the proposed performance difference of family firms is mainly due to family businesses in which the family actively participates in the company's management and those controlled by the founder generation. We also investigate the substitutability between family control and the external protection of minority shareholders' rights with a fifth empirical model. After which, a quadratic specification allows us to evaluate the different effects of ownership concentration on firm value when a family is controlling the company by accounting for nonlinearities. To test our hypotheses, we use a unique sample of listed companies from Western Europe for which we obtain data of three different types. First, we need information related to the market value of the company to calculate the dependent variable in our models. Second, data on the companies' ownership structure is essential to compute the explanatory variables of interest and to identify family-controlled corporations in the sample. And third, we require the composition of the firms' financial statements to calculate a set of control variables that will enter the right-hand side of the models.

Regarding the estimation method, our choice is motivated by the importance of taking into account two serious problems that arise when studying the impact of the firm's ownership structure on its market valuation (i.e., the unobservable heterogeneity and endogeneity). On the one hand, family firms have several individual characteristics that make them different from other organizational structures. Furthermore, every firm (and especially family businesses) has its own specificity that gives rise to a particular behavior closely linked to the culture of the company, which in family firms is imposed by the owner family (see, e.g., McVey and Draho, 2005). Consequently, the firm's unobservable heterogeneity must be accounted for in the models because it can impact firm value. On the other hand, several studies highlight the potential endogeneity of ownership concentration (see, e.g., Demsetz and Villalonga, 2001), which could seriously affect the relation between ownership and performance. Therefore, we use the panel data methodology to eliminate the unobservable heterogeneity and estimate our models by using the generalized method of moments (GMM) to control for endogeneity.

The empirical analyses performed in this chapter contribute to the existing finance and family business literature in several different ways. First, we provide empirical results on the different impacts of family control on firm value relative to other ownership structures by using a restrictive definition of family firm that excludes from this group of corporations the so-called lone founder businesses. In addition to proposing a restrictive family firm definition, we use different cutoff points to identify companies with a controlling shareholder. Moreover, when comparing family firms to other firm categories, we control for the general blockholder effect to assure the consistency and reliability of our results. Second, we contribute to the ongoing debate about the benefits and costs of family control as compared to other organizational forms by taking into account the possibility that the different performance of family firms is mainly driven by certain types of family-controlled corporations. Third, it is noteworthy that the empirical evidence of the chapter is based on a sample of Western European corporations in which all institutional settings identified in the finance literature are represented. Consequently, we are able to analyze the interrelation between family control and the legal system in which companies operate. Fourth, we investigate whether family control still has a different effect on performance when nonlinearities are accounted for in the model and derive the optimal level of family ownership concentration at which the influence of family control on firm value turns from positive into negative. Furthermore, we propose a quadratic specification that accounts for a curvilinear influence of ownership concentration on performance for both family and non-family corporations. And fifth, the use of the panel data methodology to estimate our models is an additional contribution of the chapter. This methodology allows us to overcome several problems highlighted in prior finance literature (i.e., the unobservable heterogeneity and endogeneity of explanatory variables).

The chapter provides empirical evidence supporting previous finance literature that argues that family control can be beneficial to minority shareholders in certain contexts. Furthermore, we find that the better performance of family firms relative to non-family ones holds when the general blockholder effect is controlled for, which lends credibility to the family business model and indicates that the long-term perspective of family firms is a way to create value. However, according to the provided evidence it appears that the superior performance of family-controlled corporations is primarily due to those in which the family is directly represented on the board of directors and those in which the founder influence is still present. Interestingly, contrary to Maury (2006), we find that the benefits associated with family control are more important in settings in which the law weakly protects minority shareholders, which points to a substitution effect between the internal monitoring exercised by the family and the protection of minority shareholders' rights provided by the law. Finally, the study shows that family firms continue to outperform non-family ones when the nonlinearities between ownership structure and firm performance highlighted in earlier finance literature are accounted for. In addition, we find that the breakpoint at which the ownership–value relation turns from positive to negative is reached at a higher level of ownership concentration in Western European family businesses than in their US counterparts.

II.2. Theory, hypotheses, and empirical models

This section reviews the most relevant literature related to the analyses that we carry out in this chapter, and presents our different hypotheses and the models developed to test them.

II.2.1. Do family firms perform differently as compared to non-family ones?

Earlier studies suggest the importance of ownership concentration as a means to alleviate the agency problems between owners and managers in the modern corporation. This idea points to the existence of a positive impact of ownership concentration on corporate performance as compared to ownership dispersion, which creates free riding problems and hinders the monitoring of managers. In particular, Shleifer and Vishny (1986) confirm a positive relation between ownership concentration and firm value, which implies that the classic owner–manager problem can be in part resolved by the monitoring role of large investors. Consistent with a positive impact of ownership concentration on firm performance, Holderness and Sheehan (1988) conclude that firms with majority shareholders do not perform poorly relative to widely held corporations and show that they survive over time. In favor of a positive relation between ownership concentration and performance, Shleifer and Vishny (1997) indicate that large shareholders address the agency problem between owners and managers because of their greater interest in profit maximization. Moreover, although evidence from around the world suggests that ownership structure influences firm performance in different ways depending on the country and the blockholder identity, concentrated ownership most often has a positive effect on firm value (Denis and McConnell, 2003). In fact, block ownership helps to mitigate agency costs (Chen and Yur-Austin, 2007), thus contributing to value creation.

In the framework of the aforementioned literature, the first objective of this chapter is to empirically analyze whether there is a different impact from ownership concentration on firm value in the case of family firms as compared to other corporations. In this respect, previous theoretical and empirical research proposes several arguments in favor of a stronger positive relation between ownership concentration and corporate performance in family businesses.

First, family owners are more interested in firm survival and they often focus on longer horizons than other categories of large shareholders because they worry about the continuity of their company, which they believe is an asset to bequeath to the next generation. The extended horizons of family firms encourage them to invest in ways that maximize the value of the company, thus benefiting minority shareholders (James, 1999; McVey and Draho, 2005). The sustained presence of family owners and their longer investment horizons relative to managers of widely held corporations are likely to reduce managerial myopia, thus leading to better firm performance (Anderson and Reeb, 2003a). Furthermore, Anderson, Mansi, and Reeb (2003) suggest that the survival concern and the lack of diversification of family owners help to alleviate the agency costs between bondholders and shareholders identified by Jensen and Meckling (1976). Likewise, the long-term presence of family members in the company might be the reason for the higher earnings quality in family firms (Wang, 2006; Ali, Chen, and Radhakrishnan, 2007).

Second, the concern for reputation is likely to entail a significant commitment on the part of family owners, which can in turn lead to positive economic consequences. Prior literature indeed suggests that increased family control fosters greater emotional commitment to the company by family CEOs (Gomez-Mejia, Larraza-Kintana, and Makri, 2003). Family ties and reputation can also limit managerial self-dealing when family members run the company, thus facilitating firm survival (Denis and Denis, 1994). Moreover, a family's reputation may facilitate long-term relationships with other stakeholders, such as customers, suppliers, and capital providers (Anderson and Reeb, 2003a; McVey and Draho, 2005). Specifically, the concern for reputation by family owners allows family firms to have a lower cost of debt financing and to reduce the conflicts of interest between shareholders and bondholders (Anderson, Mansi, and Reeb, 2003). Additionally, the concern for reputation by family firms can also be a possible explanation for the significant association between founding family ownership and higher earnings quality found in US corporations by Wang (2006), and Ali, Chen, and Radhakrishnan (2007). Complementing the empirical evidence in these latter studies, Chen, Chen, and Cheng (2008) find that family firms are more likely to issue bad-news earnings forecasts, which is consistent with controlling families having greater litigation and reputation cost concerns. Similarly, the concern for reputation by family owners is one of the reasons that lead family firms to be less tax aggressive (Chen, Chen, Cheng, and Shevlin, 2010).

Third, agency problems due to the separation of ownership and control (Jensen and Meckling, 1976; Fama and Jensen, 1983) can be resolved in family firms run by members of the owner family (McVey and Draho, 2005). In fact, individual large shareholders usually occupy management positions instead of merely monitoring managers (Holderness and Sheehan, 1988). Furthermore, after confirming that firms with majority owners do not underperform, Denis and Denis (1994) conclude that family management seems to be necessary for concentrated ownership. Additionally, an owner-manager with a significant stake in the company, as in the case of family firms that are managed by members of the family, can be beneficial because of the alignment of interests (Han and Suk, 1998; Lemmon and Lins, 2003). In support of this view, Chen, Chen, and Cheng (2008) include among the unique characteristics of family firms their longer investment horizon, better monitoring of management, and lower information asymmetry between owners and managers. In short, it is possible to state that owner-managers are frequent in family firms and that they can be beneficial due to their superior knowledge of the company and their particular interest in increasing firm value, as compared to outside managers.

Previous empirical studies also investigate the relation between ownership structure and corporate performance by comparing family firms to non-family ones. Nevertheless, the provided results are inconclusive and vary depending on the institutional setting, on the definition of family firm, or on the methods applied.

On the one hand, several studies support a better performance for family firms relative to non-family ones. McConaughy, Walker, Henderson, and Mishra (1998) are among the first to show that family firms outperform non-family ones in terms of efficiency and market valuation in the US context. Along these lines, Anderson and Reeb (2003a) find that companies with continued founding-family presence exhibit significantly better accounting and market performance measures than non-family firms. In line with the empirical evidence from the United States, Maury (2006), and Barontini and Caprio (2006) confirm that family control leads to higher firm valuations and higher profitability in Western European corporations. In a more recent study, Andres (2008) shows that, overall, publicly listed family firms outperform their non-family counterparts in Germany.

On the other hand, there is also evidence that suggests that family firms do not perform better than non-family ones. Miller, Le Breton-Miller, Lester, and Cannella (2007) classify family firms into lone founder businesses and true family businesses, and find that, although US lone founder businesses perform better than other public corporations, true family businesses do not show superior market valuations. In the same vein but adopting a less restrictive definition of family firm, Cronqvist and Nilsson (2003), and Barth, Gulbrandsen, and Schone (2005) conclude that family ownership is negatively related to corporate performance in Sweden and Norway, respectively. The former provides empirical evidence that Swedish family firms are associated with larger agency costs and lower market values relative to other ownership structures, and the latter concludes that family firms are less productive than non-family ones in Norway.

Considering this evidence and consistent with the potential benefits of family firms highlighted in prior studies, we propose the following hypothesis:

H1. *There is a stronger positive relation between ownership concentration and value in family firms than in non-family firms.*

To test this hypothesis, we develop the following model:

$$V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it})OC_{it} + \phi X_{it} + \varepsilon_{it}\,, \tag{1}$$

in which V_{it} is a measure of the firm's value and OC_{it} stands for ownership concentration, as measured by the percentage of votes in the hands of the company's largest shareholder.[2] The X_{it} is a vector of control variables usually considered in the literature on ownership structure. Specifically, vector X_{it} includes a set of firm characteristics, such as size, debt, cash flow, age, and the stake of the second largest shareholder.[3] Regarding the effect of ownership concentration on firm value, we distinguish between family and non-family firms by interacting the ownership variable with a dummy variable, FD_{it}, that equals 1 for family firms, and zero otherwise. Consequently, the effect of ownership concentration on value is α_1 for

[2] For a detailed definition of all variables included in the models, see Appendices II.A, II.B, and II.C.

[3] Prior research on the ownership–performance relation uses similar control variables (see, e.g., Anderson and Reeb, 2003a; Villalonga and Amit, 2006; Maury, 2006; Mura, 2007).

non-family firms (given FD_{it} = 0), and any impact in the family firms' case is measured by $(\alpha_1 + \gamma_1)$.[4] According to Hypothesis 1, we expect that $\hat{\alpha}_1 + \hat{\gamma}_1 > \hat{\alpha}_1$.

However, the impact difference of family ownership concentration on value might only be capturing the benefits of having a large shareholder in the company, as suggested in earlier literature (Shleifer and Vishny, 1986; Holderness and Sheehan, 1988), and not necessarily the family influence in which we are interested. In fact, recent studies that compare family ownership with other organizational forms highlight the importance of controlling for general blockholder effects when making such a comparison.

On the one hand, Maury (2006) includes in the right-hand side of his empirical models a dummy variable that equals one for companies with dispersed ownership to control for firms that have no controlling shareholder at the 10% threshold, the level he uses to identify family firms. On the other hand, Andres (2008) extends his initial model by including dummy variables for different blockholder types to determine whether controlling families indeed contribute to value creation inside the firm in a particular way relative to other blockholder categories. Both authors can therefore assure that their respective family control variables are capturing the specific family effect and not a more general blockholder effect.

Taking into account the importance of controlling for general blockholder effects when comparing family control to other ownership structures and given that our main interest is in the family influence on corporate performance—and not in the beneficial effect associated to other large blockholders in terms of reducing the free-rider problem related to ownership dispersion—, we formulate the second hypothesis of the chapter as follows:

H2. *The stronger positive impact of ownership concentration on value in family firms holds after controlling for the blockholder effect.*

To test this hypothesis, we extend Eq. (1) to:

[4] Appendix II.D provides a summary of the effects of ownership concentration on firm value for family and non-family firms as defined in each model.

$$V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it} + \delta_1 BE_{it}) OC_{it} + \phi X_{it} + \varepsilon_{it} . \quad (2)$$

As can be seen in Eq. (2), we now interact ownership concentration with a new dummy variable—i.e., blockholder effect dummy, BE_{it}, which equals 1 if there is a blockholder in the firm, and zero otherwise—to account for the general blockholder effect. As a result, α_1 measures the influence of ownership concentration on firm value for widely held corporations (because both BE_{it} and FD_{it} = 0), and for non-family firms with a large shareholder the impact of ownership concentration on the dependent variable is captured by $(\alpha_1 + \delta_1)$ (because FD_{it} = 0). For family firms, this impact is measured by $(\alpha_1 + \gamma_1 + \delta_1)$.

II.2.2. Is the performance difference of family firms moderated by firm-level characteristics?

The aforementioned arguments highlight the benefits of ownership concentration as a corporate governance mechanism and indicate that the identity of large shareholders—and, more precisely, the differentiation between family and non-family controlling shareholders—is of great importance in the study of the ownership–performance relation (Holderness and Sheehan, 1988). In this context and based on the potential benefits of family control, the first two hypotheses of the chapter propose a stronger positive relation between ownership concentration and firm value in the case of family firms.

However, the better performance of family-controlled corporations relative to other firm categories is likely to be moderated by specific firm-level characteristics. The differences in corporate performance can be primarily attributed to a subset of family businesses. In their analysis of family firms' corporate disclosure practices, Ali, Chen, and Radhakrishnan (2007) focus on subsamples of family firms that are expected to have agency problems of differing severity, which points to differences within the family business group. Meanwhile, Chen, Chen, and Cheng (2008) suggest that not all family firms are the same.

Regarding the role of family owners in managerial activities, previous studies argue that active and passive family involvement might influence corporate performance differently

(Anderson and Reeb, 2003a; Andres, 2008). This argument is in line with the third potential benefit associated to family control mentioned in Section II.2.1, according to which the reduction of the classic owner–manager agency conflict is most prevalent in family firms where members of the controlling family hold management positions. The convergence of interest effect that characterizes the relation between insider ownership and corporate performance (see, e.g., Morck, Shleifer, and Vishny, 1988; Stulz, 1988; McConnell and Servaes, 1990; Miguel, Pindado, and de la Torre, 2004) also supports this reasoning.

Focusing now on the family business literature, Anderson and Reeb (2003a) conclude that the better performance of family firms that they find in the United States is mainly due to corporations in which either the founder or his descendant serves as the chief executive officer (CEO). When an outsider occupies this position, family firms are not distinguishable from other companies in terms of corporate performance, according to these authors. Maury (2006), and Barontini and Caprio (2006) provide similar findings for Western Europe. The former shows that if a member of the controlling family is CEO, honorary chairman, chairman, or vice chairman of the company, accounting profitability increases significantly with respect to passive family control. With respect to the latter, they find that among the family firms in their sample the worst-performing ones are those in which the family is not present on the board of directors.

In light of these arguments and recent research that confirms the importance of family board representation (Andres, 2008), we go a step further in our analysis by proposing that the higher firm value of family-controlled corporations is to a great extent due to those that have family participation on boards. Consequently, the third hypothesis of the chapter is formulated as follows:

H3. *The stronger positive impact of ownership concentration on value in family firms is mainly due to those firms in which family members serve on the board of directors.*

To test this hypothesis, we propose the following model:

$$V_{it} = \alpha_0 + (\alpha_1 + \lambda_1 BFD_{it} + \beta_1 NBFD_{it} + \delta_1 BE_{it})OC_{it} + \phi X_{it} + \varepsilon_{it}\,. \qquad (3)$$

In this model, the family dummy is replaced with two other dummies. The first one, BFD_{it} (board family dummy), equals 1 for family firms in which family members serve on the board of directors, and zero otherwise. The second one, $NBFD_{it}$ (non-board family dummy), equals 1 for family firms in which no family member serves on the board, and zero otherwise. Consequently, $(\alpha_1 + \lambda_1 + \delta_1)$ measures the effect of ownership concentration on corporate value for family businesses with family presence on the board of directors, and for the remaining family firms this effect is captured by $(\alpha_1 + \beta_1 + \delta_1)$. According to Hypothesis 3, we expect that $(\hat{\alpha}_1 + \hat{\lambda}_1 + \hat{\delta}_1) > (\hat{\alpha}_1 + \hat{\beta}_1 + \hat{\delta}_1)$.

In addition to family involvement in the firm management, the research on family business highlights the importance of firm age, and alternatively the family generation in charge of the company, as a firm-level characteristic that significantly moderates the relation between family control and corporate performance. Morck, Shleifer, and Vishny (1988) suggest that firm age should be taken into account when analyzing the ownership–performance relation. In fact, their empirical evidence supports the idea that the age of the company can play an important role when studying the influence of family ownership on corporate performance and shows that the positive relation between both variables can be attributable to young family corporations.

In short, the argument that young family firms perform better than old ones is because ownership concentration in the latter is in the hands of family members that are either less motivated to effectively monitor managers or less skilled to run the company. The reason to classify family firms according to firm age also relates to recent theoretical and empirical research. Specifically, the inclusion of firm age as a moderating variable in the relation between family ownership concentration and corporate performance is associated with two recently investigated issues, namely the succession decision inside family corporations and the generation of the family controlling or running the firm.

With respect to the first issue, old family firms are more likely to have faced one of the most controversial decisions inside this type of organization, i.e. the succession decision. If succession is not properly planned, generational transfers of control can result in squabbles and tensions among family members (McVey and Draho, 2005), thus having a negative effect on firm value. Consistent with this view, several studies analyze the impact that succession has on corporate performance of family firms and find significant declines in firm performance surrounding the appointment of family managers as opposed to professional managers (see, e.g., Smith and Amoako-Adu, 1999; Pérez-González, 2006; Bennedsen, Nielsen, Pérez-González, and Wolfenzon, 2007; Cucculelli and Micucci, 2008). These findings support the idea that young family firms might outperform old ones, in which it is more likely that control has been inherited. This worse performance by old family firms can be explained by how managers are appointed in these businesses. Management appointments in these companies are affected more by individual family interests than by other corporate objectives (such as value maximization), leading to a decline in firm value post-succession (Smith and Amoako-Adu, 1999). Therefore, taking into account that family succession might lead to a reduction in the market value of the firm and considering that inherited control is more likely in old family corporations, an argument can be made that young family firms are better performers than old ones.

In relation to the second issue, young and old family firms can perform differently as a result of the generation of the family controlling or managing the company. Family firms controlled or run by the founder perform differently as compared to those in the hands of second or later generations (Villalonga and Amit, 2006; Barontini and Caprio, 2006). Young family firms are generally founder-run corporations and old family firms are more likely to be in the hands of second or later generations (Fiss and Zajac, 2004; Blanco-Mazagatos, Quevedo-Puente, and Castrillo, 2007). Additionally, although founders that manage young family firms usually possess unique skills and experience, as well as the managerial talent necessary to run the company, succeeding generations in old family corporations can lack such entrepreneurial talent (Anderson and Reeb, 2003a; McVey and Draho, 2005). In their study on corporate disclosure practices of US corporations, Ali, Chen, and Radhakrishnan (2007) further suggest that family companies with a founder CEO are mainly responsible for family businesses exhibiting better disclosure practices and better disclosure-related economic consequences in comparison with non-family firms. Overall, considering these arguments, the performance difference between family firms run by their founders and those controlled by succeeding generations can be explained by differences in the severity of agency problems across both subsamples of family-controlled corporations.

Therefore, we believe that firm age plays a significant role as a moderating variable in the relation we are investigating. As in the previous hypothesis, our objective is to ascertain whether the better performance by family firms is mainly attributable to a subsample of this particular type of corporation. To achieve this objective, it is important to consider that, in the family business context, classifying companies according to firm age is comparable to differentiating between founder-controlled family businesses and those that have already experienced the complete transition to the next generation (Ward, 1988; Fiss and Zajac, 2004; Fernández and Nieto, 2005; Menéndez-Requejo, 2006). As a consequence, we can argue that family firms in which the founder influence is still present (i.e., young family firms) outperform those in the hands of second or later generations (i.e., old family corporations). In particular, the fourth hypothesis of the chapter is posed as follows:

H4. *The stronger positive impact of ownership concentration on value in family firms is mainly due to those firms controlled by the first generation.*

In this case, we propose the following model:

$$V_{it} = \alpha_0 + (\alpha_1 + \varphi_1 FGFD_{it} + \psi_1 SGFD_{it} + \delta_1 BE_{it}) OC_{it} + \phi X_{it} + \varepsilon_{it} . \qquad (4)$$

Now, as in the previous specification, the family firm sample has been split into two groups. But in this model the splitting criterion is whether the business is controlled either by the first generation (*$FGFD_{it}$*, first-generation family dummy) or by succeeding generations

(*SGFD$_{it}$*, succeeding-generation family dummy).[5] As a consequence, $(\alpha_1 + \varphi_1 + \delta_1)$ is the impact of ownership concentration on value for first generation family firms and $(\alpha_1 + \psi_1 + \delta_1)$ is the impact for family businesses in the hands of second or later generations. Consistent with Hypothesis 4, we expect that $(\hat{\alpha}_1 + \hat{\varphi}_1 + \hat{\delta}_1) > (\hat{\alpha}_1 + \hat{\psi}_1 + \hat{\delta}_1)$.

II.2.3. Does family control substitute for the lack of legal protection for minority shareholders?

An additional challenge for this chapter is to empirically investigate the interrelation between an internal or firm-level governance mechanism (namely, family ownership concentration) and an external or country-level governance mechanism (namely, the legal protection of minority shareholders' rights).

To date, scarce empirical evidence has been provided as to the interaction between internal and external corporate governance mechanisms. Nevertheless, the Law and Finance literature initiated by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) suggests that the level of protection of minority shareholders' rights that exists in a country can significantly influence the ownership structure that prevails in that specific country. In particular, La Porta, Lopez-de-Silanes, Shleifer, and Vishny propose that in the absence of strong minority shareholder protection, investors increase their stake in the firm, thus leading to a higher level of ownership concentration. Consistent with this argument, Kim, Kitsabunnarat-Chatjuthamard, and Nofsinger (2007) find that in Western Europe, countries with weak minority investor laws have larger owners, but the proportion of independent directors on the board is higher in countries with laws that better protect minority shareholders. These findings therefore confirm the importance of analyzing the interrelations between internal and external corporate governance mechanisms.

[5] Based on previous family business literature (Ward, 1988; Fiss and Zajac, 2004; Fernández and Nieto, 2005; Menéndez-Requejo, 2006), we consider that the founder influence is still present in family firms that are less than 30 years old and classify these family businesses as being controlled by the first generation. Family firms with more than 30 years of existence are considered to have experienced the transition to the next generation and to be in the hands of second or later generations.

Furthermore, recent studies highlight the important role that internal control mechanisms can play in countries with weak legal protection for minority investors to affect corporate value (Dahya, Dimitrov, and McConnell, 2008). In line with this idea, other recent finance literature points to a substitution effect between internal and external corporate governance mechanisms by adopting different perspectives (see, e.g., Hu and Izumida, 2008; Sabherwal and Smith, 2008; Attig, Guedhami, and Mishra, 2008; Chen, Chen, and Wei, 2009; Brockman and Unlu, 2009).

Given that our sample comprises companies from the different legal systems identified by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998), it is our objective to examine whether the impact of family ownership concentration on firm value is different depending on the legal environment in which companies operate. Based on Shleifer and Vishny (1997), and La Porta, Lopez-de-Silanes, Shleifer, and Vishny, it is possible to argue that the stronger positive effect of family control on firm value is primarily due to family firms that operate in countries with weak investor protection. The rationale behind this reasoning is that under weak legal protection, blockholder ownership, and hence family control as well, is more necessary to counteract the agency problems between owners and managers. In fact, Lins (2003), by using a sample of corporations from 18 emerging markets, finds that outside blockholders can alleviate the valuation discount associated with managerial agency problems. Moreover, Lins concludes that outside blockholders can act as a substitute for missing institutional governance mechanisms. A survey of research on corporate governance systems by Denis and McConnell (2003) further supports this substitution effect between ownership concentration and minority shareholder protection outside the United States.

More recently, Sabherwal and Smith (2008) find that concentrated shareholders substitute for the monitoring activities of financial analysts in the United States, and as a consequence conclude that regulators need not fear large shareholders, thus confirming a substitution effect between corporate governance mechanisms. In this vein, Attig, Guedhami, and Mishra (2008) argue that the monitoring role of multiple large shareholders is more valuable in East Asia, where the potential for expropriation is more severe and the legal environment is less protective, than it is in Western Europe. Meanwhile, by focusing on emerging markets, Chen, Chen, and Wei (2009) conclude that there is a significant and negative relation between firm-level corporate governance and the cost of equity, especially in countries where the legal protection of investors is relatively weak, which suggests that both governance mechanisms substitute for each other.

Nevertheless, when minority investors are weakly protected, dominant shareholders are in a better position to extract personal and private benefits from control. Thomsen, Pedersen, and Kvist (2006) find that, although blockholder ownership has no significant effect on firm performance in the United States and the United Kingdom, in Continental Europe high blockholder ownership is negatively associated with firm value and accounting profitability. In line with this result, Maury (2006) shows that the better performance of family firms with respect to non-family ones in Western European corporations is due mainly to economies with strong shareholder protection.

Consequently, it is not clear whether family ownership concentration and minority shareholder protection laws complement or substitute for each other. Nevertheless, considering the potential advantages of family control that motivated our first hypothesis, we expect that family ownership concentration will be an internal corporate governance mechanism that effectively substitutes for the lack of external minority investor protection. We thus formulate the following hypothesis:

H5. *There is a stronger positive relation between ownership concentration and value in family firms that operate in countries with weak minority shareholder protection.*

To test this hypothesis, we propose the following model:

$$V_{it} = \alpha_0 + (\alpha_1 + \pi_1 SPFD_{it} + \omega_1 WPFD_{it} + \delta_1 BE_{it}) OC_{it} + \phi X_{it} + \varepsilon_{it}\,, \tag{5}$$

in which $SPFD_{it}$ (strong protection family dummy) and $WPFD_{it}$ (weak protection family dummy) are the two dummies of interest. The former equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise. The latter equals 1 for family firms that operate in institutional settings in which minority investors are weakly protected, and zero otherwise.[6] Therefore, the effect of ownership concentration on value for the first subsample of family firms is measured by $(\alpha_1 + \pi_1 + \delta_1)$, and for the second one it is measured by $(\alpha_1 + \omega_1 + \delta_1)$. Hypothesis 5 thus suggests that $(\hat{\alpha}_1 + \hat{\pi}_1 + \hat{\delta}_1) <$ $(\hat{\alpha}_1 + \hat{\omega}_1 + \hat{\delta}_1)$.

II.2.4. Do family firms continue to outperform when accounting for nonlinearities?

In previous sections, we only posit that ownership concentration (either in the hands of a controlling family or not) and the market value of the firm are linearly related, but several investigations find a quadratic relation between both variables.

The existence of a large shareholder in the company can give rise to an agency problem different from the classic owner–manager conflict, namely the one between controlling owners and minority shareholders (Shleifer and Vishny, 1997). This agency problem arises when the large shareholder uses its controlling position in the company to extract private benefits at the expense of minority shareholders. Several papers find that ownership concentration impacts positively on corporate performance at low levels as a result of the monitoring effect and negatively afterwards as a consequence of the expropriation effect. The quadratic functional form resulting from these two opposing effects can be found in Gedajlovic and Shapiro (1998), Thomsen and Pedersen (2000), and Miguel, Pindado, and de la Torre (2004), among others. It should also be noted that López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal (2007) confirm a non-monotonic relation between firm value and the proportion of ownership in the hands of the largest shareholder in civil law countries within Western Europe. But, contrary to most empirical evidence, these authors find that the relation is U-shaped, so that controlling

[6] Highly protective institutional settings comprise the countries of the sample where the antidirector rights index developed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and subsequently used in Maury (2006) is above the sample median. The antidirector rights score by country is as follows: 5 in the United Kingdom, 4 in Spain, 3 in France, 2 in Greece, 2 in the Netherlands, 2 in Switzerland, 1 in Germany, 3 in Finland, and 3 in Sweden.

shareholders extract private benefits for low levels of ownership concentration up to a point where the costs of expropriation exceed the private benefits.[7]

Besides the empirical evidence showing that ownership concentration is nonlinearly related to corporate performance, the particular ties of family corporations might explain by themselves this nonlinearity in terms of the potential costs of family ownership. The logic behind this reasoning is that the downside of family control is more likely to arise when the family's stake in the firm is too high, increasing corporate performance at first as the family ownership concentration rises and then decreasing after reaching a certain level of family control.

The negative impact of family ownership and control on firm value beyond certain ownership concentration levels is mainly explained by the expropriation of minority shareholders on the part of the owner family. In this vein, Anderson and Reeb (2003a) argue that controlling families have both the incentive and the ability to take actions that benefit themselves at the expense of firm performance when their stake in the company is substantial. They also indicate that diversified investors are more likely to invest according to market value rules that maximize shareholders' wealth, than large concentrated shareholders—such as families that own a substantial fraction of their company—who tend to pursue other objectives different from the value maximization of the firm. In line with this argument, high levels of family ownership can be associated with less efficient investment decisions, leading to a reduction in the market value of the company (Cronqvist and Nilsson, 2003). As put forward by McVey and Draho (2005), family ownership, like blockholder ownership in general, helps to resolve the classic agency conflict between owners and managers, but it also gives rise to a different potential agency problem, namely that between controlling and minority shareholders. This new conflict emerges because the owner family is tempted to make corporate decisions that do not benefit minority investors but that let the family expropriate

[7] Overall, the literature that analyzes the relation between insider ownership and performance also points to a nonmonotonic effect of the former on the latter (see, e.g., Morck, Shleifer, and Vishny, 1988; Holderness, Kroszner, and Sheehan, 1999; Short and Keasey, 1999; Davies, Hillier, and McColgan, 2005; Fahlenbrach and Stulz, 2009) and we must consider that in many family firms family owners also serve as managers of the company.

resources from the corporation. In fact, prior finance literature suggests that large shareholders, such as families with a great stake in the company, will ensure that management serves the family interests instead of pursuing the value maximization of the company (DeAngelo and DeAngelo, 2000). This evidence is in line with the argument that managerial blockholders enjoy, to some extent, private and personal benefits from corporate control (Holderness, 2003).

Additionally, there is previous research closely related to ours that predicts a nonlinear relation between ownership concentration in the hands of the family and corporate performance when comparing family firms to non-family ones. In the United States, Anderson and Reeb (2003a) show that there is a breakpoint beyond which the positive effect of family ownership on corporate performance disappears. According to these authors, the breakpoint is reached when families own about one third of the company. Furthermore, they propose the expropriation effect as a possible explanation for the negative impact of family ownership concentration on corporate performance when the family's stake in the company exceeds one third of the firm's outstanding equity. Maury (2006) also finds a nonlinear relation between family ownership concentration and firm performance in Western Europe and concludes that the positive effect of family control is only present in non-majority controlled corporations. This conclusion is indeed consistent with the view that family risk aversion, which is more likely to arise when the family invests a large proportion of its wealth in the company, can lead the controlling family to pursue value preservation rather than value maximization (McVey and Draho, 2005).

Moreover, the proposition that ownership concentration in the hands of the family helps to resolve the owner–manager agency conflict while at the same time creating conflicts of interests between controlling and minority investors suggests that there might be an optimal level of ownership concentration that balances both concerns (McVey and Draho, 2005). This idea points to a nonlinear relation between the fraction of voting rights owned by the largest shareholder and the market value of the firm.

Consistent with previous studies that find a nonlinear relation between ownership concentration and corporate performance, and considering the potential benefits of family owners that motivates the previous hypotheses of this chapter, we analyze whether family firms continue to outperform non-family corporations when nonlinearities are taken into account. Therefore, we propose that:

H6. *The stronger positive impact of ownership concentration on value in family firms holds after controlling for nonlinearities in the ownership–value relation.*

To test this hypothesis, Eq. (1) is transformed in the following quadratic specification:

$$V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it})OC_{it} + (\alpha_2 + \gamma_2 FD_{it})OC_{it}^2 + \phi X_{it} + \varepsilon_{it}, \tag{6}$$

in which our family dummy interacts with the ownership concentration variable as well as with its square. In this case, we expect that $(\hat{\alpha}_1 + \hat{\gamma}_1) > 0$ and $(\hat{\alpha}_2 + \hat{\gamma}_2) < 0$, to find support for a nonlinear impact of family ownership concentration on firm value. In addition, to confirm Hypothesis 6, two conditions need to be satisfied. First, we need to compare the estimated coefficients on the linear term OC_{it} from Eq. (6) for family and non-family corporations. We should find that the slope coefficient is larger for family firms (i.e., $\hat{\alpha}_1 + \hat{\gamma}_1 > \hat{\alpha}_1$) to corroborate that the positive impact of ownership concentration on value is stronger for family businesses.

Second, on the condition that there are negative and statistically significant estimated coefficients on the quadratic term OC_{it}^2 for both family and non-family firms (i.e., $\hat{\alpha}_2 < 0$ and $\hat{\alpha}_2 + \hat{\gamma}_2 < 0$), we need to compute the level of ownership concentration up to which the market value of family firms is higher than the value of their non-family counterparts. We expect this level to be close to one (i.e., a 100% level of ownership concentration) to confirm that family-controlled corporations still outperform non-family firms when nonlinearities between ownership and performance are accounted for. To compute the level of ownership concentration up to which family firms exhibit superior performance, we proceed as follows. To begin, based on Eq. (6), the effect of ownership concentration and its square on the value of the company depending on whether the firm is family-controlled or not is:

$$V_{it}^{NF} = \alpha_1 OC_{it} + \alpha_2 OC_{it}^2 + \phi X_{it} + \varepsilon_{it} \text{ (because } FD_{it} = 0 \text{ for non-family firms)} \quad (7)$$

and

$$V_{it}^{F} = (\alpha_1 + \gamma_1) OC_{it} + (\alpha_2 + \gamma_2) OC_{it}^2 + \phi X_{it} + \varepsilon_{it} \text{ (because } FD_{it} = 1 \text{ for family firms).} \quad (8)$$

Superscripts *NF* and *F* stand for non-family and family, respectively. We expect that $V_{it}^{F} > V_{it}^{NF}$ to confirm that family businesses outperform other corporations. However, there is a level of ownership concentration at which the market value of family and non-family firms equal each other. That is, $V_{it}^{F} = V_{it}^{NF}$. Now, if we replace the market value of family and non-family firms as a function of ownership concentration using Eqs. (7) and (8), then we obtain the following expression:

$$(\alpha_1 + \gamma_1) OC_{it} + (\alpha_2 + \gamma_2) OC_{it}^2 + \phi X_{it} + \varepsilon_{it} = \alpha_1 OC_{it} + \alpha_2 OC_{it}^2 + \phi X_{it} + \varepsilon_{it} \,. \quad (9)$$

Subsequently, we solve for the level of ownership concentration that equals the value of family and non-family businesses and end up with the following expression:

$$OC_{it}^{V^F = V^{NF}} = \frac{-(\gamma_1)}{(\gamma_2)} \,. \quad (10)$$

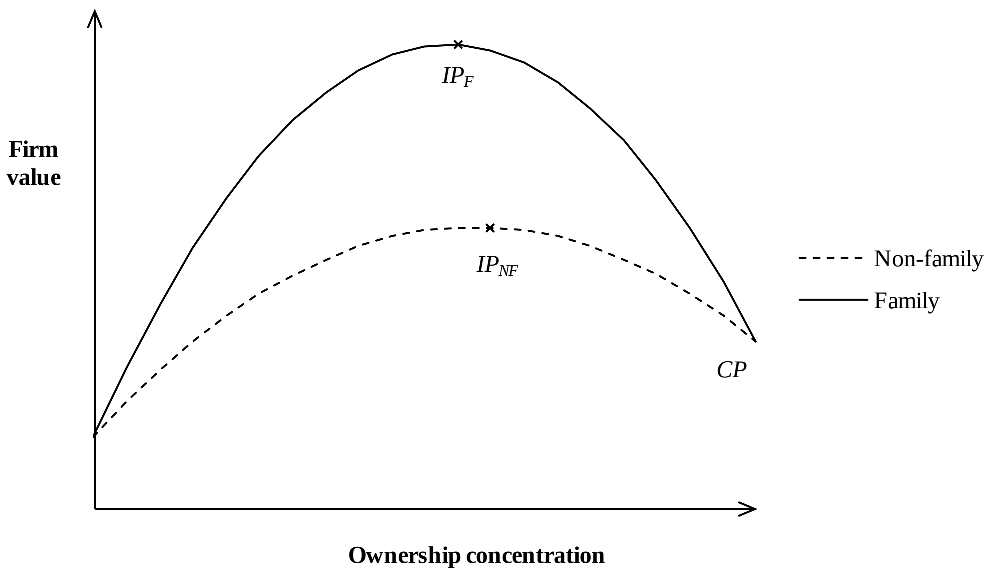
Using Eq. (10) we are able to compute the level of ownership concentration up to which family businesses outperform their non-family counterparts and to empirically test the last hypothesis of the chapter.

In summary, the two conditions needed to find support for Hypothesis 6 are $(\hat{\alpha}_1 + \hat{\gamma}_1) > \hat{\alpha}_1$ and $OC_{it}^{V^F = V^{NF}} = \frac{-(\gamma_1)}{(\gamma_2)}$ close to one (i.e., a 100% level of ownership concentration).

Additionally, following the procedure detailed in Miguel, Pindado, and de la Torre (2004), we derive the optimal level of ownership concentration at which the market value of the company is maximized depending on whether the firm is family-controlled or not. Note that this is the breakpoint at which the relation between ownership concentration and value turns from positive to negative. As a result, we derive that the inflection point at which ownership concentration begins to impact negatively on value is $IP_F = \frac{-(\alpha_1 + \gamma_1)}{2(\alpha_2 + \gamma_2)}$ and $IP_{NF} = \frac{-(\alpha_1)}{2(\alpha_2)}$ for family and non-family firms, respectively. Fig. II.1 describes graphically the relation between ownership concentration and value when comparing family and non-family companies. As can be noted, the slope of the curve is higher for family firms up to the breakpoint. Moreover, the level of ownership concentration at which the market value of family and non-family firms equal each other is close to one (i.e., a 100% level of ownership concentration).

Fig. II.1. Nonlinearities in the ownership–value relation

This figure shows the inverted U-shaped relation between ownership concentration and firm value for family firms in comparison with their non-family counterparts. The graphic representation is based on the quadratic specification in Eq. (6): $V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it})OC_{it} + (\alpha_2 + \gamma_2 FD_{it})OC_{it}^2 + \phi X_{it} + \varepsilon_{it}$. The derivation of the points of interest is based on this model and is explained in detail in Section II.2.4. The $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively. These points represent the level of ownership concentration at which the market value of the company is maximized depending on whether the firm is family-controlled or not. The $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) up to which family firms exhibit superior performance.



II.3. Data, family firm definition, and the estimation method

In this section, we describe the data sources used in the chapter and the procedure followed to identify the family firms in the sample. We also detail the estimation method used in the regression analyses and the reasons for using such method.

II.3.1. Data

To test our hypotheses, we need three different types of firm-level data. First, the number of outstanding shares and its market price are needed to calculate the market value of the company (i.e., the dependent variable of our models). Second, we need the distribution of the firm’s equity among its shareholders to determine the level of ownership concentration and the identity of the largest shareholder to identify family firms (i.e., ownership data to compute our variables of interest). And third, the firms’ financial statements are needed to calculate a set of control variables that enter the right-hand side of the models.

As a consequence, our main source of information is the Amadeus database, specifically the DVD version. It should be noted that each Amadeus DVD provides ownership information for one single year but also financial and market data for a ten-year time series. Consequently, ownership data are extracted from different DVDs to get the time series of the needed variables. In particular, balance sheets, income statements, market data, and ownership structure of corporations are extracted from the Amadeus database for the time period spanning from 1999 to 2006, which are the years for which Amadeus provides comprehensive ownership data.

Additionally, some macroeconomic data (such as the growth of capital goods prices, the rate of interest of short-term debt, and the rate of interest of long-term debt) needed to calculate the variables as explained in Appendices II.A and II.C are extracted from the *Main Economic Indicators* published by the Organisation for Economic Cooperation and Development (OECD), and the level of protection of minority shareholders’ rights in the sample countries (as captured by the antidirector rights index) is obtained from the work by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998).

The main reason for choosing Amadeus as our source of information is that it is a database that contains comprehensive data on market valuation, shareholding, and financial statements of companies that operate in European countries. The Amadeus database is published by the Bureau van Dijk Electronic Publishing (BvDEP), one of the world's leading electronic publishers of business information. BvDEP collects data from over 30 specialized information providers to ensure that Amadeus contains the best available information. Moreover, BvDEP has developed a uniform format that maximizes the availability of financial items across the different countries' filing regulations, and balanced with a realistic representation of company accounts. The format is applied to all companies, thus allowing our cross-country empirical investigation. In addition to containing standardized annual accounts, Amadeus provides a unique ownership data set, which we need to test our hypotheses.[8]

To have a representative sample of listed companies that operate in Western Europe, we focus on countries whose institutional environment is classified in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). We thus ensure that the different legal systems identified by these authors are represented in our sample. In fact, the corporations included in the study operate in a common law country (United Kingdom), French civil law countries (France, Greece, the Netherlands, and Spain), German civil law countries (Germany and Switzerland), and Scandinavian civil law countries (Finland and Sweden). Other countries from Western Europe contemplated in La Porta, Lopez-de-Silanes, Shleifer, and Vishny (namely, Austria, Belgium, Denmark, Ireland, Italy, Portugal, and Norway) are not considered in our analysis because there is not enough data in the Amadeus database to comply with our information requirements.

[8] Several prior studies (see, e.g., Giannetti, 2003; Brounen, de Jong, and Koedijk, 2004; Brounen, de Jong, and Koedijk, 2006; López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal, 2007; von Eije and Megginson, 2008; Jara-Bertin, López-Iturriaga, and López-de-Foronda, 2008) also use the Amadeus database for different purposes.

The type of information needed to test the hypotheses proposed in Section II.2 also restricts the time period of the analyses. Particularly, our study period ranges from 1999 to 2006 because these are the years for which we are able to obtain sufficient ownership data from Amadeus. Also, the method we use imposes an additional restriction to control for unobservable heterogeneity and endogeneity. That is, we need information for at least four consecutive years per company to test for the absence of second-order serial correlation, as Arellano and Bond (1991) point out. We need to test for the absence of second-order serial correlation because our estimation method, the GMM, is based on this assumption. Therefore, our final sample is an unbalanced panel comprising 834 publicly listed companies (4,729 observations) in our time frame. Using an unbalanced panel for a long time period (eight years) is the best way to solve the survivorship bias caused by the fact that some firms might be delisted—for instance, companies that file for bankruptcy, firms that are acquired, etc.—and, consequently, removed from the database.

II.3.2. Family firm definition

We consider a company as being family-controlled if the largest shareholder is a family or a member of the founding family with at least 10%, 20%, or 25% of the company's voting rights. Previous literature extensively uses the 10% and 20% thresholds to identify companies with a controlling shareholder (see, e.g., Faccio and Lang, 2002; Maury, 2006; Dahya, Dimitrov, and McConnell, 2008; King and Santor, 2008). And, the 25% cutoff point is in line with the official definition of a family business that was recently adopted by the European Group of Owner Managed and Family Enterprises (GEEF, by its name in French), and the Board of the Family Business Network.[9] We use all of these levels of family ownership concentration when defining family control and estimate all proposed empirical models for each classification scheme to obtain more robust and reliable results.

[9] The official definition of family business was adopted on March 27, 2008 by the GEEF and on April 7, 2008 by the Board of the Family Business Network.

To identify corporations in which a family is the largest owner, we proceed as follows. First, we identify the firm-year observations in which the largest shareholder is *an individual or a family*. From these companies, in some cases Amadeus asserts that the largest shareholder is a family, but in other cases only the name of an individual is provided. We classify the former as family-controlled as long as the family owns at least 10% (alternatively 20% and 25%) of the company's voting rights. Second, when the largest owner is just an individual, we investigate whether there is another individual with the same family name either on the board of directors or with a stake in the company. In these cases, we can assure that at least two members of the same family are involved in the company and therefore consider it as being family-controlled. This group of corporations, in which the largest owner is an individual, must also fulfill the voting rights criterion to be included in the family firm sample.

By adopting this definition of family firm, we avoid the risk of classifying as family-controlled companies that are owned and run by an entrepreneur (i.e., those named as lone founder businesses by Miller, Le Breton-Miller, Lester, and Cannella, 2007). Moreover, by requiring a certain level of ownership concentration in the hands of the largest shareholder, we assure that the family has effective control of the company. According to Anderson, Duru, and Reeb (2009), it is appropriate to place a minimum ownership threshold to delineate between controlling shareholders and diffuse ownership firms in countries where large control stakes are common (such as Western European countries).

Table II.1 presents the distribution of the whole sample classifying corporations according to their ownership structure and to the legal origin in which they operate. Moreover, the 10%, 20%, and 25% cutoff points are used in Panels A, B, and C, respectively, to make the classification into family and non-family firms. As shown in the table, we differentiate between family and non-family corporations, and we also divide this latter group into firms controlled by an individual, companies with another controlling shareholder (i.e., the state, a financial institution, an industrial company, or other), and widely held corporations.

When we use the 10% cutoff point definition, about 15% of the sample is classified in the family firm group. Although this proportion might seem low in comparison with the evidence provided in previous investigations, it is not surprising given that we are adopting a more restrictive definition. The use of this family firm definition allows us to avoid the risk of considering as family businesses entrepreneur-controlled corporations, which according to recent literature are not true family businesses (Miller, Le Breton-Miller, Lester, and Cannella, 2007). As we move from the 10% to the 20% and 25% cutoff point definitions the proportion of family-controlled firm-year observations decreases to 12% and 10% approximately. Simultaneously, the proportion of widely held firm-year observations rises from about 20% to 54% and 65%, respectively.

Table II.1

Distribution of the sample by legal origin and ownership structure

This table shows the number and percentage of firms and observations by legal origin and ownership structure. Data come from the Amadeus database. The full sample comprises companies for which information is available for at least four consecutive years between 1999 and 2006. The family firm sample includes all family-controlled corporations according to the family firm definition explained in Section II.3.2. Non-family firms have been divided into three groups: companies controlled by an individual, firms controlled by other types of blockholders (different from families and individuals), and widely held corporations. Each panel contains the distribution of the sample using a different ownership concentration threshold. The English-origin setting includes the United Kingdom; the French-origin environment comprises Spain, France, Greece, and the Netherlands; the German-origin region includes firms from Switzerland and Germany; and the Scandinavian-origin setting comprises Finland and Sweden. In the first six columns, percentages are computed over the total number of observations. In the last column, percentages are computed over the total number of firms.

Panel A: 10% cutoff point definition							
Ownership	**Family**	**Non-family**	*Ind.*	*Other block.*	*Wid. held*	**Total**	**Total**
Legal origin	**Obs. (%)**	**Obs. (%)**	*Obs. (%)*	*Obs. (%)*	*Obs. (%)*	**Obs. (%)**	**Firms (%)**
English (UK)	72 (1.52)	1,820 (38.49)	*73 (1.54)*	*1,149 (24.30)*	*598 (12.65)*	1,892 (40.01)	318 (38.13)
French (SP, FR, GR, NL)	378 (7.99)	1,009 (21.34)	*126 (2.67)*	*698 (14.76)*	*185 (3.91)*	1,387 (29.33)	247 (29.62)
German (SWI, GE)	181 (3.83)	637 (13.47)	*150 (3.17)*	*404 (8.54)*	*83 (1.76)*	818 (17.30)	156 (18.70)
Scandinavian (FI, SWE)	67 (1.42)	565 (11.94)	*40 (0.85)*	*424 (8.96)*	*101 (2.13)*	632 (13.36)	113 (13.55)
Total	**698 (14.76)**	**4,031 (85.24)**	*389 (8.23)*	*2,675 (56.56)*	*967 (20.45)*	**4,729 (100)**	**834 (100)**

Table II.1 continues

Table II.1 (*continued*)

Panel B: 20% cutoff point definition							
Ownership	**Family**	**Non-family**	*Ind.*	*Other block.*	*Wid. held*	**Total**	**Total**
Legal origin	**Obs. (%)**	**Obs. (%)**	*Obs. (%)*	*Obs. (%)*	*Obs. (%)*	**Obs. (%)**	**Firms (%)**
English ***(UK)***	44 (0.93)	1,848 (39.08)	*38 (0.80)*	*294 (6.22)*	*1,516 (32.06)*	1,892 (40.01)	318 (38.13)
French ***(SP, FR, GR, NL)***	326 (6.89)	1,061 (22.44)	*105 (2.22)*	*450 (9.52)*	*506 (10.70)*	1,387 (29.33)	247 (29.62)
German ***(SWI, GE)***	145 (3.07)	673 (14.23)	*118 (2.50)*	*301 (6.36)*	*254 (5.37)*	818 (17.30)	156 (18.70)
Scandinavian ***(FI, SWE)***	42 (0.89)	590 (12.47)	*21 (0.44)*	*279 (5.90)*	*290 (6.13)*	632 (13.36)	113 (13.55)
Total	**557 (11.78)**	**4,172 (88.22)**	*282 (5.96)*	*1,324 (28.00)*	*2,566 (54.26)*	**4,729 (100)**	**834 (100)**

Panel C: 25% cutoff point definition							
Ownership	**Family**	**Non-family**	*Ind.*	*Other block.*	*Wid. held*	**Total**	**Total**
Legal origin	**Obs. (%)**	**Obs. (%)**	*Obs. (%)*	*Obs. (%)*	*Obs. (%)*	**Obs. (%)**	**Firms (%)**
English ***(UK)***	31 (0.66)	1,861 (39.35)	*29 (0.61)*	*147 (3.11)*	*1,685 (35.63)*	1,892 (40.01)	318 (38.13)
French ***(SP, FR, GR, NL)***	265 (5.60)	1,122 (23.73)	*95 (2.01)*	*350 (7.40)*	*677 (14.32)*	1,387 (29.33)	247 (29.62)
German ***(SWI, GE)***	138 (2.92)	680 (14.38)	*100 (2.11)*	*249 (5.27)*	*331 (7.00)*	818 (17.30)	156 (18.70)
Scandinavian ***(FI, SWE)***	33 (0.70)	599 (12.66)	*13 (0.27)*	*228 (4.82)*	*358 (7.57)*	632 (13.36)	113 (13.55)
Total	**467 (9.88)**	**4,262 (90.12)**	*237 (5.00)*	*974 (20.60)*	*3,051 (64.52)*	**4,729 (100)**	**834 (100)**

Focusing on the legal origin criterion, we can conclude that the full sample is representative of the different institutional environments that exist in Western Europe (see last column of Table II.1). Of the whole sample, 38.13% of the firms operate in a common law country, the United Kingdom. The civil law countries have been divided into French-, German-, and Scandinavian-origin regions, following La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). The first group includes 29.62% of all corporations (and comprises Spain, France, Greece, and the Netherlands). The second comprises 18.70% of the firms (and operate either in Switzerland or in Germany). And finally, the Scandinavian-origin region (Finland and Sweden) constitutes 13.55% of the whole sample. If we consider the importance of capital markets in each of these regions, it is possible to argue that all legal systems are correctly represented. Table II.2 provides the structure of the sample by number of companies and number of observations per industry, and shows that the sample comprises a broad range of sectors.

Table II.2

Distribution of the sample by industry

This table contains the number and percentage of observations and firms by primary two-digit SIC code. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The industry classification is used to compute the industry-adjusted performance measures. In one of the robustness checks, companies whose primary SIC code is included in the interval 60-69 (i.e., financial companies) are excluded from the regression analyses.

SIC Code	Industry description	No. Obs.	% Obs.	No. Firms	% Firms
01	Agricultural production - crops	7	0.15	1	0.12
02	Agricultural production - livestock	4	0.08	1	0.12
07	Agricultural services	22	0.47	4	0.48
08	Forestry	9	0.19	2	0.24
09	Fishing, hunting, and trapping	13	0.27	3	0.36
10	Metal mining	22	0.47	3	0.36
12	Coal mining	8	0.17	2	0.24
13	Oil and gas extraction	58	1.23	10	1.20
14	Nonmetallic minerals, except fuels	31	0.66	6	0.72
15	General building contractors	205	4.33	33	3.96
16	Heavy construction, except buildings	27	0.57	5	0.60
17	Special trade contractors	21	0.44	4	0.48
20	Food and kindred products	231	4.88	38	4.56
21	Tobacco products	5	0.11	1	0.12
22	Textile mill products	70	1.48	12	1.44
23	Apparel and other textile products	48	1.02	8	0.96
24	Lumber and wood products	43	0.91	7	0.84
25	Furniture and fixture	26	0.55	4	0.48
26	Paper and allied products	102	2.16	18	2.16
27	Printing and publishing	103	2.18	18	2.16
28	Chemicals and allied products	185	3.91	31	3.72
29	Petroleum and coal products	23	0.49	4	0.48
30	Rubber and misc. plastics products	70	1.48	12	1.44
31	Leather and leather products	4	0.08	1	0.12
32	Stone, clay, and glass products	56	1.18	10	1.20

Table II.2 continues

Table II.2 (*continued*)

SIC Code	Industry description	No. Obs.	% Obs.	No. Firms	% Firms
33	Primary metal industries	59	1.25	11	1.32
34	Fabricated metal products	118	2.50	20	2.40
35	Industrial machinery and equipment	207	4.38	35	4.20
36	Electronic and other electronic equipment	184	3.89	32	3.84
37	Transportation equipment	94	1.99	15	1.80
38	Instruments and related products	82	1.73	14	1.68
39	Miscellaneous manufacturing industries	25	0.53	4	0.48
41	Local and interurban passenger transit	40	0.85	7	0.84
42	Trucking and warehousing	45	0.95	8	0.96
43	United States postal service	11	0.23	2	0.24
44	Water transportation	56	1.18	9	1.08
45	Transportation by air	40	0.85	7	0.84
47	Transportation services	25	0.53	4	0.48
48	Communications	59	1.25	11	1.32
49	Electric, gas, and sanitary services	97	2.05	18	2.16
50	Wholesale trade - durable goods	212	4.48	36	4.32
51	Wholesale trade - nondurable goods	135	2.85	23	2.76
52	Building materials and garden supplies	14	0.30	2	0.24
53	General merchandise stores	27	0.57	5	0.60
54	Food stores	14	0.30	2	0.24
55	Automotive dealers and service stations	5	0.11	1	0.12
56	Apparel and accessory stores	28	0.59	6	0.72
58	Eating and drinking places	48	1.02	9	1.08
59	Miscellaneous retail	42	0.89	7	0.84
60	Depository institutions	5	0.11	1	0.12
61	Nondepository credit institutions	70	1.48	13	1.56
63	Insurance carriers	4	0.08	1	0.12
65	Real state	203	4.29	37	4.44
67	Holding and other investment offices	659	13.94	124	14.87
70	Hotels and other lodging places	59	1.25	10	1.20
72	Personal services	5	0.11	4	0.48
73	Business services	333	7.04	63	7.55
75	Auto repair, services and parking	17	0.36	3	0.36
78	Motion pictures	16	0.34	3	0.36
79	Amusement and recreation services	36	0.76	7	0.84
80	Health services	18	0.38	4	0.48
82	Educational services	14	0.30	2	0.24
83	Social services	7	0.15	1	0.12
87	Engineering and management services	203	4.29	35	4.20
	Total	**4,729**	**100**	**834**	**100**

II.3.3. Estimation method

We use the panel data methodology in the estimation of the models. This choice is motivated by the importance of considering two significant problems that arise when studying the impact of a firm's ownership structure on its market valuation, namely the unobservable heterogeneity and endogeneity. First, unlike cross-sectional analysis, panel data allow us to control for individual heterogeneity. This issue is very important to our analysis because every firm, and especially family ones, has its own specificity (Lee, 2004; McVey and Draho, 2005) that gives rise to a particular behavior closely linked to the culture of the company, which in family firms is instilled by the owner family. Chi (2005) further suggests that unobservable firm heterogeneity must be accounted for because it captures corporate culture and management ethics, which could directly affect the explanatory as well as the dependent variables in a value model. According to this author, an additional advantage of using a panel data model is the alleviation of the endogeneity problem caused by omitted variables. Therefore, to eliminate the risk of obtaining biased results, we control for individual heterogeneity by modeling it as an individual effect, η_i, that is then eliminated by taking first differences of the variables. Consequently, the error term in our models, ε_{it}, is split into four different components. The first one is the aforementioned individual or firm-specific effect, η_i. The second one, d_t, measures the temporal or time-specific effect with the corresponding time dummy variables, so that we can control for the effect of macroeconomic variables on firm value. The third component, c_i, consists of country dummy variables included to control for country-specific effects. Finally, v_{it} is the random disturbance.[10]

The second issue that motivates the use of our estimation method is the endogeneity problem. The potential endogeneity of our main explanatory variable (i.e., ownership concentration) might seriously affect the ownership–performance relation. In fact, ownership concentration can have no observable effect on firm performance due to the endogeneity of

[10] We control for industry effects by using an industry-adjusted firm value measure as the dependent variable instead of using industry dummies to avoid adding too many dummy variables to the models. Indeed, prior studies also use industry-adjusted firm value measures when estimating value models to control for industry effects (see, e.g., Chi, 2005; Villalonga and Amit, 2006).

ownership structure (Demsetz, 1983; Demsetz and Lehn, 1985; Demsetz and Villalonga, 2001). Furthermore, as Anderson and Reeb (2003a) indicate, it is not clear whether family ownership improves corporate performance, or if superior performance leads families to maintain their stake in the company. In fact, family owners can more easily anticipate the company's future prospects and then retain ties to only those firms with positive outlooks. Consequently, endogeneity can be a problem that has to be controlled for in our models. So, to avoid this problem we estimate the models by using an instrumental variable estimator, the generalized method of moments (GMM), that allows us to control for problems of endogeneity by using the lags of the explanatory variables as instruments.[11] As Blundell and Bond (1998) suggest when deriving the system estimator used in our analyses, we use all the right-hand side variables in the models lagged from t–2 to t–7 as instruments for the equations in differences, and only one instrument for the equations in levels.

Finally, we check for the potential misspecification of the models. First, we use the Hansen J statistic of over-identifying restrictions to test for the absence of correlation between the instruments and the error term. The instruments used are valid as can be seen in Tables II.7 to II.11. Second, we use the m_2 statistic, developed by Arellano and Bond (1991), to test for the lack of second-order serial correlation in the first-difference residual. There is no problem with second-order serial correlation in the models, as shown in Tables II.7 to II.11 (see m_2). Third, Tables II.7 to II.11 provide good results for the following three Wald tests: z_1 is a test of the joint significance of the reported coefficients; z_2 is a test of the joint significance of the time dummy variables; and z_3 is a test of the joint significance of the country dummy variables.

II.4. Results

This section presents the results of the analyses. We first comment on the main features of the sample by focusing on the statistics of the variables used in the chapter. Then, the results

[11] It is noteworthy that recent literature highlights the importance of accounting for individual heterogeneity and endogeneity when investigating the relation between ownership and performance (see, e.g., Hu and Izumida, 2008; Perrini, Rossi, and Rovetta, 2008; King and Santor, 2008; Fahlenbrach and Stulz, 2009; Benson and Davidson III, 2009).

of several univariate tests allow us to obtain some preliminary findings. We also present and discuss in detail the main results of the chapter based on the evidence from the regression analyses.

II.4.1. Summary statistics

Panels A and B of Table II.3 provide the summary statistics of the variables used in the analyses as well as the correlations between them. It is noteworthy that the average level of ownership concentration in the full sample is 25%, which is relatively high, particularly given that our sample comprises only publicly listed corporations. In terms of size, the firms are large, as can be seen in the table. Another important feature of the sample is that the mean age of the companies is 30 years,[12] which is the cutoff point suggested in previous studies to differentiate between family firms controlled by first and successive generations (Ward, 1988; Fiss and Zajac, 2004; Fernández and Nieto, 2005; Menéndez-Requejo, 2006).

Table II.3

Summary statistics for the full sample

In this table are the medians, means, standard deviations, minimums, and maximums of the variables used in the descriptive and regression analyses, as well as the correlations between them. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The V_{it} is the firm's value, and IAV_{it} is the industry-adjusted market value of the firm, Q_{it} and IAQ_{it} denote Tobin's q and industry-adjusted Tobin's q, respectively. The OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, SOC_{it} is the stake of the second largest shareholder, and AR_{it} is the antidirector rights index developed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). All of the variables are defined in Appendices II.A, II.B, and II.C.

Panel A: Summary statistics

	Median	Mean	Standard deviation	Minimum	Maximum
V_{it}	0.58	0.81	0.83	0.01	11.83
IAV_{it}	-0.02	0.18	0.82	-0.95	11.07
Q_{it}	0.71	0.93	0.82	0.04	11.83
IAQ_{it}	-0.03	0.18	0.80	-0.97	10.95

Table II.3 continues

[12] This age is equivalent to the mean value of 3.40 of the AGE_{it} variable (whose calculation is provided in Appendix II.C), reported in Panel A of Table II.3 (note that $ln(30)=3.40$).

Table II.3 (*continued*)

Panel A: Summary statistics

	Median	Mean	Standard deviation	Minimum	Maximum
OC_{it}	0.18	0.25	0.19	0.00	0.98
$SIZE_{it}$	12.57	12.81	1.89	9.28	19.15
$DEBT_{it}$	0.05	0.08	0.10	0.00	0.82
CF_{it}	0.08	0.07	0.09	-0.91	0.78
AGE_{it}	3.43	3.40	0.99	0.69	6.44
SOC_{it}	0.09	0.11	0.08	0.00	0.50
AR_{it}	3.00	3.40	1.48	1.00	5.00

Panel B: Correlation matrix

	V_{it}	IAV_{it}	Q_{it}	IAQ_{it}	OC_{it}	$SIZE_{it}$	$DEBT_{it}$	CF_{it}	AGE_{it}	SOC_{it}	AR_{it}
V_{it}	1.000										
IAV_{it}	0.987	1.000									
Q_{it}	0.994	0.982	1.000								
IAQ_{it}	0.980	0.994	0.987	1.000							
OC_{it}	-0.013	0.002	0.005	0.017	1.000						
$SIZE_{it}$	-0.054	-0.027	-0.065	-0.035	-0.200	1.000					
$DEBT_{it}$	-0.394	-0.372	-0.372	-0.352	0.108	0.087	1.000				
CF_{it}	0.306	0.316	0.287	0.295	0.019	0.088	-0.234	1.000			
AGE_{it}	-0.174	-0.145	-0.174	-0.149	0.026	0.160	0.070	-0.008	1.000		
SOC_{it}	-0.027	-0.029	-0.018	-0.021	0.190	-0.177	0.032	-0.037	-0.048	1.000	
AR_{it}	0.074	0.054	0.054	0.038	-0.460	0.105	-0.166	-0.004	-0.073	-0.195	1.000

With respect to the correlation between the variables, there are two issues highlighted in Panel B of Table II.3. First, there is a high correlation between all performance variables (i.e., firm value, industry-adjusted firm value, Tobin's *q*, and industry-adjusted Tobin's *q*). Second, the negative correlation between ownership concentration and the antidirector rights index (which is a measure of the protection of minority shareholders' rights) is consistent with the substitutability of internal and external control mechanisms proposed in the fifth hypothesis of the chapter.

II.4.2. Descriptive analysis

As a preliminary analysis of the performance difference between family firms and other firm categories, we perform several difference of means tests for each of our performance variables and for each of the thresholds used to identify the family firms in the sample.

As can be seen in Panel A of Table II.4, family and non-family firms are not statistically different from each other in terms of corporate value (see the *t*-statistic). This result means that there is not a performance difference between family-controlled corporations and their non-family counterparts when the 10% ownership concentration level is used to define our family firm sample (except in the case of the adjusted-*q* measure).

Table II.4

Descriptive analysis of performance variables

This table contains the difference of means tests between family and non-family firms in their corporate performance. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The V_{it} is the firm's value, and IAV_{it} is the industry-adjusted market value of the firm, Q_{it} and IAQ_{it} denote Tobin's *q* and industry-adjusted Tobin's *q*, respectively. These variables are defined in Appendix II.A. The firm-year observations are classified either as family or non-family according to the family firm definition explained in Section II.3.2. In each panel, a different ownership concentration threshold is used in the classification procedure. The *t*-statistic is the difference of means test under the null hypothesis H_0: $mean_{family}$-$mean_{non\text{-}family}$=0. The *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Difference of means tests using the 10% cutoff point				
	All firms	**Family**	**Non-family**	***t*-statistic**
No. Obs.	4,729	698	4,031	
V_{it}	0.81	0.81	0.81	0.03
IAV_{it}	0.18	0.21	0.18	1.01
Q_{it}	0.93	0.96	0.92	1.10
IAQ_{it}	0.18	0.23	0.17	1.97**
Panel B: Difference of means tests using the 20% cutoff point				
	All firms	**Family**	**Non-family**	***t*-statistic**
No. Obs.	4,729	557	4,172	
V_{it}	0.81	0.85	0.80	1.17
IAV_{it}	0.18	0.25	0.17	2.12**
Q_{it}	0.93	1.01	0.92	2.46*
IAQ_{it}	0.18	0.28	0.16	3.28*
Panel C: Difference of means tests using the 25% cutoff point				
	All firms	**Family**	**Non-family**	***t*-statistic**
No. Obs.	4,729	467	4,262	
V_{it}	0.81	0.91	0.80	2.63*
IAV_{it}	0.18	0.31	0.17	3.56*
Q_{it}	0.93	1.06	0.92	3.66*
IAQ_{it}	0.18	0.33	0.16	4.43*

As highlighted in Panels B and C of Table II.4, as we increase the ownership concentration level to classify companies as family-controlled, it appears that family firms significantly outperform the rest of the corporations. Moreover, the better performance of family businesses with respect to non-family corporations is more pronounced when industry-adjusted firm value measures are used in the comparison—see Panel B of Table II.4, in which the difference of means test for industry-adjusted value is statistically significant but it is not for the unadjusted value measure—. This finding supports the importance of accounting for industry effects in the estimation of the empirical models.

Table II.5 presents the difference of means tests for the remaining firm-level characteristics (apart from firm performance) that are considered in the multivariate analyses. Again we perform the comparisons by using the different family firm definitions according to the threshold used in the classification procedure (i.e., 10%, 20%, or 25%). Nevertheless, the results remain unchanged whatever level of ownership concentration is required. There are five interesting findings in this table. First, family firms seem to have a higher level of ownership concentration, which is not surprising given that the non-family firm group includes widely held corporations. Second, in terms of size and debt, family-controlled corporations are statistically smaller and have higher levels of debt. Third, family and non-family firms are not statistically different from each other when it comes to cash flow (only for the 10% cutoff point do family firms exhibit a statistically lower level of cash flow, see the *t*-statistic in Panel A). Fourth, in terms of age we do not find any difference between family and non-family firms. And fifth, it seems that the second largest shareholder in family firms owns a larger stake in the company than the second largest shareholder in non-family businesses.

Table II.5

Descriptive analysis of other firm characteristics

This table shows the difference of means tests between family and non-family firms in their ownership and financial characteristics. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder. These variables are defined in Appendices II.B and II.C. The firm-year observations are classified either as family or non-family according to the family firm definition explained in Section II.3.2. In each panel, a different ownership concentration threshold is used in the classification procedure. The *t*-statistic is the difference of means test under the null hypothesis H_0: $mean_{family}$-$mean_{non\text{-}family}=0$. The *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Difference of means tests using the 10% cutoff point				
	All firms	**Family**	**Non-family**	***t*-statistic**
No. Obs.	4,729	698	4,031	
OC_{it}	0.25	0.37	0.22	19.51*
$SIZE_{it}$	12.81	11.95	12.96	-13.25*
$DEBT_{it}$	0.08	0.09	0.08	4.21*
CF_{it}	0.07	0.07	0.08	-1.49***
AGE_{it}	3.40	3.36	3.41	-1.12
SOC_{it}	0.11	0.14	0.10	12.34*
Panel B: Difference of means tests using the 20% cutoff point				
	All firms	**Family**	**Non-family**	***t*-statistic**
No. Obs.	4,729	557	4,172	
OC_{it}	0.25	0.43	0.22	25.43*
$SIZE_{it}$	12.81	11.87	12.94	-12.72*
$DEBT_{it}$	0.08	0.09	0.08	3.76*
CF_{it}	0.07	0.07	0.07	0.76
AGE_{it}	3.40	3.41	3.40	0.28
SOC_{it}	0.11	0.15	0.10	13.34*
Panel C: Difference of means tests using the 25% cutoff point				
	All firms	**Family**	**Non-family**	***t*-statistic**
No. Obs.	4,729	467	4,262	
OC_{it}	0.25	0.46	0.22	28.43*
$SIZE_{it}$	12.81	11.78	12.92	-12.60*
$DEBT_{it}$	0.08	0.09	0.08	2.87*
CF_{it}	0.07	0.07	0.07	0.09
AGE_{it}	3.40	3.38	3.40	-0.46
SOC_{it}	0.11	0.15	0.10	11.95*

Focusing again on the comparison between family and non-family firms in terms of corporate performance, Table II.6 provides further average values of the firm value measures. We now split the family firm sample into groups according to the firm-level characteristics that lead to Hypotheses 3 and 4, as well as the legal system in which companies operate, which is related to Hypothesis 5. Although no difference of means tests are carried out to compare the mean values, the averages of the performance variables provided are strongly suggestive that family firms that differ in terms of the splitting criteria exhibit different market valuations. As can be seen in the table, family firms in which the family is represented on the board, those controlled by the first generation, and those family businesses operating in countries where minority shareholders are weakly protected are the ones that exhibit higher values and, consequently, always outperform non-family firms.[13]

Table II.6

Performance difference by family firm subsamples

This table contains the means of market value measures for different family firm subsamples and for non-family corporations. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The firm-year observations are classified either as family or non-family according to the family firm definition explained in Section II.3.2. In each panel, a different ownership concentration threshold is used in the classification procedure. Additionally, the family firm sample has been divided according to three different criteria: the presence of family members on the board of directors, the family generation controlling the company, and the level of minority shareholder protection that exists in the country in which the company operates (as captured by the antidirector rights index developed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998). The dummy variables that allow us to divide the family firm sample into different subsamples are defined in Appendix II.B. The V_{it} is the firm's value, and IAV_{it} is the industry-adjusted market value of the firm, Q_{it} and IAQ_{it} denote Tobin's q and industry-adjusted Tobin's q, respectively. These variables are defined in Appendix II.A.

Panel A: 10% cutoff point definition

	Family firms	Family on the board	Family not on board	1st Gen. FFs	2nd Gen. FFs	FFs in high-AR countries	FFs in low-AR countries	Non-FFs
No. Obs.	698	592	106	366	332	119	579	4031
V_{it}	0.81	0.85	0.57	0.98	0.62	0.76	0.82	0.81
IAV_{it}	0.21	0.25	-0.00	0.36	0.05	0.13	0.23	0.18
Q_{it}	0.96	1.01	0.69	1.13	0.78	0.90	0.97	0.92
IAQ_{it}	0.23	0.27	-0.01	0.37	0.08	0.13	0.25	0.17

Panel B: 20% cutoff point definition

	Family firms	Family on the board	Family not on board	1st Gen. FFs	2nd Gen. FFs	FFs in high-AR countries	FFs in low-AR countries	Non-fam. firms
No. Obs.	557	485	72	285	272	71	486	4172
V_{it}	0.85	0.89	0.56	1.06	0.62	0.80	0.85	0.80
IAV_{it}	0.25	0.29	0.01	0.45	0.05	0.17	0.27	0.17
Q_{it}	1.01	1.06	0.70	1.23	0.78	0.95	1.02	0.92
IAQ_{it}	0.28	0.32	0.01	0.47	0.08	0.18	0.30	0.16

Table II.6 continues

[13] Only when we use the 25% cutoff point definition, do family firms that operate in highly protective settings outperform family firms from countries with weak legal protection of minority shareholders' rights.

Table II.6 (*continued*)

Panel C: 25% cutoff point definition								
	Family firms	**Family on the board**	**Family not on board**	**1st Gen. FFs**	**2nd Gen. FFs**	**FFs in high-AR countries**	**FFs in low-AR countries**	**Non-fam. firms**
No. Obs.	467	405	62	252	215	43	424	4262
V_{it}	0.91	0.96	0.52	1.11	0.67	1.06	0.89	0.80
IAV_{it}	0.31	0.36	-0.04	0.49	0.10	0.45	0.30	0.17
Q_{it}	1.06	1.12	0.66	1.27	0.82	1.16	1.05	0.92
IAQ_{it}	0.33	0.39	-0.03	0.51	0.13	0.42	0.32	0.16

Overall, the descriptive analyses in Tables II.4 and II.6 are consistent with the hypotheses proposed in Section II.2. Nonetheless, in these comparisons other important factors that might affect firm value significantly are not being controlled for. Therefore, in the next section we perform numerous regression analyses that control for these effects. Moreover, by using the estimation method previously specified, we are also accounting for important econometrical issues.

II.4.3. Regression results

This section presents the results from estimating the empirical models explained in Section II.2. Hereafter, we will present and comment on the coefficients obtained by using the 10% threshold of ownership concentration to classify corporations as family or non-family. Nevertheless, it should be noted that overall the results obtained by using the 20% and 25% cutoff points are qualitatively the same—the regression results obtained using these alternative cutoff points (20% and 25%) can be seen in the tables presented in Appendix II.E—.

II.4.3.1. Do family firms perform differently as compared to non-family ones?

By estimating Eqs. (1) and (2), we are able to learn whether family firms indeed perform better than other corporations. As can be seen in Table II.7 (column 1), the positive effect of ownership concentration on value is stronger for family firms ($\hat{\alpha}_1 + \hat{\gamma}_1 = 0.56 + 1.41 = 1.97$ is statistically significant, see t_1) than for non-family ones ($\hat{\alpha}_1 = 0.56$). This result means that the positive impact of ownership concentration on firm performance is stronger when the firm's dominant shareholder is a family. Such a finding is consistent with our first hypothesis and is in line with the argument that controlling families effectively monitor managerial activities. Additionally, when controlling families are directly involved in the firm's management they contribute to solving the classic agency conflict between owners and managers. This result corroborates previous empirical evidence from the United States (McConaughy, Walker, Henderson, and Mishra, 1998; Anderson and Reeb, 2003a) and from Western Europe (Maury, 2006; Barontini and Caprio, 2006). The stronger effect of ownership concentration on firm value when the largest shareholder is a family can be explained by the unique traits of family businesses pointed out in Section II.2. Further, it is worth noting that the superior performance of family companies remains after controlling for the potential endogeneity of the main explanatory variables of interest (i.e., ownership concentration as well as its interaction with the family dummy).[14]

However, an important concern of the previous finding is whether the stronger positive impact of ownership concentration on firm value in family firms is driven by the general blockholder effect and not necessarily by the specific family influence. Such concern arises because in the non-family sample we include numerous widely held corporations, in addition to companies with a level of ownership concentration similar to the ones in the family firm sample. To deal with this issue, we extend Eq. (1) as specified in Eq. (2). The estimated coefficients of this model are presented in Table II.7 (column 2) and show that the better performance of family firms is not explained by the aforementioned general blockholder effect. The regression results show that the interaction term between the blockholder effect dummy and the ownership concentration variable is statistically nonsignificant when the 10% level of control is used to define blockholder influence. Regarding the impact of ownership concentration on value for family and non-family firms, we still find a stronger relation between both variables for family businesses ($\hat{\alpha}_1 + \hat{\gamma}_1 + \hat{\delta}_1 = \hat{\alpha}_1 + \hat{\gamma}_1 = 0.81 + 1.46 = 2.27$ is

[14] As highlighted in Section II.3.3, endogeneity is accounted for by using the GMM in the multivariate analyses.

statistically significant, see t_1; $\hat{\delta}_1$ is statistically nonsignificant) than for non-family firms ($\hat{\alpha}_1 = 0.81$). This finding lends support to our second hypothesis and suggests that the potential benefits associated with family control exceed its potential costs regardless of the blockholder effect, thus confirming previous empirical results from Western Europe (Maury, 2006; Andres, 2008).

Table II.7

Family control and firm value

GMM regressions results from:

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

$V_{it} = \alpha_0 + (\alpha_1 + \gamma_1 FD_{it} + \delta_1 BE_{it})OC_{it} + \phi X_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 10% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 10% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: IAV_{it}	**(1)**		**(2)**	
α_0 Constant	0.25	(0.31)	0.07	(0.28)
α_1 OC_{it}	0.56*	(0.12)	0.81**	(0.39)
γ_1 $FD_{it}OC_{it}$	1.41*	(0.27)	1.46*	(0.27)
δ_1 $BE_{it}OC_{it}$			-0.28	(0.31)
ϕ_1 $SIZE_{it}$	0.02	(0.02)	0.04***	(0.02)
ϕ_2 $DEBT_{it}$	-1.49*	(0.14)	-1.71*	(0.14)
ϕ_3 CF_{it}	1.15*	(0.16)	1.32*	(0.11)
ϕ_4 AGE_{it}	-0.08*	(0.02)	-0.09*	(0.02)
ϕ_5 SOC_{it}	-1.60*	(0.19)	-1.66*	(0.21)

Table II.7 continues

Table II.7 (*continued*)

Dep. var.: IAV_{it}	**(1)**	**(2)**
t_1	7.34	4.64
z_1	45.22 (7)	83.18 (8)
z_2	81.64 (5)	71.38 (5)
z_3	13.83 (9)	11.53 (9)
m_1	-0.91	-0.99
m_2	-0.40	-0.34
Hansen	211.71 (182)	239.92 (207)
N	4,729	4,729

In light of these findings, we can conclude that the family business model is particularly successful as compared to other ownership structures. Specifically, the long-term perspective and the steady leadership of controlling families, usually reinforced by the values shared among family members, allow listed family firms to outperform their non-family counterparts in Western Europe. Furthermore, this is true not only for a sample of corporations representative of the global business community, but also for a restrictive family firm definition that does not include the so-called lone founder businesses (Miller, Le Breton-Miller, Lester, and Cannella, 2007) in the family firm group.

II.4.3.2. Is the performance difference of family firms moderated by firm-level characteristics?

Although the previous results suggest that family firms generally outperform non-family ones, it is important to consider the possibility that the superior performance of family businesses, indicated by the estimated coefficients of Eqs. (1) and (2), is mainly attributable to family-controlled corporations that possess certain attributes (Anderson and Reeb, 2003a; Andres, 2008). The estimation of Eqs. (3) and (4) provides empirical evidence for this possibility. Specifically, Hypotheses 3 and 4 propose that family firms in which family members serve on the board of directors and those run by the first generation are expected to be the best performers. The estimated coefficients in Table II.8 confirm both hypotheses. As shown in column 1, the positive impact of ownership concentration on value for family businesses with family representation on the board ($\hat{\alpha}_1 + \hat{\lambda}_1 + \hat{\delta}_1 = \hat{\alpha}_1 + \hat{\lambda}_1 = 0.77 + 1.12 = 1.89$

is statistically significant, see t_1; $\hat{\delta}_1$ is statistically nonsignificant) is stronger than that for the remaining family firms ($\hat{\alpha}_1 + \hat{\beta}_1 + \hat{\delta}_1 = \hat{\alpha}_1 = 0.77$, because both $\hat{\beta}_1$ and $\hat{\delta}_1$ are statistically nonsignificant). This finding thus supports Hypothesis 3 and suggests that the convergence of interest effect proposed in prior studies (see, e.g., Morck, Shleifer, and Vishny, 1988; Stulz, 1988; McConnell and Servaes, 1990; Miguel, Pindado, and de la Torre, 2004) similarly applies to family firms in which family members serve on the board of directors. Furthermore, in line with previous family business papers, we find that active family involvement in the firm management is positive in term of corporate performance (Anderson and Reeb, 2003a; Maury, 2006; Barontini and Caprio, 2006; Andres, 2008).

A reason for this result is the argument that family members should play an active role in the company and serve as stewards of the firm to achieve a better outcome, because such a role will reinforce the family leadership inside the corporation. Moreover, although in some family businesses it might be desirable to have an external chief executive, for instance due to the lack of skilled candidates from inside the controlling family, this situation must be coupled with the presence of family members on the board whose primary objective is to transmit the values of the family firm to the management team. This is particularly important because, to succeed, non-family chief executives must understand that they are working in a family business that possesses its own culture and peculiarities (Byrne, 2009).

Table II.8

Family control and firm value considering specific firm-level characteristics

GMM regressions results from:

$V_{it} = \alpha_0 + (\alpha_1 + \lambda_1 BFD_{it} + \beta_1 NBFD_{it} + \delta_1 BE_{it})OC_{it} + \phi X_{it} + \varepsilon_{it}$ and

$V_{it} = \alpha_0 + (\alpha_1 + \varphi_1 FGFD_{it} + \psi_1 SGFD_{it} + \delta_1 BE_{it})OC_{it} + \phi X_{it} + \varepsilon_{it}$,

in which BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 10% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 10% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1=0$, and t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: IAV_{it}	**(1)**		**(2)**	
α_0 Constant	0.34	(0.22)	-0.05	(0.27)
α_1 OC_{it}	0.77**	(0.36)	0.69***	(0.38)
λ_1 $BFD_{it}OC_{it}$	1.12*	(0.26)		
β_1 $NBFD_{it}OC_{it}$	0.26	(0.16)		
φ_1 $FGFD_{it}OC_{it}$			1.92*	(0.31)
ψ_1 $SGFD_{it}OC_{it}$			0.88*	(0.19)
δ_1 $BE_{it}OC_{it}$	-0.33	(0.29)	-0.14	(0.30)
ϕ_1 $SIZE_{it}$	0.02	(0.02)	0.05**	(0.02)
ϕ_2 $DEBT_{it}$	-1.55*	(0.13)	-1.70*	(0.13)
ϕ_3 CF_{it}	1.23*	(0.11)	1.29*	(0.12)
ϕ_4 AGE_{it}	-0.09*	(0.02)	-0.08*	(0.02)
ϕ_5 SOC_{it}	-1.50*	(0.15)	-1.78*	(0.19)
t_1	4.18			
t_2			5.10	
t_3			3.71	
z_1	46.67 (9)		79.62 (9)	
z_2	85.69 (5)		85.32 (5)	
z_3	13.33 (9)		11.97 (9)	
m_1	-0.91		-1.00	
m_2	-0.32		-0.25	
Hansen	260.01 (225)		259.26 (225)	
N	4,729		4,729	

With respect to a different performance between founder-led family corporations and those in the hands of second and later generations, the results presented in Table II.8 (column 2) indicate that the founder effect plays an important role in Western European family firms. As can be seen in this column, family businesses run by the first generation ($\hat{\alpha}_1 + \hat{\varphi}_1 + \hat{\delta}_1 = \hat{\alpha}_1 + \hat{\varphi}_1 = 0.69 + 1.92 = 2.61$ is statistically significant, see t_2; $\hat{\delta}_1$ is statistically nonsignificant) outperform family firms controlled by second and successive generations ($\hat{\alpha}_1 + \hat{\psi}_1 + \hat{\delta}_1 = \hat{\alpha}_1 + \hat{\psi}_1 = 0.69 + 0.88 = 1.57$ is statistically significant, see t_3; $\hat{\delta}_1$ is statistically nonsignificant). Moreover, both types of family businesses outperform non-family firms, according to the estimated coefficients presented in Table II.8 (column 2). In light of these results, we can assert that the generational effect plays an important moderating role in our investigation, since first-generation family businesses outperform the remaining family firms. This outcome can be due to the fact that family members from the first generation either are more motivated to effectively monitor the managers or bring more valuable managerial skills to the company than family members from succeeding generations. This argument is consistent with previous family business literature that finds that the better performance of family firms relative to non-family ones is to a large extent attributable to young family corporations and founder-led family firms (Anderson and Reeb, 2003a; Villalonga and Amit, 2006; Barontini and Caprio, 2006).

In this respect, founders must be aware that generational changes pose one of the biggest challenges to the survival of the family business. Consequently, they must plan the succession process well in advance. On the one hand, to assure the company's success, family owners should attract professional managers that can help run the corporation post-succession, when technical knowledge can be vital to maintain performance. Moreover, it is important that outside managers are prepared to work in a family company. On the other hand, the presence of members from the owner family in the management team will contribute to the reinforcement of the corporate culture as well as family leadership inside the family firm, thus assuring the survival of the family business across generations.

II.4.3.3. Does family control substitute for the lack of legal protection for minority shareholders?

By estimating Model (5), we evaluate the possible substitution effect between family control and external legal protection of minority shareholders' rights. Table II.9 (column 1) shows the results from estimating this model when we use the 10% threshold to delineate family control. As highlighted in this column, the positive relation between ownership concentration and corporate value is stronger for family firms that operate in countries with weak protection of minority shareholders' rights ($\hat{\alpha}_1 + \hat{\omega}_1 + \hat{\delta}_1 = \hat{\alpha}_1 + \hat{\omega}_1 = 0.95 + 1.48 = 2.43$ is statistically significant, see t_2; $\hat{\delta}_1$ is statistically nonsignificant) than for those that operate in settings in which minority investors are strongly protected ($\hat{\alpha}_1 + \hat{\pi}_1 + \hat{\delta}_1 = \hat{\alpha}_1 + \hat{\pi}_1 = 0.95 + 0.91 = 1.86$ is statistically significant, see t_1; $\hat{\delta}_1$ is statistically nonsignificant). This finding suggests a substitution effect between family control and legal protection for minority investors, as proposed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). However, contrary to Maury (2006), our empirical evidence indicates that family control can act as a mechanism that aligns the interests of controlling and minority shareholders in institutional environments in which minority shareholders' rights are weakly protected.

A substitution effect between both corporate governance mechanisms is also consistent with the argument that the role of both stock markets and markets for corporate control is not as important for insider systems as in outsider systems (Franks, Mayer, Volpin, and Wagner, 2009).[15] This substitution effect might lead to the emergence of family control as an alternative mechanism to reduce the classic agency conflicts that characterize financial markets. Additionally, it is in line with the empirical evidence in Attig, Guedhami, and Mishra (2008), and Sabherwal and Smith (2008). The former finds that multiple large shareholder structures are more important in East Asian firms than in Western European corporations as a means to curb private benefits and reduce information asymmetries, perhaps to sidestep the severe agency problems and weak institutional protection in East Asia. Meanwhile, the latter confirms that there is a substitution effect between large shareholders and the monitoring activities of

[15] Insider systems comprise Continental European countries, which broadly correspond to those where minority shareholders' rights are less strongly protected according to our classification criterion. On the contrary, outsider systems are equivalent to the Anglo-Saxon model (i.e., the United Kingdom in our sample), in which the protection for minority investors is higher.

financial analysts in the United States, and concludes that regulators need not fear concentrated ownership.

II.4.3.4. Do family firms continue to outperform when accounting for nonlinearities?

Next, we investigate whether the ownership–performance nonlinearities also apply to the family business case and attempt to disentangle whether family firms continue to outperform under a quadratic specification by means of estimating the last empirical model proposed in this chapter. In particular, to analyze whether family firms continue to outperform when the ownership–value nonlinearities are taken into account, we extend Eq. (1) and obtain the quadratic specification in Eq. (6). The results of estimating our last model are provided in Table II.9 (column 2). In line with previous investigations (see, e.g., Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Miguel, Pindado, and de la Torre, 2004), the estimated coefficients on ownership concentration and its square are positive and negative, respectively (i.e., $\hat{\alpha}_1 = 1.53 > 0$ and $\hat{\alpha}_2 = -1.22 < 0$). We can therefore conclude that overall the relation between ownership concentration and firm value is nonlinear for non-family firms. This is a noteworthy finding because prior family business studies do not account for the possibility that the ownership–performance nonlinearities might also be present in non-family companies.

Table II.9

Family control and firm value considering the legal environment and nonlinearities

GMM regressions results from:

$V_{it} = \alpha_0 + (\alpha_1 + \pi_1 SPFD_{it} + \omega_1 WPFD_{it} + \delta_1 BE_{it})OC_{it} + \phi X_{it} + \varepsilon_{it}$ and

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

in which $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; BE_{it} equals 1 when there is a large shareholder in the firm at the 10% cutoff point, and zero otherwise; and FD_{it} equals 1 for family firms, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 10% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample.

The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\pi_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\omega_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, and t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; and (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) up to which family firms outperform non-family ones.

Dep. var.: IAV_{it}	**(1)**		**(2)**	
α_0 Constant	0.08	(0.19)	-0.03	(0.26)
α_1 OC_{it}	0.95**	(0.38)	1.53*	(0.25)
γ_1 $FD_{it}OC_{it}$			1.54*	(0.45)
π_1 $SPFD_{it}OC_{it}$	0.91*	(0.13)		
ω_1 $WPFD_{it}OC_{it}$	1.48*	(0.26)		
δ_1 $BE_{it}OC_{it}$	-0.48	(0.31)		
α_2 OC^2_{it}			-1.22*	(0.32)
γ_2 $FD_{it}OC^2_{it}$			-1.53*	(0.59)
ϕ_1 $SIZE_{it}$	0.04**	(0.01)	0.03	(0.02)
ϕ_2 $DEBT_{it}$	-1.66*	(0.14)	-1.65*	(0.12)
ϕ_3 CF_{it}	1.29*	(0.10)	1.28*	(0.16)
ϕ_4 AGE_{it}	-0.09*	(0.02)	-0.08*	(0.02)
ϕ_5 SOC_{it}	-1.47*	(0.17)	-1.54*	(0.19)
IP_{NF}, IP_F, CP			63% 56% 100%	
t_1	4.67			
t_2	5.37			
t_3			6.87	
t_4			-4.85	
z_1	135.90 (9)		55.18 (9)	
z_2	70.97 (5)		70.77 (5)	
z_3	17.15 (9)		16.94 (9)	
m_1	-0.94		-0.94	
m_2	-0.33		-0.41	
Hansen	245.47 (225)		257.01 (225)	
N	4,729		4,729	

Nonetheless, our main interest is in the nonlinear relation between ownership concentration and performance for the family firms' case. As can be seen in Table II.9 (column

2), the linear and quadratic impact of family ownership concentration on firm value are positive and negative, respectively ($\hat{\alpha}_1 + \hat{\gamma}_1 = 1.53 + 1.54 = 3.07$ is statistically significant, see t_3; and $\hat{\alpha}_2 + \hat{\gamma}_2 = -1.22 - 1.53 = -2.75$ is statistically significant, see t_4). In light of this result, we can conclude that a quadratic relation between ownership concentration and corporate performance also applies to the case of family firms, consistent with recent studies (Anderson and Reeb, 2003a; Andres, 2008). This finding suggests that family owners whose stake in the firm exceeds a certain level benefit more from expropriating minority shareholders than from maximizing the market value of the company, thus having a negative effect on firm value.

Nevertheless, before drawing conclusions as to whether family control leads to a better outcome in terms of market valuation as compared to other ownership structures under a nonlinear specification, it is necessary to investigate the differences between family and non-family firms in detail when it comes to ownership–value nonlinearities. To this aim, with the estimated coefficients of Model (6) we first optimally derive the breakpoint at which the relation between ownership concentration and firm value turns from positive to negative for both family and non-family corporations. And second, we calculate the level of ownership concentration up to which family firms exhibit superior performance.

As can be seen at the bottom of Table II.9, the optimal level of ownership concentration that maximizes family business value is 56%. For non-family corporations, the level is 63%. These ownership concentration levels clearly contrast with the inflection point found by Anderson and Reeb (2003a) for US family firms, which is about 30%. The difference between Anderson and Reeb's result and ours suggests that controlling families in Western Europe are encouraged to own a larger stake in the company to maximize corporate value as compared to owner families in the United States. Such a finding is consistent with the higher level of ownership concentration in European corporations with respect to their US counterparts. Additionally, based on the results presented in Table II.9 (column 2), we can conclude that family businesses are associated with higher valuations than non-family ones up to a family stake of 100%, which clearly exceeds the ownership concentration levels that we observe in the vast majority of the sample (see Table II.3). Taking into account these findings, we can conclude that the two conditions needed to confirm Hypothesis 6, which we explained in detail in Section II.2.4, are fulfilled. That is, $(\hat{\alpha}_1+\hat{\gamma}_1)=1.53+1.54=3.07>\hat{\alpha}_1=1.53$ and $OC_{it}^{V^F=V^{NF}}=\frac{-(\hat{\gamma}_1)}{(\hat{\gamma}_2)}=\frac{-(1.54)}{(-1.53)}=1.00$ is close to one. Therefore, the empirical evidence obtained lends support to the last hypothesis of the chapter.

As a consequence, we can conclude that in most cases family control is beneficial to minority shareholders in terms of market valuation and that family firms still exhibit a better performance than other corporations when the ownership–value nonlinearities are taken into consideration. Indeed, the results of our nonlinear specification are in line with the conclusions reached by Villalonga and Amit (2008). These authors conclude that, although controlling families appropriate some of the value created by their companies at the expense of non-family shareholders, non-family investors are still better off investing in a family company, which supports our findings that family firms continue to outperform after controlling for nonlinearities.

With respect to the control variables included in all the models (see Tables II.7 to II.9), we find a positive and significant relation between cash flow and value ($\hat{\phi}_3>0$). The effects of debt, age, and the stake of the second largest shareholder on corporate performance are negative and significant ($\hat{\phi}_2<0$, $\hat{\phi}_4<0$, and $\hat{\phi}_5<0$). And the impact of firm size on value is positive and significant ($\hat{\phi}_1>0$), but only in some of the estimated specifications. A positive association between cash flow and performance can be interpreted in terms of less underinvestment and less risk of bankruptcy because corporations can finance their investment projects internally, as argued by Mura (2007). The negative impact of debt on firm value can be explained by the pecking order theory in Myers and Majluf (1984), and Myers (1984). Regarding the age of the company and the stake of the second largest shareholder, a negative association between both variables and value is in line with the estimated coefficients of the control variables obtained by Anderson and Reeb (2003a). First, these authors find that age has a negative impact on performance, which is consistent with the generational effect hypothesis.

Second, Anderson and Reeb's results point to a negative relation between the shareholdings of unaffiliated blockholders and corporate performance. Similarly, we find that the stake of the second largest investor in the company has a negative effect on value, which might be explained by the risk of collusion between large shareholders to expropriate minority investors' wealth. Finally, the positive effect of firm size on performance that we find in some models is in line with the economies of scale argument. The lack of significance of this control variable in some of the estimated specifications can be due to the fact that the sample we use is comprised of large publicly listed corporations.

As indicated above, we have performed all analyses of the study, including the multivariate tests presented in this section, using different ownership concentration thresholds to delineate family control. For the sake of clarity, Section II.4.3 focuses on the results obtained for the 10% threshold and Tables II.7 to II.9 only present the estimated coefficients by using the 10% cutoff point definition of family firm. However, it should be highlighted that the regression results based on the 20% and 25% cutoff points are qualitatively the same as the ones discussed earlier in this section—the results from the estimations that rely on the 20% and 25% cutoff point definitions are presented in Appendix II.E—. We can thus conclude that all hypotheses formulated in the chapter are also supported when we use the 20% and 25% thresholds of ownership concentration to define family control of corporations.

II.5. Robustness checks

This section presents several robustness tests to check the validity and reliability of the results discussed above. First, to allow for a better comparison with previous empirical studies similar to ours, we re-estimate all models using an alternative measure of the firm's market value (i.e., industry-adjusted Tobin's *q*). And second, we run all regressions again after excluding financial companies from the sample, as done in prior research on the ownership–performance relation, to rule out the possibility that our results are driven by this type of corporation.

The results from the estimation of the models by using the industry-adjusted *q* measure as the dependent variable are provided in Table II.10. This table shows that the hypotheses developed throughout the chapter continue to be confirmed. There are only two minor changes in Table II.10 with respect to the results discussed in the previous section. First, the estimated coefficient on the interaction term between ownership concentration and the blockholder effect dummy (i.e., $\hat{\delta}_1$) is now negative, yet it was statistically nonsignificant before. We included this interaction term in Eqs. (2), (3), (4), and (5) to control for the general blockholder effect. Second, the estimated coefficient on the interaction term between $NBFD_{it}$ (non-board family dummy) and ownership concentration (i.e., $\hat{\beta}_1$) is now positive, although in the previously commented estimation of Eq. (3) it was statistically nonsignificant.

Regardless of these two differences, the positive impact of ownership concentration on value continues to be stronger for family firms than for their non-family counterparts (see column 2 of Table II.10), consistent with Hypothesis 2. Moreover, we find that the stronger positive effect of ownership concentration on performance in family firms is primarily due to those firms in which family members serve on the board and those controlled by the first generation (see columns 3 and 4 of Table II.10), which provides support for Hypotheses 3 and 4. Also, in line with Hypothesis 5, the estimated coefficients of Eq. (5) suggest that there is a stronger positive association between ownership concentration and value in family businesses that operate in countries with weaker minority shareholder protection (see column 5 of Table II.10). In light of these findings, we can conclude that the main results of the chapter are robust to the use of industry-adjusted Tobin's *q* as the dependent variable in our specifications.

Regarding the presence of financial companies in the sample, an important concern is that our findings might be influenced by this type of corporation. Consequently, the six models proposed in Section II.2 are estimated after excluding companies whose primary SIC code is in the interval 60-69. It should be noted that in this case the estimations are based on 658 companies and 3,788 observations. The important issue is that we find support for all hypotheses of the chapter when the aforementioned companies are not included in the regression analyses, as can be seen in Table II.11. As in the previous robustness test, we find two minor differences in the estimated coefficients as compared to the results commented on in Section II.4.3. However, these differences only concern the estimated coefficients of Eqs. (2), (3), (4), and (5). Again, the estimated coefficient on the interaction term between the blockholder effect dummy and the ownership concentration measure (i.e., $\hat{\delta}_1$) is negative. In addition, now the estimated coefficient on the interaction term between $NBFD_{it}$ (non-board family dummy) and ownership concentration (i.e., $\hat{\beta}_1$) is negative. By contrast, in the first estimation of Eq. (3) this coefficient turned out to be statistically nonsignificant.

Overall, we find that the positive relation between ownership concentration and value is stronger for family firms (see column 2 of Table II.11), thus confirming Hypothesis 2. Moreover, in line with Hypothesis 3, family firms with family members serving on the board outperform the rest of the corporations (see column 3 of Table II.11). We also corroborate that the generational effect plays an important role in our investigation and that the better performance of family firms is mainly attributable to those firms in the hands of the first generation (see column 4 of Table II.11), as proposed in Hypothesis 4. Lastly, the positive impact of ownership concentration on value is stronger for family firms that operate in countries where the protection of minority investors' rights is weaker (see column 5 of Table II.11), consistent with Hypothesis 5. As a result, the main findings discussed in the previous section remain unchanged after removing financial companies from the sample, and the hypotheses developed throughout the chapter continue to hold when this type of corporation is not included in the regression analyses.

Although, to save space, Tables II.10 and II.11 only report the estimated coefficients when we use the 10% threshold of ownership concentration to classify companies, it should be noted that we have carried out the two explained robustness checks for each family firm definition (depending on the cutoff point used in the classification procedure). The results of the sensitivity analyses are qualitatively the same when we use the 20% and 25% cutoff points to identify family firms in the sample.[16]

In sum, the results of the robustness checks let us conclude that our empirical findings are highly consistent and reliable. In fact, the results discussed in the previous section hold when we use different levels of ownership concentration to delineate family control (i.e., 10%, 20%, and 25% cutoff points), as indicated at the end of Section II.4.3. And additionally, as shown in this section, we continue to obtain similar empirical evidence when we use an alternative measure of firm value as the dependent variable in the regression analyses and when financial companies are excluded from the sample. Consequently, the results of the robustness checks corroborate our previous findings and lend support to all hypotheses of the chapter.

[16] The regression results obtained using these alternative cutoff points are presented in Appendix II.E.

Table II.10

Family control and firm value: IAQ_{it} as dependent variable

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 10% cutoff point, and zero otherwise. The IAQ_{it} denotes industry-adjusted Tobin's *q*, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 10% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1+\delta_1=0$, t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1+\delta_1=0$, t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\beta_1+\delta_1=0$, t_5 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1+\delta_1=0$, t_6 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1+\delta_1=0$, t_7 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\pi_1+\delta_1=0$, t_8 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\omega_1+\delta_1=0$, and t_9 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; and (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAQ_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	0.13	(0.31)	0.15	(0.30)	0.24	(0.22)	-0.10	(0.29)	-0.01	(0.20)	-0.10	(0.27)
α_1 OC_{it}	0.60*	(0.12)	1.35*	(0.40)	1.16*	(0.39)	1.31*	(0.39)	1.36*	(0.37)	1.61*	(0.25)
γ_1 $FD_{it}OC_{it}$	1.51*	(0.28)	1.72*	(0.27)							2.06*	(0.44)

Table II.10 continues

Table II.10 (*continued*)

Dep. var.: IAQ_{it}	(1)		(2)		(3)		(4)		(5)		(6)	
$\lambda_1\ BFD_{it}OC_{it}$					1.58*	(0.26)						
$\beta_1\ NBFD_{it}OC_{it}$					0.42*	(0.15)						
$\varphi_1\ FGFD_{it}OC_{it}$							2.24*	(0.31)				
$\psi_1\ SGFD_{it}OC_{it}$							0.98*	(0.19)				
$\pi_1\ SPFD_{it}OC_{it}$									0.97*	(0.13)		
$\omega_1\ WPFD_{it}OC_{it}$									1.73*	(0.27)		
$\delta_1\ BE_{it}OC_{it}$			-0.75**	(0.32)	-0.67**	(0.31)	-0.71**	(0.32)	-0.76*	(0.29)		
$\alpha_2\ OC^2_{it}$											-1.43*	(0.34)
$\gamma_2\ FD_{it}OC^2_{it}$											-1.80*	(0.61)
$\phi_1\ SIZE_{it}$	0.02	(0.02)	0.04	(0.02)	0.03***	(0.02)	0.05**	(0.02)	0.05*	(0.02)	0.04**	(0.02)
$\phi_2\ DEBT_{it}$	-1.42*	(0.14)	-1.66*	(0.13)	-1.56*	(0.12)	-1.62*	(0.12)	-1.65*	(0.13)	-1.70*	(0.11)
$\phi_3\ CF_{it}$	0.97*	(0.17)	0.95*	(0.15)	1.10*	(0.13)	0.94*	(0.14)	1.10*	(0.12)	0.77*	(0.17)
$\phi_4\ AGE_{it}$	-0.09*	(0.02)	-0.11*	(0.02)	-0.10*	(0.02)	-0.09*	(0.02)	-0.11*	(0.01)	-0.08*	(0.02)
$\phi_5\ SOC_{it}$	-1.23*	(0.19)	-1.58*	(0.18)	-1.61*	(0.16)	-1.71*	(0.17)	-1.50*	(0.16)	-1.70*	(0.18)
IP_{NF}, IP_F, CP (%)											57 57	114
t_1	7.76										8.44	
t_2			8.40									
t_3					8.02							
t_4					6.16							
t_5							9.06					
t_6							7.92					
t_7									13.57			
t_8									8.71			
t_9											-5.64	
z_1	35.98 (7)		66.47 (8)		66.05 (9)		63.28 (9)		236.44 (9)		50.79 (9)	
z_2	86.38 (5)		92.98 (5)		121.02 (5)		128.16 (5)		94.16 (5)		167.54 (5)	
z_3	13.76 (9)		10.46 (9)		11.00 (9)		10.52 (9)		15.31 (9)		11.19 (9)	
m_1	-0.83		-0.88		-0.92		-0.91		-0.91		-0.85	
m_2	-0.58		-0.56		-0.54		-0.46		-0.53		-0.75	
Hansen	214.73 (182)		246.62 (207)		274.29 (225)		268.53 (225)		254.15 (225)		269.18 (225)	
N	4,729		4,729		4,729		4,729		4,729		4,729	

Table II.11

Family control and firm value: Excluding financial companies

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 10% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 10% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 658 nonfinancial listed companies (3,788 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1+\delta_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1+\delta_1=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\beta_1+\delta_1=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1+\delta_1=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1+\delta_1=0$, t_7 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\pi_1+\delta_1=0$, t_8 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\omega_1+\delta_1=0$, and t_9 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	-0.07	(0.34)	-0.43	(0.33)	-0.40	(0.29)	-0.50***	(0.28)	-0.50**	(0.21)	-0.31	(0.26)
α_1 OC_{it}	0.40*	(0.13)	1.31*	(0.45)	1.42*	(0.44)	1.45*	(0.42)	1.48*	(0.41)	1.57*	(0.29)
γ_1 $FD_{it}OC_{it}$	1.66*	(0.29)	1.75*	(0.28)							1.72*	(0.42)

Table II.11 continues

Table II.11 (*continued*)

Dep. var.: IAV_{it}	(1)	(2)	(3)	(4)	(5)	(6)
$\lambda_1\ BFD_{it}OC_{it}$			1.49* (0.27)			
$\beta_1\ NBFD_{it}OC_{it}$			-0.51*** (0.29)			
$\varphi_1\ FGFD_{it}OC_{it}$				2.08* (0.29)		
$\psi_1\ SGFD_{it}OC_{it}$				1.02* (0.15)		
$\pi_1\ SPFD_{it}OC_{it}$					1.12* (0.14)	
$\omega_1\ WPFD_{it}OC_{it}$					1.97* (0.29)	
$\delta_1\ BE_{it}OC_{it}$		-0.83** (0.37)	-0.87** (0.35)	-0.95* (0.34)	-0.99* (0.33)	
$\alpha_2\ OC^2_{it}$						-1.65* (0.35)
$\gamma_2\ FD_{it}OC^2_{it}$						-1.00*** (0.55)
$\phi_1\ SIZE_{it}$	0.05*** (0.03)	0.08* (0.03)	0.07* (0.02)	0.08* (0.02)	0.09* (0.02)	0.06* (0.02)
$\phi_2\ DEBT_{it}$	-1.88* (0.17)	-2.14* (0.16)	-2.09* (0.16)	-2.05* (0.15)	-2.15* (0.16)	-2.23* (0.16)
$\phi_3\ CF_{it}$	1.16* (0.18)	1.10* (0.15)	1.12* (0.14)	1.07* (0.14)	1.21* (0.13)	1.35* (0.16)
$\phi_4\ AGE_{it}$	-0.09* (0.02)	-0.09* (0.02)	-0.09* (0.02)	-0.08* (0.02)	-0.10* (0.02)	-0.08* (0.02)
$\phi_5\ SOC_{it}$	-1.80* (0.25)	-1.87* (0.23)	-1.71* (0.22)	-2.01* (0.21)	-1.92* (0.19)	-1.90* (0.20)
IP_{NF}, IP_F, CP (%)						48 62 172
t_1	7.41					7.76
t_2		7.89				
t_3			7.57			
t_4			0.18			
t_5				9.30		
t_6				10.13		
t_7					12.18	
t_8					9.15	
t_9						-5.02
z_1	41.88 (7)	50.72 (8)	44.35 (9)	59.39 (9)	144.91 (9)	47.61 (9)
z_2	55.47 (5)	60.53 (5)	67.69 (5)	71.58 (5)	83.40 (5)	74.54 (5)
z_3	11.45 (9)	12.94 (9)	13.55 (9)	18.14 (9)	13.52 (9)	13.22 (9)
m_1	-0.91	-0.92	-0.89	-0.93	-0.96	-1.00
m_2	-0.56	-0.46	-0.47	-0.37	-0.45	-0.47
Hansen	200.08 (182)	215.62 (207)	227.34 (222)	224.10 (225)	229.59 (225)	227.44 (225)
N	3,788	3,788	3,788	3,788	3,788	3,788

II.6. Conclusions

In this chapter, we examine how family control affects the market value of a firm in an effort to shed light on the issue of whether family firms are really superior performers as compared to non-family corporations. To this end, the analysis of the relation between family ownership concentration and firm value proceeds in four steps. First, we estimate two value models that allow us to study whether ownership concentration has a different influence on performance when there is a controlling family in the company, even after accounting for the general blockholder effect. Second, the possibility that the performance difference of family businesses is moderated by specific firm-level characteristics, such as an active family involvement in management and the generation controlling the company, is investigated. Third, we propose that family control and the external legal protection of minority shareholders can substitute for each other. And finally, we develop a quadratic model that enables us to account for the potential costs of family control when the family stake in the firm exceeds a certain level, and to analyze whether family firms still outperform others when the ownership–value nonlinearities are taken into consideration.

This chapter shows that ownership concentration has a stronger positive effect on firm value in family firms than in non-family firms. The reasons for this finding are the potential benefits associated with family owners, such as their long-term horizons and their reputation concerns. These characteristics along with a better knowledge of the company are likely to induce family owners to invest in accordance with value maximization rules. However, although family businesses generally outperform, it is family firms with family members on the board of directors and those controlled by the first generation that exhibit superior market valuations. In regard to the institutional environment in which companies operate, family control appears to be particularly beneficial in countries with weak legal protection for minority investors, which contradicts the empirical evidence in prior research. This is an interesting finding because it suggests that family control can substitute for the lack of external protection of minority shareholders' rights. Also, the analyses show that the ownership–value relation in the particular case of family firms is nonlinear, which indicates that beyond a certain ownership concentration level family control entails some potential disadvantages. Nevertheless, the fact that the relation between ownership concentration and firm value in non-family corporations also follows an inverted U-shape lets us conclude that family firms still outperform under this functional form. Furthermore, Western European family owners begin to expropriate at higher levels of ownership concentration than their US counterparts, according to our empirical evidence.

In sum, we can assert that family firms generally outperform non-family corporations and, as a result, family ownership can be beneficial to minority shareholders. A likely explanation for this finding are the unique traits associated to family firms, such as their long-term perspective, and the existence of a shared culture inside the company that is instilled by the controlling family and is reinforced by the steady leadership of family owners. Further, the empirical evidence provided in the chapter is especially noteworthy in a context in which the Anglo-Saxon model of ownership structure and the incentives that drive corporate decision making in widely held corporations have been called into question.

In light of these findings, we can conclude that family firms, due to their own peculiarities, are in a good position to play a leading role at any stage of the economic cycle, and in particular, in a downturn caused to a great extent by short-termism in financial markets. Indeed, given that family businesses account for a high percentage of the gross domestic product (GDP) in all economies and that they represent a large proportion of the private sector employment all over the world, governments and regulators should promote the creation and development of family firms as a way to foster a country’s economic growth.

Additionally, the results of the present chapter have important implications for family firms themselves. On the one hand, our findings highlight the importance of family presence on the board of directors in order to increase the value of the company. In fact, the presence of family members on the board will allow the family to transmit its values to the management team and will reinforce the family business culture, which can constitute an important source of competitive advantage. Moreover, an active family involvement in the company will contribute to the dissemination of the corporate culture throughout the organization. On the other hand, the chapter further indicates that generational changes pose one of the biggest challenges to the success of the family firm, as generally accepted among family business experts. However, those family firms that are able to plan the transition in advance and to place the business success above personal family interests are likely to strengthen the company's outcome. To achieve this goal, founders must avoid nepotistic appointments and need to resolve the possible conflicts that might arise during the transition of the company from one generation to the next efficiently.

Appendix II.A

Definition of performance variables

II.A.1. Firm value

$$V_{it} = MVE_{it} / K_{it} , \tag{A1}$$

where MVE_{it} and K_{it} denote the market value of equity and the replacement value of total assets, respectively. The replacement value of total assets is obtained as:

$$K_{it} = RF_{it} + (TA_{it} - BF_{it}) , \tag{A2}$$

where RF_{it} is the replacement value of tangible fixed assets, TA_{it} the book value of total assets, and BF_{it} the book value of tangible fixed assets. The latter two have been obtained from the firm's balance sheet and the first one has been calculated according to the proposal by Perfect and Wiles (1994) as:

$$RF_{it} = RF_{it-1}\left[\frac{1+\phi_t}{1+\delta_{it}}\right] + I_{it} , \tag{A3}$$

for $t > t_0$ and $RF_{it_0} = BF_{it_0}$, where t_0 is the first year of the chosen period, in our case 1999. On the other hand, $\delta_{it} = BD_{it} / BF_{it}$ and $\phi_t = (GCGP_t - GCGP_{t-1}) / GCGP_{t-1}$, where BD_{it} is the book depreciation expense of the firm in year t and $GCGP_t$ is the growth of capital goods prices extracted from the *Main Economic Indicators*, published by the Organisation for Economic Cooperation and Development (OECD).

II.A.2. Industry-adjusted firm value

The IAV_{it} is calculated by subtracting the industry median V from the firm's V_{it}. Industry medians are computed at the most precise SIC level in which there is a minimum of five companies.

II.A.3. Tobin's q

$$Q_{it} = (MVE_{it} + MVD_{it}) / K_{it} , \tag{A4}$$

where $MVD_{it} = MVLTD_{it} + BVSTD_{it}$ is the market value of debt. For an explanation of the $MVLTD_{it}$ and $BVSTD_{it}$ variables, see Appendix II.C.

II.A.4. Industry-adjusted Tobin's q

The IAQ_{it} is calculated by subtracting the industry median Q from the firm's Q_{it}. Industry medians are computed at the most precise SIC level in which there is a minimum of five companies.

Appendix II.B

Definition of ownership structure variables

II.B.1. Ownership concentration

The OC_{it} is the percentage of votes held by the largest shareholder of the company.

II.B.2. Family dummy

The FD_{it} is a dummy variable that equals 1 if the largest shareholder is an individual or a family with at least 10%, 20%, or 25% of the votes (we use three different family firm definitions depending on the threshold used to define family control). Additionally, when the largest shareholder is an individual, for the company to be considered family-controlled, we require that another individual with the same family name either serves on the board of directors or has a stake in the firm. Otherwise, the variable takes the value of zero.

II.B.3. Blockholder effect dummy

The BE_{it} is a dummy variable that equals 1 if there is a shareholder in the firm with at least 10%, 20%, or 25% of the votes (depending on the family firm definition used), and zero otherwise.

II.B.4. Board family dummy

The BFD_{it} is a dummy variable that equals 1 for family firms in which at least one member of the controlling family serves on the board of directors, and zero otherwise.

II.B.5. Non-board family dummy

The $NBFD_{it}$ is a dummy variable that equals 1 for family firms in which no family member serves on the board of directors, and zero otherwise.

II.B.6. First-generation family dummy

The $FGFD_{it}$ is a dummy variable that equals 1 for family firms in which the founder effect is still present, and zero otherwise. Based on previous family business literature (Ward, 1988; Fiss and Zajac, 2004; Fernández and Nieto, 2005; Menéndez-Requejo, 2006), we consider that the founder effect is still present in family firms that are less than 30 years old.

II.B.7. Succeeding-generation family dummy

The $SGFD_{it}$ is a dummy variable that equals 1 for family firms in which the founder effect is no longer present (i.e., those that are more than 30 years old), and zero otherwise.

II.B.8. Strong-protection family dummy

The $SPFD_{it}$ is a dummy variable that equals 1 for family firms that operate in countries with an antidirector rights index above the sample median (i.e., those in which minority shareholders' rights are more strongly protected), and zero otherwise.

II.B.9. Weak-protection family dummy

The $WPFD_{it}$ is a dummy variable that equals 1 for family firms that operate in countries with an antidirector rights index equal to or below the sample median (i.e., those in which minority shareholders' rights are less strongly protected), and zero otherwise.

Appendix II.C

Definition of control variables

II.C.1. Size

$$SIZE_{it} = Ln(K_{it}), \tag{A5}$$

where K_{it} is the replacement value of total assets computed as explained in Appendix II.A.

II.C.2. Debt ratio

$$DEBT_{it} = \frac{MVLTD_{it}}{BVSTD_{it} + MVLTD_{it} + MVE_{it}}, \tag{A6}$$

where $BVSTD_{it}$ is the book value of short-term debt and $MVLTD_{it}$ is the market value of long-term debt obtained from the following formula:

$$MVLTD_{it} = \left[\frac{1+l_{it}}{1+i_l}\right] BVLTD_{it}, \tag{A7}$$

where $BVLTD_{it}$ is the book value of the long-term debt, i_l is the rate of interest of the long-term debt reported in the OECD-*Main Economic Indicators*, and l_{it} is the average cost of long-term debt that is defined as:

$$l_{it} = \frac{IPLTD_{it}}{BVLTD_{it}}, \tag{A8}$$

where $IPLTD_{it}$ is the interest payable on the long-term debt, which has been obtained by distributing the interest payable between the short- and long-term debt depending on the interest rates. That is:

$$IPLTD_{it} = \frac{i_l BVLTD_{it}}{i_s BVSTD_{it} + i_l BVLTD_{it}} IP_{it}, \tag{A9}$$

where IP_{it} is the interest payable and i_s is the rate of interest of the short-term debt, also reported in the OECD-*Main Economic Indicators*.

II.C.3. Cash flow

$$CF_{it} = (NP_{it} + BD_{it}) / K_{it}, \quad \text{(A10)}$$

where NP_{it} and BD_{it} denote the net profit and the book depreciation expense of the firm corresponding to year t, respectively.

II.C.4. Age

$$AGE_{it} = Ln(YEAR_{it} - INC_i), \quad \text{(A11)}$$

where $YEAR_{it}$ is the corresponding period of time and INC_i is the date of incorporation of the company.

II.C.5. Stake of the second largest shareholder

The SOC_{it} is the percentage of votes held by the second largest shareholder of the firm.

II.C.6. Antidirector rights

The AR_{it} is the antidirector rights index obtained from La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998). The antidirector rights index is a quantitative measure of investor protection that exists in each country.

Appendix II.D

Summary of coefficients of interest in the value models

II.D.1. Effect of ownership concentration on firm value

This appendix presents a summary of the coefficients that capture the effect of ownership concentration on performance for each model and type of corporation. The sums of coefficients in bold are those for which a linear restriction test is performed. The *t*-statistics of the corresponding linear restriction test are reported in the tables in which the regression results are shown.

Model	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Subsample						
Non-family firms	α_1					α_1 & α_2
Widely held		α_1	α_1	α_1	α_1	
Non-family large owner		$\alpha_1+\delta_1$	$\alpha_1+\delta_1$	$\alpha_1+\delta_1$	$\alpha_1+\delta_1$	

Appendix II.D.1 continues

II.D.1. Effect of ownership concentration on firm value (*continued*)

Model	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Subsample						
Family firms	$\alpha_1+\gamma_1$	$\alpha_1+\gamma_1+\delta_1$				$\alpha_1+\gamma_1$ & $\alpha_2+\gamma_2$
Family presence on the board			$\alpha_1+\lambda_1+\delta_1$			
No family presence on the board			$\alpha_1+\beta_1+\delta_1$			
First generation				$\alpha_1+\varphi_1+\delta_1$		
Succeeding generations				$\alpha_1+\psi_1+\delta_1$		
Strong protection setting					$\alpha_1+\pi_1+\delta_1$	
Weak protection setting					$\alpha_1+\omega_1+\delta_1$	

Appendix II.E. Additional robustness checks

Table II.E.1. Family control and firm value: Baseline specification (20% cutoff point definition)

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 20% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 20% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\gamma_1+\delta_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1+\delta_1=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\delta_1=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1+\delta_1=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1+\delta_1=0$, t_7 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\pi_1+\delta_1=0$, t_8 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\omega_1+\delta_1=0$, and t_9 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; and (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	0.02	(0.27)	0.18	(0.29)	0.31	(0.22)	-0.20	(0.28)	-0.33	(0.22)	-0.06	(0.26)
α_1 OC_{it}	0.50*	(0.13)	-0.34	(0.31)	-0.82*	(0.24)	-0.49***	(0.29)	-0.20	(0.19)	1.41*	(0.24)
γ_1 $FD_{it}OC_{it}$	1.60*	(0.27)	1.37*	(0.26)							2.41*	(0.43)

Table II.E.1 continues

Table II.E.1. Family control and firm value: Baseline specification (20% cutoff point definition) (*continued*)

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
λ_1 $BFD_{it}OC_{it}$					1.45*	(0.27)						
β_1 $NBFD_{it}OC_{it}$					-0.01	(0.14)						
φ_1 $FGFD_{it}OC_{it}$							1.67*	(0.29)				
ψ_1 $SGFD_{it}OC_{it}$							0.78*	(0.18)				
π_1 $SPFD_{it}OC_{it}$									0.71***	(0.42)		
ω_1 $WPFD_{it}OC_{it}$									1.61*	(0.26)		
δ_1 $BE_{it}OC_{it}$			0.66*	(0.24)	0.98*	(0.21)	0.83*	(0.24)	0.57*	(0.16)		
α_2 OC^2_{it}											-1.22*	(0.32)
γ_2 $FD_{it}OC^2_{it}$											-2.50*	(0.60)
ϕ_1 $SIZE_{it}$	0.04**	(0.02)	0.03	(0.02)	0.03	(0.02)	0.06*	(0.02)	0.08*	(0.02)	0.05**	(0.02)
ϕ_2 $DEBT_{it}$	-1.59*	(0.14)	-1.70*	(0.13)	-1.50*	(0.13)	-1.61*	(0.13)	-1.81*	(0.13)	-1.90*	(0.12)
ϕ_3 CF_{it}	1.24*	(0.16)	1.14*	(0.19)	1.37*	(0.15)	1.10*	(0.18)	1.33*	(0.11)	1.16*	(0.15)
ϕ_4 AGE_{it}	-0.10*	(0.02)	-0.08*	(0.02)	-0.08*	(0.02)	-0.07*	(0.02)	-0.10*	(0.01)	-0.08*	(0.02)
ϕ_5 SOC_{it}	-1.49*	(0.17)	-1.55*	(0.19)	-1.56*	(0.15)	-1.56*	(0.20)	-1.66*	(0.20)	-1.89*	(0.18)
IP_{NF}, IP_F, CP											58% 51% 96%	
t_1	8.31										8.96	
t_2			6.01									
t_3					6.21							
t_4					1.56							
t_5							6.47					
t_6							5.99					
t_7									2.49			
t_8									7.79			
t_9											-6.67	
z_1	49.87 (7)		49.40 (8)		51.55 (9)		33.67 (9)		223.18 (9)		65.81 (9)	
z_2	73.15 (5)		76.46 (5)		116.17 (5)		118.01 (5)		93.41 (5)		123.43 (5)	
z_3	12.55 (9)		12.97 (9)		15.97 (9)		13.43 (9)		13.75 (9)		13.97 (9)	
m_1	-0.95		-0.93		-0.99		-0.92		-1.00		-1.01	
m_2	-0.35		-0.39		-0.31		-0.30		-0.38		-0.52	
Hansen	214.96 (182)		226.35 (207)		246.38 (225)		255.50 (225)		247.92 (223)		258.46 (225)	
N	4,729		4,729		4,729		4,729		4,729		4,729	

Table II.E.2. Family control and firm value: Baseline specification (25% cutoff point definition)

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 25% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 25% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\pi_1=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\omega_1=0$, and t_7 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; and (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	0.30	(0.29)	0.47***	(0.29)	0.23	(0.17)	0.59**	(0.28)	0.36	(0.26)	-0.02	(0.25)
α_1 OC_{it}	0.47*	(0.12)	0.69*	(0.22)	0.56*	(0.20)	0.44**	(0.19)	0.38**	(0.19)	1.27*	(0.28)
γ_1 $FD_{it}OC_{it}$	1.27*	(0.31)	1.40*	(0.32)							1.92*	(0.48)

Table II.E.2 continues

Table II.E.2. Family control and firm value: Baseline specification (25% cutoff point definition) (*continued*)

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
λ_1 $BFD_{it}OC_{it}$					1.19*	(0.30)						
β_1 $NBFD_{it}OC_{it}$					0.07	(0.17)						
φ_1 $FGFD_{it}OC_{it}$							1.38*	(0.33)				
ψ_1 $SGFD_{it}OC_{it}$							0.78*	(0.17)				
π_1 $SPFD_{it}OC_{it}$									0.80**	(0.39)		
ω_1 $WPFD_{it}OC_{it}$									1.90*	(0.29)		
δ_1 $BE_{it}OC_{it}$			-0.12	(0.19)	-0.10	(0.17)	0.09	(0.17)	0.02	(0.16)		
α_2 OC^2_{it}											-0.98*	(0.36)
γ_2 $FD_{it}OC^2_{it}$											-2.14*	(0.68)
ϕ_1 $SIZE_{it}$	0.01	(0.02)	0.00	(0.02)	0.02	(0.01)	-0.00	(0.02)	0.02	(0.02)	0.03	(0.02)
ϕ_2 $DEBT_{it}$	-1.53*	(0.14)	-1.75*	(0.13)	-1.62*	(0.12)	-1.61*	(0.12)	-1.85*	(0.12)	-1.65*	(0.13)
ϕ_3 CF_{it}	1.31*	(0.14)	0.83*	(0.16)	1.00*	(0.14)	1.00*	(0.15)	0.88*	(0.15)	1.42*	(0.15)
ϕ_4 AGE_{it}	-0.08*	(0.02)	-0.08*	(0.02)	-0.07*	(0.02)	-0.07*	(0.02)	-0.09*	(0.01)	-0.07*	(0.02)
ϕ_5 SOC_{it}	-1.31*	(0.17)	-1.75*	(0.19)	-1.22*	(0.18)	-1.76*	(0.18)	-1.75*	(0.17)	-1.37*	(0.18)
IP_{NF}, IP_F, CP											65% 51% 90%	
t_1	5.86		5.87								6.63	
t_2					5.13							
t_3							4.97					
t_4							4.85					
t_5									2.97			
t_6									6.67			
t_7											-4.79	
z_1	46.57 (7)		50.58 (8)		36.98 (9)		49.68 (9)		61.47 (9)		42.18 (9)	
z_2	80.11 (5)		58.50 (5)		74.49 (5)		96.58 (5)		129.35 (5)		79.05 (5)	
z_3	11.57 (9)		13.64 (9)		14.74 (9)		14.19 (9)		15.42 (9)		14.72 (9)	
m_1	-0.93		-0.89		-0.83		-0.91		-0.91		-0.97	
m_2	-0.31		-0.53		-0.37		-0.38		-0.55		-0.32	
Hansen	214.01 (182)		237.07 (207)		244.87 (225)		272.01 (225)		255.64 (222)		244.84 (225)	
N	4,729		4,729		4,729		4,729		4,729		4,729	

Table II.E.3. Family control and firm value: IAQ_{it} as dependent variable (20% cutoff point definition)

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 20% cutoff point, and zero otherwise. The IAQ_{it} denotes industry-adjusted Tobin's q, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 20% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\gamma_1+\delta_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\lambda_1+\delta_1=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\varphi_1+\delta_1=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\psi_1+\delta_1=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\pi_1+\delta_1=0$, t_7 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\omega_1+\delta_1=0$, and t_8 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; and (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAQ_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	0.12	(0.30)	0.03	(0.29)	0.23	(0.22)	-0.28	(0.28)	-0.20	(0.20)	-0.21	(0.27)
α_1 OC_{it}	0.56*	(0.12)	-0.09	(0.24)	-0.30	(0.22)	-0.04	(0.23)	0.01	(0.21)	1.34*	(0.25)
γ_1 $FD_{it}OC_{it}$	1.63*	(0.29)	1.65*	(0.27)							2.12*	(0.45)

Table II.E.3 continues

Table II.E.3. Family control and firm value: IAQ_{it} as dependent variable (20% cutoff point definition) (*continued*)

Dep. var.: IAQ_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
λ_1 $BFD_{it}OC_{it}$					1.75*	(0.27)						
β_1 $NBFD_{it}OC_{it}$					0.04	(0.13)						
φ_1 $FGFD_{it}OC_{it}$							1.94*	(0.30)				
ψ_1 $SGFD_{it}OC_{it}$							0.78*	(0.18)				
π_1 $SPFD_{it}OC_{it}$									0.68***	(0.40)		
ω_1 $WPFD_{it}OC_{it}$									1.81*	(0.27)		
δ_1 $BE_{it}OC_{it}$			0.53*	(0.20)	0.66*	(0.18)	0.51*	(0.19)	0.45*	(0.16)		
α_2 OC^2_{it}											-1.10*	(0.33)
γ_2 $FD_{it}OC^2_{it}$											-2.06*	(0.62)
ϕ_1 $SIZE_{it}$	0.03	(0.02)	0.04***	(0.02)	0.03	(0.02)	0.06*	(0.02)	0.07*	(0.01)	0.05**	(0.02)
ϕ_2 $DEBT_{it}$	-1.49*	(0.14)	-1.52*	(0.13)	-1.40*	(0.12)	-1.44*	(0.12)	-1.66*	(0.12)	-1.57*	(0.13)
ϕ_3 CF_{it}	1.00*	(0.17)	0.83*	(0.19)	1.00*	(0.18)	0.85*	(0.18)	1.13*	(0.13)	0.84*	(0.15)
ϕ_4 AGE_{it}	-0.09*	(0.02)	-0.09*	(0.02)	-0.08*	(0.02)	-0.07*	(0.02)	-0.11*	(0.01)	-0.07*	(0.02)
ϕ_5 SOC_{it}	-1.27*	(0.19)	-1.46*	(0.21)	-1.64*	(0.17)	-1.58*	(0.19)	-1.60*	(0.17)	-1.54*	(0.18)
IP_{NF}, IP_F, CP											61%	55% 103%
t_1	7.93										7.75	
t_2			6.56									
t_3					7.53							
t_4							6.90					
t_5							5.19					
t_6									2.22			
t_7									7.74			
t_8											-5.40	
z_1	37.44 (7)		32.44 (8)		42.30 (9)		30.78 (9)		147.82 (9)		40.80 (9)	
z_2	85.83 (5)		120.34 (5)		194.91 (5)		128.27 (5)		97.01 (5)		81.44 (5)	
z_3	12.92 (9)		10.65 (9)		12.66 (9)		10.12 (9)		13.40 (9)		14.20 (9)	
m_1	-0.87		-0.85		-0.92		-0.87		-0.94		-0.84	
m_2	-0.57		-0.64		-0.62		-0.54		-0.60		-0.67	
Hansen	213.20 (182)		226.16 (207)		254.37 (225)		258.11 (225)		244.61 (223)		242.81 (225)	
N	4,729		4,729		4,729		4,729		4,729		4,729	

Table II.E.4. Family control and firm value: IAQ_{it} as dependent variable (25% cutoff point definition)

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 25% cutoff point, and zero otherwise. The IAQ_{it} denotes industry-adjusted Tobin's q, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 25% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 834 listed companies (4,729 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\pi_1=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\omega_1=0$, and t_7 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; and (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAQ_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	0.23	(0.31)	0.18	(0.29)	0.17	(0.23)	0.37	(0.28)	0.25	(0.19)	-0.02	(0.26)
α_1 OC_{it}	0.59*	(0.12)	0.61*	(0.21)	0.61*	(0.19)	0.71*	(0.20)	0.55*	(0.20)	1.38*	(0.27)
γ_1 $FD_{it}OC_{it}$	1.43*	(0.32)	1.59*	(0.30)							2.18*	(0.47)

Table II.E.4 continues

Table II.E.4. Family control and firm value: IAQ_{it} as dependent variable (25% cutoff point definition) (*continued*)

Dep. var.: IAQ_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
λ_1 $BFD_{it}OC_{it}$					1.41*	(0.29)						
β_1 $NBFD_{it}OC_{it}$					0.25	(0.19)						
φ_1 $FGFD_{it}OC_{it}$							1.58*	(0.30)				
ψ_1 $SGFD_{it}OC_{it}$							0.77*	(0.17)				
π_1 $SPFD_{it}OC_{it}$									0.89**	(0.40)		
ω_1 $WPFD_{it}OC_{it}$									1.68*	(0.30)		
δ_1 $BE_{it}OC_{it}$			-0.08	(0.18)	-0.04	(0.17)	-0.13	(0.17)	-0.04	(0.17)		
α_2 OC^2_{it}											-1.16*	(0.34)
γ_2 $FD_{it}OC^2_{it}$											-2.12*	(0.68)
ϕ_1 $SIZE_{it}$	0.02	(0.02)	0.02	(0.02)	0.02	(0.02)	0.01	(0.02)	0.02	(0.01)	0.03	(0.02)
ϕ_2 $DEBT_{it}$	-1.44*	(0.14)	-1.54*	(0.13)	-1.45*	(0.12)	-1.45*	(0.11)	-1.54*	(0.13)	-1.54*	(0.12)
ϕ_3 CF_{it}	1.02*	(0.17)	0.66*	(0.15)	0.75*	(0.14)	0.71*	(0.16)	0.66*	(0.15)	0.90*	(0.15)
ϕ_4 AGE_{it}	-0.08*	(0.02)	-0.08*	(0.02)	-0.07*	(0.02)	-0.07*	(0.02)	-0.08*	(0.01)	-0.07*	(0.02)
ϕ_5 SOC_{it}	-1.24*	(0.18)	-1.39*	(0.20)	-1.37*	(0.17)	-1.59*	(0.15)	-1.48*	(0.15)	-1.51*	(0.15)
IP_{NF}, IP_F, CP											59% 54%	103%
t_1	6.67		6.56								7.81	
t_2					6.17							
t_3							6.95					
t_4							6.05					
t_5									3.37			
t_6									6.42			
t_7											-5.26	
z_1	35.53 (7)		33.01 (8)		34.54 (9)		45.32 (9)		41.31 (9)		44.78 (9)	
z_2	88.16 (5)		80.54 (5)		98.68 (5)		92.94 (5)		74.26 (5)		89.14 (5)	
z_3	11.34 (9)		8.61 (9)		8.77 (9)		8.93 (9)		9.87 (9)		10.06 (9)	
m_1	-0.86		-0.79		-0.80		-0.82		-0.80		-0.85	
m_2	-0.54		-0.64		-0.59		-0.53		-0.66		-0.62	
Hansen	215.34 (182)		229.68 (207)		244.75 (225)		264.98 (225)		236.93 (222)		238.75 (225)	
N	4,729		4,729		4,729		4,729		4,729		4,729	

Table II.E.5. Family control and firm value: Excluding financial companies (20% cutoff point definition)

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 20% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 20% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 658 nonfinancial listed companies (3,788 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\gamma_1+\delta_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\lambda_1+\delta_1=0$, and t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	-0.09	(0.34)	-0.31	(0.32)	-0.12	(0.30)	-0.54**	(0.26)	-0.70*	(0.21)	-0.22	(0.26)
α_1 OC_{it}	0.32**	(0.13)	-0.10	(0.28)	-0.19	(0.23)	0.08	(0.29)	0.21	(0.24)	1.38*	(0.30)
γ_1 $FD_{it}OC_{it}$	1.79*	(0.32)	1.63*	(0.31)							2.02*	(0.38)

Table II.E.5 continues

Table II.E.5. Family control and firm value: Excluding financial companies (20% cutoff point definition) (*continued*)

Dep. var.: *IAV*$_{it}$	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
λ_1 ***BFD**$_{it}$**OC**$_{it}$*					1.64*	(0.30)						
β_1 ***NBFD**$_{it}$**OC**$_{it}$*					-0.35	(0.43)						
φ_1 ***FGFD**$_{it}$**OC**$_{it}$*							1.73*	(0.29)				
ψ_1 ***SGFD**$_{it}$**OC**$_{it}$*							0.77*	(0.14)				
π_1 ***SPFD**$_{it}$**OC**$_{it}$*									0.79**	(0.40)		
ω_1 ***WPFD**$_{it}$**OC**$_{it}$*									1.92*	(0.30)		
δ_1 ***BE**$_{it}$**OC**$_{it}$*			0.37***	(0.22)	0.45**	(0.20)	0.29	(0.23)	0.14	(0.18)		
α_2 OC^2_{it}											-1.51*	(0.36)
γ_2 $FD_{it}OC^2_{it}$											-1.38*	(0.53)
ϕ_1 $SIZE_{it}$	0.06**	(0.03)	0.08*	(0.03)	0.06**	(0.02)	0.09*	(0.02)	0.11*	(0.01)	0.06*	(0.02)
ϕ_2 $DEBT_{it}$	-1.93*	(0.17)	-2.07*	(0.16)	-2.00*	(0.16)	-2.02*	(0.15)	-2.15*	(0.16)	-2.28*	(0.17)
ϕ_3 CF_{it}	1.20*	(0.18)	1.26*	(0.19)	1.44*	(0.18)	1.17*	(0.17)	1.38*	(0.16)	1.23*	(0.15)
ϕ_4 AGE_{it}	-0.09*	(0.02)	-0.09*	(0.02)	-0.09*	(0.02)	-0.06*	(0.02)	-0.10*	(0.02)	-0.08*	(0.02)
ϕ_5 SOC_{it}	-1.84*	(0.24)	-1.73*	(0.21)	-1.76*	(0.21)	-1.81*	(0.19)	-1.87*	(0.21)	-1.84*	(0.19)
IP_{NF}, IP_F, CP											46% 59%	146%
t_1	7.16										8.59	
t_2			5.07									
t_3					5.80							
t_4											-5.64	
z_1	43.65 (7)		39.32 (8)		38.89 (9)		42.99 (9)		532.79 (9)		48.34 (9)	
z_2	58.24 (5)		58.79 (5)		50.05 (5)		65.12 (5)		62.39 (5)		75.20 (5)	
z_3	10.99 (9)		10.77 (9)		15.49 (9)		16.88 (9)		11.67 (9)		14.34 (9)	
m_1	-0.95		-0.95		-1.00		-0.93		-1.01		-0.98	
m_2	-0.52		-0.44		-0.39		-0.39		-0.44		-0.51	
Hansen	198.43 (182)		204.21 (207)		207.81 (221)		216.80 (225)		219.00 (223)		221.76 (225)	
N	3,788		3,788		3,788		3,788		3,788		3,788	

Table II.E.6. Family control and firm value: Excluding financial companies (25% cutoff point definition)

This table comprises the GMM regressions results of the models developed throughout the chapter. The FD_{it} equals 1 for family firms, and zero otherwise; BFD_{it} equals 1 for family firms in which family members serve on the board of directors, and zero otherwise; $NBFD_{it}$ equals 1 for family firms in which no family member serves on the board, and zero otherwise; $FGFD_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise; $SGFD_{it}$ equals 1 for family firms controlled by second or later generations, and zero otherwise; $SPFD_{it}$ equals 1 for family firms that operate in countries with strong protection of minority shareholders' rights, and zero otherwise; $WPFD_{it}$ equals 1 for family firms that operate in countries with weak legal protection for minority investors, and zero otherwise; and BE_{it} equals 1 when there is a large shareholder in the firm at the 25% cutoff point, and zero otherwise. The IAV_{it} is the industry-adjusted market value of the firm, OC_{it} stands for ownership concentration, $SIZE_{it}$ is the firm's size, $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, AGE_{it} is the firm's age, and SOC_{it} is the stake of the second largest shareholder in the company. All of the variables are defined in Appendices II.A, II.B, and II.C. The results are based on the 25% cutoff point definition of family firm. The procedure followed to identify the family firms in the sample is explained in Section II.3.2. The sample comprises 658 nonfinancial listed companies (3,788 observations) for which data are available for at least four consecutive years between 1999 and 2006 in the Amadeus database. Nine Western European countries (UK, Spain, France, Greece, the Netherlands, Switzerland, Germany, Finland, and Sweden) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\gamma_1=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\lambda_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\varphi_1=0$, and t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\alpha_1+\psi_1=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses; (vii) the $IP_{NF}=-(\alpha_1)/2(\alpha_2)$ and $IP_F=-(\alpha_1+\gamma_1)/2(\alpha_2+\gamma_2)$ are the inflection points at which the relation between ownership concentration and value turns from positive to negative for non-family and family firms, respectively; (viii) the $CP=-(\gamma_1)/(\gamma_2)$ is the cutoff point (i.e., the level of ownership concentration) at which family firms no longer outperform non-family companies.

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
α_0 Constant	0.12	(0.36)	0.22	(0.31)	0.38	(0.28)	0.22	(0.28)	-0.06	(0.26)	-0.17	(0.25)
α_1 OC_{it}	0.32**	(0.14)	0.48***	(0.25)	0.52**	(0.24)	0.58*	(0.22)	0.29	(0.22)	1.44*	(0.28)
γ_1 $FD_{it}OC_{it}$	1.67*	(0.36)	1.73*	(0.35)							1.62*	(0.46)

Table II.E.6 continues

Table II.E.6. Family control and firm value: Excluding financial companies (25% cutoff point definition) (*continued*)

Dep. var.: IAV_{it}	**(1)**		**(2)**		**(3)**		**(4)**		**(5)**		**(6)**	
λ_1 $BFD_{it}OC_{it}$					1.45*	(0.31)						
β_1 $NBFD_{it}OC_{it}$					-0.09	(0.47)						
φ_1 $FGFD_{it}OC_{it}$							1.86*	(0.30)				
ψ_1 $SGFD_{it}OC_{it}$							0.58*	(0.15)				
π_1 $SPFD_{it}OC_{it}$									1.10*	(0.39)		
ω_1 $WPFD_{it}OC_{it}$									2.25*	(0.33)		
δ_1 $BE_{it}OC_{it}$			-0.18	(0.22)	-0.17	(0.21)	-0.13	(0.21)	-0.03	(0.19)		
α_2 OC^2_{it}											-1.55*	(0.35)
γ_2 $FD_{it}OC^2_{it}$											-0.91	(0.59)
ϕ_1 $SIZE_{it}$	0.04	(0.03)	0.03	(0.03)	0.01	(0.02)	0.03	(0.02)	0.06*	(0.02)	0.05**	(0.02)
ϕ_2 $DEBT_{it}$	-1.87*	(0.17)	-2.04*	(0.16)	-1.95*	(0.15)	-1.96*	(0.14)	-2.12*	(0.16)	-2.22*	(0.16)
ϕ_3 CF_{it}	1.23*	(0.18)	1.01*	(0.17)	1.10*	(0.17)	1.07*	(0.15)	0.97*	(0.16)	1.47*	(0.15)
ϕ_4 AGE_{it}	-0.09*	(0.02)	-0.08*	(0.02)	-0.07*	(0.02)	-0.07*	(0.02)	-0.09*	(0.02)	-0.07*	(0.02)
ϕ_5 SOC_{it}	-1.82*	(0.24)	-1.91*	(0.24)	-1.83*	(0.22)	-2.17*	(0.20)	-2.07*	(0.23)	-1.81*	(0.17)
IP_{NF}, IP_F, CP											46% 62%	178%
t_1	6.02		5.76								6.73	
t_2					5.40							
t_3							7.03					
t_4							4.53					
z_1	42.41 (7)		46.13 (8)		43.21 (9)		62.36 (9)		53.20 (9)		48.17 (9)	
z_2	58.59 (5)		61.66 (5)		72.68 (5)		87.93 (5)		73.66 (5)		84.96 (5)	
z_3	9.73 (9)		11.77 (9)		13.44 (9)		19.05 (9)		12.56 (9)		12.20 (9)	
m_1	-0.94		-0.91		-0.90		-0.97		-0.93		-1.03	
m_2	-0.48		-0.51		-0.44		-0.45		-0.61		-0.36	
Hansen	199.99 (182)		221.96 (207)		223.82 (221)		236.95 (225)		233.20 (222)		228.04 (225)	
N	3,788		3,788		3,788		3,788		3,788		3,788	

Chapter III

Family Control and the Corporate Investment Decision

III.1. Introduction

In perfect capital markets, a firm's investment decisions are independent of its financial structure (Modigliani and Miller, 1958). However, the literature shows that capital markets are, in fact, not perfect and, thus, financial factors influence firms' investment decisions. Previous studies also suggest that external finance is not a perfect substitute for internal funds. Consequently, firms with good investment opportunities can improve capital allocation when they have easier access to external finance. In fact, prior research suggests that better allocation of capital on the part of individual firms can foster country-level economic development (Bernanke, 1983; Bernanke and Gertler, 1989, 1990; Love, 2003). Considering the importance of firm-level capital allocation decisions to the overall economy, the literature has paid special attention to the corporate investment decision and, especially, to the sensitivity of investment to financial factors, such as internal cash flow.

Previous research provides empirical evidence that an optimal level of investment exists that maximizes the market value of the company (Morgado and Pindado, 2003). However, numerous studies show that companies deviate from this optimal investment level due to incentive and information problems in capital markets, which manifest as either dependence on internally generated funds or the difficulties in securing external funds (see, e.g., Whited, 1992; Kathuria and Mueller, 1995; Hadlock, 1998; Goergen and Renneboog, 2001; Pawlina and Renneboog, 2005; Ascioglu, Hegde, and McDermott, 2008). Overall, the literature is conclusive and suggestive that, in many cases, companies either invest beyond the level that would maximize shareholders' wealth (i.e., they overinvest) or they forgo good investment projects due to the lack of sufficient cash flow to undertake them (i.e., they underinvest).

Given the prevalence of the problems related to corporate investment (i.e., overinvestment and underinvestment), researchers have developed numerous theoretical and empirical models to explain the underlying reasons; many of these models relate a firm's investment with different sets of variables (Fazzari, Hubbard, and Petersen, 1988; Bond and Meghir, 1994; Lang, Ofek, and Stulz, 1996; Aivazian, Ge, and Qiu, 2005a, 2005b; Whited, 2006; Cleary, Povel, and Raith, 2007). Among the different explanatory variables that influence investment spending, several recent studies investigate whether a firm's ownership structure is an important determinant of investment and whether it contributes to the explanation of overinvestment and underinvestment problems (see, e.g., Hoshi, Kashyap, and Scharfstein, 1991; Oliner and Rudebusch, 1992; Hadlock, 1998; Goergen and Renneboog, 2001; Pawlina and Renneboog, 2005; Pindado and de la Torre, 2009).

The ownership structures of corporations is commonly divided between dispersed ownership and firms with concentrated ownership (i.e., the presence of a controlling shareholder), which is widely reported common pattern around the world (see, e.g., La Porta, Lopez-de-Silanes, and Shleifer, 1999; Claessens, Djankov, and Lang, 2000; Faccio and Lang, 2002; Morck, Wolfenzon, and Yeung, 2005; Dahya, Dimitrov, and McConnell, 2008). Family owners are the predominant type of controlling shareholders in many developing countries as well as in some of the most developed economies of the world. In fact, family control is found in many geographical regions with different legal and financial systems, such as the United States, Western Europe, and East Asia (see, e.g., Mok, Lam, and Cheung, 1992; Lam, Mok, Cheung, and Yam, 1994; Bhattacharya and Ravikumar, 2001; Franks and Mayer, 2001; Anderson and Reeb, 2003a; Gadhoum, Lang, and Young, 2005; Lee, 2006).

The importance of family control as a particularly interesting type of ownership structure has motivated abundant theoretical and empirical literature that attempts to identify the specificities associated with this organizational form. Academics also suggest several advantages and disadvantages attached to family control (Anderson and Reeb, 2003a; Lee, 2006). Furthermore, recent studies compare family control to other ownership structures in an effort to disentangle whether control by a family is an efficient organizational form in comparison with widely held corporations and firms controlled by other types of shareholders. The results are mixed. Some studies find that family firms generally outperform other organization forms (see, e.g., McConaughy, Walker, Henderson, and Mishra, 1998; Anderson and Reeb, 2003a; Villalonga and Amit, 2006; Maury, 2006; Barontini and Caprio, 2006; Andres, 2008; Martikainen, Nikkinen, and Vähämaa, 2009), whereas other studies suggest that family firms underperform (Faccio, Lang, and Young, 2001; Cronqvist and Nilsson, 2003; Barth, Gulbrandsen, and Schone, 2005; Miller, Le Breton-Miller, Lester, and Cannella, 2007; among others).

Since the early empirical work of Meyer and Kuh (1957), extensive research widely supports that a company's cash flow impacts significantly on the level of corporate investment. This dependence of investment on internal funds can be attributed either to financial constraints in capital markets arising from asymmetric information problems (see, e.g., Greenwald, Stiglitz, and Weiss, 1984; Myers and Majluf, 1984; Fazzari, Hubbard, and Petersen, 1988; Bond, Elston, Mairesse, and Mulkay, 2003; Love, 2003; Allayannis and Mozumdar, 2004; Moyen, 2004; Cleary, Povel, and Raith, 2007; Ascioglu, Hegde, and McDermott, 2008) or to agency conflicts of free cash flow (see, e.g., Jensen and Meckling, 1976; Jensen, 1986; Lang, Ofek, and Stulz, 1996; Lamont, 1997; Chen and Ho, 1997; Del Brio, Miguel, and Pindado, 2003; Del Brio, Perote, and Pindado, 2003; Aivazian, Ge, and Qiu, 2005b).

Although both explanations point to a positive impact of a firm's cash flow on its investment level, in the case of asymmetric information problems, the positive relation is created when external funds become more expensive than internal funds so that the firm fails to pursue value-adding investment opportunities (i.e., underinvestment). In the case of agency conflicts, the positive effect results mainly from managers wasting abundant internal funds on projects that do not add value to the company (i.e., overinvestment). Previous literature, therefore, attempts to disentangle whether investment–cash flow sensitivities are due to asymmetric information or free cash flow problems (Kathuria and Mueller, 1995; Vogt, 1994).

However, to date, few papers have analyzed whether the ownership structure of companies plays an important moderating role in the investment–cash flow sensitivity and, if so, whether it mitigates or exacerbates the underinvestment and overinvestment problems. Oliner and Rudebusch (1992) account for the role played by a firm's ownership structure in its preference for financing investment with internal funds and conclude that ownership structure does little to explain the influence of cash flow on investment spending. Hadlock (1998) also analyzes the effect of ownership and liquidity on the level of corporate investment by extending the model developed by Fazzari, Hubbard, and Petersen (1988) and includes as an explanatory variable the interaction between cash flow and the percentage of equity owned by insiders. Contrary to Oliner and Rudebusch's (1992) results, Hadlock suggests that the sensitivity of investment to cash flow is moderated by the level of insider ownership and that the relation between insider holdings and the investment–cash flow sensitivity is nonmonotonic, depending on whether companies are characterized by convergence of interests or managerial entrenchment. Hadlock's results support an asymmetric information explanation of the influence of a firm's cash flow on its level of investment.

Whereas Hadlock (1998) focuses on insider ownership, Goergen and Renneboog (2001) analyze the effect of ownership concentration on the investment–cash flow sensitivity in the United Kingdom. In particular, they investigate whether different types of shareholders contribute to increase or decrease liquidity constraints. They find that the investment–cash flow sensitivity disappears in the presence of institutional investors. However, when powerful industrial shareholders are present in the company, the sensitivity increases. This result may suggest that higher levels of ownership concentration in the hands of this type of investors allow them to extract private benefits of control. Pawlina and Renneboog (2005) provide additional empirical evidence in line with Hadlock (1998) and Goergen and Renneboog (2001). Pawlina and Renneboog find an S-shaped relation between insider ownership and the sensitivity of investment to cash flow, which is consistent with the alignment of interests and the managerial entrenchment hypotheses; they also find that outside blockholders reduce investment–cash flow sensitivities in UK corporations via effective monitoring.

Koo and Maeng (2006) also examine the role of firm ownership structure in the relation of investment spending to internally generated funds, focusing on the Korean equity market. Specifically, Koo and Maeng analyze the impact of foreign ownership on investment decisions of Korean corporations and find that the investment–cash flow sensitivity decreases as the stake of foreign investors in the company increases. They conclude that firms with high foreign ownership are more likely to gain access to external funds at lower costs, consistent with the asymmetric information explanation suggested by Hadlock (1998). Furthermore, they argue that managers of Korean corporations with high foreign ownership are less likely to use cash flow at their discretion. This result is consistent with Pawlina and Renneboog's (2005) finding in the United Kingdom that agency costs of free cash flow are reduced when the firm has an outside blockholder.

Hobdari (2008) investigates the dependence of investment spending on internal and external funds using a sample of Estonian firms with different ownership structures, placing special emphasis on employee ownership. Hobdari's main finding is that employee-owned firms' investment rates are sensitive to both internal and external funds, thus indicating that these corporations are more likely to be financially constrained. In addition, he also finds that manager-owned firms in Estonia face barriers to external financing. These findings complement prior empirical evidence from other geographical regions and highlight the importance of accounting for the identity of companies' owners to determine the degree of financial constraints and the investment rates of corporations.

Pindado and de la Torre (2009), who focus on the Spanish stock market, also investigate the influence of a firm's ownership structure on the investment decision-making process by accounting for the ownership–value nonlinearities, in line with Pawlina and Renneboog (2005). However, they go a step further by disentangling the overinvestment and underinvestment problems. They show that when the interests of managers and owners are aligned and when the firms are monitored by large shareholders, investment–cash flow sensitivities are mitigated both in financially constrained firms and in firms more likely to overinvest. In contrast, when managers become entrenched (i.e., interests of managers and owners diverge) and when large investors' scope for expropriation is higher, sensitivities are exacerbated.

Gugler, Mueller, and Yurtoglu (2007) extend previous research by investigating the investment–cash flow sensitivity in a cross-country setting. Unlike Hadlock (1998), Goergen and Renneboog (2001), and Pawlina and Renneboog (2005), who only focus on the Anglo-Saxon environment, Gugler, Mueller, and Yurtoglu include in their study companies that operate in Continental Europe, which allows them to investigate whether the influence of a firm's ownership structure on the investment–cash flow sensitivity differs across legal systems. In fact, Gugler, Mueller, and Yurtoglu conclude that asymmetric information problems as well as managerial discretion conflicts are more acute in Continental Europe than in Anglo-Saxon countries. Given that minority investors are generally afforded better legal protection in common law countries (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998), this finding suggests that the companies from civil law countries have higher investment–cash flow sensitivities. Moreover, Gugler, Mueller, and Yurtoglu conclude that family-controlled corporations in Continental Europe are those with the highest sensitivity of investment to internally generated funds, thus confirming Gugler's (2003) evidence that family firms in Austria experience a positive and robust relation between investment and cash flow.

However, Galeotti, Schiantarelli, and Jaramillo (1994) and Wei and Zhang (2008) provide contradictory evidence. Galeotti, Schiantarelli, and Jaramillo find that cash flow has no significant effect on investment when estimating a *q*-model with a sample of large firms from Italy, where a high proportion of companies are family-controlled (Lotti and Santarelli, 2005; Cucculelli and Micucci, 2008). In addition, Wei and Zhang, who examine eight East Asian economies, conclude that the firm's investment–cash flow sensitivity decreases as the cash flow rights of the largest shareholder in the company increase; however, the increase is dependent on the degree of divergence between cash flow rights and control rights owned by the largest shareholder. Moreover, East Asian economies are characterized by the prevalence of family firms, and about 70% of the corporations in their sample have a family owner as dominant shareholder. Finally, Galeotti, Schiantarelli, and Jaramillo and Wei and Zhang both explain their results in terms of the solution of agency problems when ownership is concentrated in the hands of a large shareholder.

Given the global prevalence of family control and the market imperfections that give rise to distortions in firms' investment decisions, we empirically examine whether the presence of a controlling family in the company mitigates or exacerbates the sensitivity of investment to internal funds. Specifically, we investigate whether owner families, as a unique type of dominant shareholder, reduce the financial constraints stemming from information asymmetries and agency conflicts of free cash flow associated with companies' investment decisions. First, using a sample of Western European corporations, we investigate whether the investment–cash flow sensitivity is either exacerbated or attenuated when a controlling family is present. Second, we examine whether other aspects related to firm ownership structure also influence the relation between investment and cash flow. Specifically, in addition to studying the impact of family control on the investment–cash flow relation, we investigate the possibility of nonlinearities in this effect by considering the use of control-enhancing mechanisms in some family-controlled corporations. Third, we take into account the possibility that the lower investment–cash flow sensitivity in family firms may be due to the active involvement of the family in a company's management. Fourth, we investigate the impact second large shareholders in family businesses have on the investment–cash flow relation. Finally, we account for the source of the sensitivity in our analysis by proposing innovative proxy measures and by empirically investigating whether family control reduces the financial constraints due to asymmetric information problems and the agency conflicts of free cash flow.

We propose a model based on Fazzari, Hubbard, and Petersen's (1988) model, which has been used in previous studies that analyze the relation between investment and cash flow (Hoshi, Kashyap, and Scharfstein, 1991; Blundell, Bond, Devereux, and Schiantarelli, 1992; Oliner and Rudebusch, 1992; Vogt, 1994; Kathuria and Mueller, 1995; Hadlock, 1998; Alti, 2003; Pawlina and Renneboog, 2005; Wei and Zhang, 2008; Ascioglu, Hegde, and

McDermott, 2008; Pindado and de la Torre, 2009; among others) and has provided similar results to the results obtained from estimating an Euler equation (Koo and Maeng, 2006). Unlike the basic *q*-model, in which the only explanatory variables are internal cash flow and Tobin's *q*, our model also includes the moderating role of family ownership and a set of control variables. In particular, we develop several empirical models in which the explanatory variables of interest are the interactions between a firm's cash flow and different dummies, depending on the specific hypothesis.

We estimate the proposed models using a sample of listed corporations from nine Eurozone countries. Firm-level data are obtained from different sources. Stock information and financial statements of companies are extracted from Worldscope database, and data related to the ownership structure of firms are obtained from the database developed by Faccio and Lang (2002). Other information needed to calculate the variables that enter our models is extracted from the Organisation for Economic Co-operation and Development's *Main Economic Indicators*. We choose the estimation method carefully to avoid serious econometric problems highlighted in previous literature. Specifically, we use panel data methodology to eliminate the unobservable heterogeneity, and our models are estimated by using the generalized method of moments (GMM) to control for the potential endogeneity of the explanatory variables.

The empirical evidence provided in this chapter contributes to the finance and family business literature in several ways. First, we investigate whether the widely reported investment–cash flow sensitivity is moderated by the ownership structure of the firm. More precisely, we attempt to disentangle whether the presence of a controlling family in the company mitigates or exacerbates the investment–cash flow sensitivity. This issue is of particular interest because (a) the role of families in the corporate investment process, in general, and, specifically, the role of family ownership in the relation between corporate investment and firms' liquidity has not been adequately examined in previous studies and (b) controversy remains concerning the advantages and disadvantages attributable to family control relative to other types of organizational forms.

Second, we account for the extensively supported nonlinearities of the value–ownership relation by controlling for the monitoring and expropriation phenomena associated with certain ownership structures. Although previous studies report a nonlinear impact of a firm's ownership structure on the investment–cash flow sensitivity, their focus has been mainly on insider ownership (Hadlock, 1998; Pawlina and Renneboog, 2005). However, we are interested in the effect of family ownership concentration; therefore, rather than applying ownership concentration (and its square) as an explanatory variable within our model as in prior research that accounts for the monitoring and expropriation effects simultaneously (Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Miguel, Pindado, and de la Torre, 2004; López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal, 2007), we capture these effects in a different way. Specifically, we control for the presence of an owner family in the company and proxy for the monitoring effect exercised by this type of investor. To measure the possibility of expropriation of minority shareholders' wealth by this dominant shareholder, we sort family firms according to whether they use control-enhancing mechanisms. Consequently, we account for the possibility that in some cases family control positively mitigates the dependence of investment on internal cash flow whereas in other cases, family control exacerbates the problem due to the expropriation incentives of the controlling family.

Third, we propose that the agency costs of free cash flow and the financial constraints deriving from asymmetric information problems—which have been previously considered as the two main explanations for the investment–cash flow sensitivity—are not mutually exclusive. We, therefore, examine whether family control contributes to attenuate both conflicts. First, we propose a new measure to proxy for the likelihood that corporations face major financial constraints by constructing a variable that combines both the debt and equity constraints. Second, we proxy for the likelihood of managerial discretion problems by considering a specific aspect of the ownership structure of companies, namely, the wedge between cash flow and control rights owned by the firm's controlling shareholder.

Finally, panel data methodology allows us to account for individual heterogeneity. This issue is particularly important when comparing family firms to non-family firms and when analyzing the corporate investment decision because every organizational structure can be attached to a particular corporate behavior (Lee, 2004; McVey and Draho, 2005), which can manifest itself in the investment decision-making process. Consequently, by using panel data methodology, we can control for individual heterogeneity and reduce the risk of obtaining biased results. Moreover, we further address the endogeneity problem that arises in our analysis by using the GMM to estimate our models, which is a key component to our study as failing to control for endogeneity is likely to yield inconsistent estimates (Blundell, Bond, Devereux, and Schiantarelli, 1992; Florackis and Ozkan, 2009).

Our results show that family control helps mitigate the sensitivity of investment to cash flow, which is consistent with the stream of the literature that highlights the potential benefits associated with family ownership. However, two factors affect this relation. First, we find that when the potential for minority shareholders' wealth expropriation by controlling families is high (as proxied by the use of control-enhancing mechanisms), investment–cash flow sensitivities are not lowered. Second, our empirical evidence suggests that the benefits related to family control, in terms of a lower dependence of investment on internal funds, are limited to family firms in which the family actively participates in the company's management. We also find that the presence of second large shareholders plays a vital role in the investment decision-making process by either monitoring (in the case of non-family second blockholders) or colluding with the controlling family (in the case of family second blockholders). Finally, the results show that family control offsets, at least in part, both the financial constraints and free cash flow problems, which are associated with under- and overinvestment, respectively.

III.2. Theory, hypotheses, and empirical models

This section reviews prior literature on corporate investment with particular emphasis on the role that a firm's ownership structure has on the investment–cash flow sensitivity. Taking into account previous theoretical arguments and empirical findings, we formulate the hypotheses of the chapter and the models that allow us to test them. Subsection III.2.1 focuses on the role of family control on the sensitivity of investment with respect to cash flow and considers several aspects related to family firms' ownership structure. Then, Subsection III.2.2 accounts for the source of the sensitivity by proposing innovative proxy measures and presents two additional hypotheses.

III.2.1. Family control and the investment–cash flow sensitivity

The relation between investment and financial variables such as cash flow has aroused the interest of scholars for decades, dating back to the 1950s (Meyer and Kuh, 1957), and yet controversy remains regarding the investment–cash flow sensitivity (Hovakimian, 2009). Overall, the widely reported influence of cash flow on a firm's investment spending stems mainly from the understanding that capital markets are imperfect (in contrast to Modigliani and Miller's, 1958 assumptions). As a result of the extant imperfections in the financial markets, corporate investments are not only determined by a firm's investment opportunities but also by firms' ability to finance these opportunities or, more precisely, by the availability of internally generated funds. Extensive research, beginning with Fazzari, Hubbard, and Petersen (1988), which finds a positive and strong relation between investment spending and cash flow, supports this conclusion.

Given this positive relation between investment and cash flow, some researchers investigate whether the ownership structure of the firm, taken as a corporate governance mechanism that can control the problems that characterize imperfect capital markets, plays a moderating role in the investment–cash flow sensitivity. Specifically, since the pioneering work by Fazzari, Hubbard, and Petersen (1988), some researchers have considered insider ownership and ownership concentration when analyzing the relation between investment and cash flow. Hadlock (1998) is among the first to show that the sensitivity of investment to cash flow can be alleviated by insider ownership when the interests of managers and investors converge. Pawlina and Renneboog (2005) provide consistent additional evidence for the United Kingdom. Goergen and Renneboog (2001), who examine the moderating role of ownership concentration, find that large institutional investors effectively contribute to reducing the link between investment spending and cash flow in the United Kingdom, and Koo and Maeng (2006) show that foreign ownership mitigates the sensitivity of investment to cash flow in Korean corporations. In the same vein, Wei and Zhang (2008) provide empirical evidence that the investment–cash flow sensitivity declines as cash flow rights in the hands of the controlling shareholder increase.

With respect to the particular case of family-controlled corporations, the literature is scarce, and few studies provide insight regarding whether this type of organizational form contributes either to attenuate or to exacerbate the dependence of corporations on internally generated funds when undertaking new investments. Of the studies that are available, the conclusions reached to date are mixed. On the one hand, Gugler (2003) and Gugler, Mueller, and Yurtoglu (2007) show that family firms in Continental Europe rely heavily on internal funds when they finance investment projects. On the other hand, Galeotti, Schiantarelli, and Jaramillo (1994) and Wei and Zhang (2008) conclude that ownership concentration reduces the investment–cash flow sensitivity in Italy and East Asia, respectively, where family control is widely widespread.

Family ownership is associated with notable potential benefits that could help to mitigate the imperfections of capital markets, which also lends support to Galeotti, Schiantarelli, and Jaramillo's (1994) and Wei and Zhang's (2008) findings. First, the extended investment horizons of family firms, along with the deep knowledge that family members acquire from life-long involvement in the main industry of their business, enables them to better evaluate risk and make strategic investments (Schulze, Lubatkin, and Dino, 2003); and the long-term presence of the family in the company provides incentives for controlling shareholders to maximize firm value over a longer horizon (James, 1999; McVey and Draho, 2005), thus reducing to some extent the deviation from the optimal investment level (Morgado and Pindado, 2003). Second, as suggested by Anderson, Mansi, and Reeb (2003), family owners help to alleviate the agency costs between bondholders and shareholders (Jensen and Meckling, 1976), and they have a lower cost of debt financing, which, in turn, leads to a reduction in the wedge between the cost of internal and external finance in family firms, thereby reducing their financial constraints. Third, previous studies show that the long-term presence of a family shareholder and his or her concern for the family name's reputation leads to higher earnings quality (Wang, 2006; Ali, Chen, and Radhakrishnan, 2007), which might be related to lower information asymmetries between current and prospective investors. Consequently, the asymmetric information problems and the agency conflicts of free cash flow—so often blamed for the investment–cash flow sensitivity—may possibly be reduced in family-controlled corporations.

Considering these arguments, we expect that family firms have a lower dependence on internal funds when they decide to undertake new investments and pose the following hypothesis:

H1. *The investment–cash flow sensitivity is lower in family firms.*

To test this hypothesis, we propose the following model:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}\,, \qquad (1a)$$

where IAI_{it} is the industry-adjusted investment[17] and CF_{it} is cash flow. For a detailed definition of all variables included in the models, see Appendices III.A and III.B. This investment model is an extension of Fazzari, Hubbard, and Petersen's (1988) model. We extend their model by incorporating the interaction between cash flow and FD_{it}, which is a dummy variable that equals 1 for family firms, and zero otherwise. Consequently, the effect of cash flow on investment is β_2 for non-family firms (given $FD_{it} = 0$) and $(\beta_2 + \gamma_2)$ for family firms. Appendix III.C provides a summary of the effects of cash flow on investment for family and non-family firms in each model. We, therefore, expect $(\hat{\beta}_2 + \hat{\gamma}_2) < \hat{\beta}_2$. Furthermore, we include in the right-hand side of Eq. (1a) the lag of the dependent variable, $IAI_{it\text{-}1}$, to account

[17] Given that industry structure is an important determinant of corporate investment (Akdogu and MacKay, 2008), we use an industry-adjusted investment measure in the estimation of the models to account for industry effects.

for the dynamics of this corporate decision and to capture the accelerator effect of investment (Aivazian, Ge, and Qiu, 2005a). Similarly, we include a vector of control variables usually considered in the literature on corporate investment, $X_{it\text{-}1}$, in addition to Tobin's q. Specifically, $X_{it\text{-}1}$ includes a set of firm characteristics (e.g., debt, dividends, sales).

Following previous literature (Faccio and Lang, 2002; Maury, 2006) and taking into account the availability of data related to companies' ownership structure, we consider a firm to be family-controlled if the ultimate owner at the 10% threshold is an individual, a family, or an unlisted company. Faccio and Lang (2002) first propose this family firm definition, which has subsequently been used in other studies (Maury, 2006; Laeven and Levine, 2008; Holderness, 2009).

Although we posit that family presence inside the company is likely to lead to lower dependence of investment spending with respect to cash flow, the lower investment–cash flow sensitivity may only be driven by a general blockholder effect and not by the specific family influence in which we are interested. This argument may be valid because our non-family firm subsample includes firms with a non-family ultimate owner at the 10% threshold as well as widely held companies. In a recent work, Andres (2008) points out this problem when analyzing the relation between family ownership and corporate performance. To assure that his family blockholder variable captures the family effect rather than a general blockholder effect, Andres (2008) includes as explanatory variables in his model other dummies that equal 1 for the respective blockholder types, and zero otherwise. Following Andres, we extend Eq. (1a):

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \chi_2 MSD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}\,, \tag{1b}$$

where MSD_{it} is a dummy variable that equals 1 for corporations with a non-family ultimate owner at the 10% threshold (which we use to define family control), and zero otherwise. The effect of liquidity on investment for family firms is the same as in Eq. (1a), but now the relation between both variables for non-family firms is evaluated by different coefficients depending on whether they are widely held or controlled by an ultimate owner. In the case of corporations with dispersed ownership, the impact of cash flow on investment is captured by

β_2 (given both FD_{it} and MSD_{it} = 0) and for companies with a non-family ultimate owner, this impact is evaluated by $(\beta_2 + \chi_2)$ (given FD_{it} = 0). For our first hypothesis to be confirmed, the estimated coefficient $\hat{\gamma}_2$ should be negative and significant, even after controlling for the general blockholder effect as suggested by Andres (2008).

As previously pointed out, both insider ownership and ownership concentration can be effective mechanisms to alleviate the investment–cash flow sensitivity. However, extensive research shows that the relation between ownership structure and firm value is nonlinear as a result of the monitoring and expropriation effects and the convergence-of-interests and entrenchment phenomena in the case of ownership concentration and insider ownership, respectively (see, e.g., Gedajlovic and Shapiro, 1998; Thomsen and Pedersen, 2000; Miguel, Pindado, and de la Torre, 2004; López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal, 2007). These nonlinearities of ownership with respect to firm value could also arise when the firm's ownership structure is considered as a moderating variable in the relation between investment spending and internal funds.

In fact, some studies account for such nonlinearities when investigating the investment–cash flow sensitivity. Hadlock (1998) finds that insider ownership only contributes to mitigate the investment–cash flow sensitivities under convergence of interests, while it exacerbates such sensitivities when managers become entrenched. This finding is also confirmed by Pawlina and Renneboog (2005), who empirically show that there is an S-shaped relation between insider ownership and the sensitivity of investment with respect to cash flow. Similarly, Pindado and de la Torre (2009) find that investment is more sensitive to internal cash flow under managerial entrenchment. They further show that when large shareholders have the ability to expropriate minority investors' wealth, over- and underinvestment problems are more likely, whereas the opposite holds under large shareholders' monitoring.

Focusing now on family ownership concentration, we anticipate that its impact on the investment–cash flow sensitivity is also nonlinear. That is, family owners may effectively contribute to mitigate the dependence of investment spending on internal funds in some cases, and they may exacerbate such dependence in other instances. Prior research shows that family control impacts firm value and profitability nonlinearly due to the monitoring and expropriation hypotheses, increasing corporate performance first as family ownership concentration rises and then decreasing beyond a certain level of ownership concentration in the hands of the family (Anderson and Reeb, 2003a; Maury, 2006). This nonlinear relation between family control and firm value suggests that although family control can bring notable advantages to the company, it is not exempt from some agency problems (Schulze, Lubatkin, and Dino, 2003).

Although family ownership solves much of the classic owner–manager agency problem, it creates conflicts between the controlling family and minority shareholders (Villalonga and Amit, 2006). This new agency problem results mainly from the risk of expropriation of minority shareholders' wealth by the owner family under specific circumstances. In fact, families have both the incentive and the ability to take actions that benefit themselves at the expense of firm performance when their stake in the company is substantial and when their voting rights exceed their cash flow rights (Anderson and Reeb, 2003a). For instance, family owners may make investment decisions that are inefficient from minority shareholders' point of view but that are beneficial to the family. Furthermore, the significant influence of the controlling family on management decisions can be connected with greater managerial entrenchment (Gomez-Mejia, Nunez-Nickel, and Gutierrez, 2001; McVey and Draho, 2005; Hillier and McColgan, 2009) and may lead to suboptimal investment policies, such as empire-building through value-reducing acquisitions that only benefit the dominant family and increase the sensitivity of investment with respect to internal funds when excess cash flow is available.

Given this discussion, we propose that the alleviation of the sensitivity of investment spending with respect to cash flow due to family control of corporations is likely to occur only when the scope for expropriating minority shareholders' wealth is not sufficiently high. Consequently, we formulate our second hypothesis:

H2. *The lower investment–cash flow sensitivity in family firms is due to family corporations with less potential for expropriating minority shareholders' wealth.*

To test this hypothesis, we modify the model in (1a). Specifically, we replace FD_{it} with two new dummy variables that split family firms in two different categories according to the likelihood of expropriation on the part of the controlling family:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \lambda_2 NEXFD_{it} + \delta_2 EXFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}, \qquad (2)$$

where $NEXFD_{it}$ is a dummy variable for family firms with less potential for expropriation that equals 1 for family firms with no control-enhancing mechanisms in place,[18] and zero otherwise, and $EXFD_{it}$ is a dummy variable for family firms with more potential for expropriation that equals 1 for family-controlled corporations that make use of at least one control-enhancing mechanism, and zero otherwise. As a result, in this model, β_2 measures the influence of cash flow on investment for non-family firms (given both $NEXFD_{it}$ and $EXFD_{it}$ = 0), and $(\beta_2 + \lambda_2)$ captures the effect for family firms with less potential for expropriation; for the remaining family businesses, the impact is measured by $(\beta_2 + \delta_2)$. We thus expect $(\hat{\beta}_2 + \hat{\lambda}_2) < (\hat{\beta}_2 + \hat{\delta}_2)$.

By formulating and empirically testing Hypothesis 2 with Eq. (2), we consider the nonlinear nature of the moderating effect of family ownership on the investment–cash flow relation, and, simultaneously, we adopt an innovative approach to determine whether family control leads either to monitor or to expropriation, which are the two phenomena commonly associated with ownership concentration in the corporate governance literature.

The initial two hypotheses focus on whether family ownership effectively reduces the investment–cash flow sensitivities and, in turn, leads family firms to approach the optimal investment level that maximizes firm value. Thus far, we implicitly assume that in many cases, the family's large stake in the company would enable it to influence managerial decisions. In

[18] The specific control-enhancing mechanisms that owner families in our sample can use are dual-class share structures, pyramids, holdings through multiple control chains, and cross-holdings.

fact, our focus is mainly on the role of the family as a large shareholder with a particular interest in monitoring the decisions made by managers. However, the earliest empirical evidence on the influence of ownership on the investment–liquidity relation primarily focused on the holdings of managers and not on that of large investors (Hadlock, 1998). Moreover, previous family business literature shows that active (i.e., the family holds top executive positions) and passive family control influence corporate performance differently (see, e.g., Anderson and Reeb, 2003a; Villalonga and Amit, 2006; Maury, 2006; Barontini and Caprio, 2006).

Therefore, we examine whether a different effect exists for family ownership on the investment–cash flow sensitivity depending on the degree of family involvement in the management of the company. Specifically, we investigate whether the lower dependence of investment spending on internal funds due to more efficient investment decisions is only present in family firms in which the controlling family holds managerial positions. In these cases, the alleviation of the classic owner–manager agency conflict is more likely to occur (James, 1999). Moreover, as highlighted in recent literature, families may only be able to induce positive effects as long as they have a close relation with their businesses and are acting as stewards of the firm (Andres, 2008).

Consistent with this reasoning, we pose our third hypothesis:

H3. *The lower investment–cash flow sensitivity in family firms is due to family corporations where the family actively participates in the management of the company*.

To test this hypothesis, we construct two new dummies, using Faccio and Lang’s (2002) data, which identify whether the controlling family is in management, and interact them with the cash flow measure[19] as in the following model:

[19] Faccio and Lang (2002) identify whether a member of the controlling family is the CEO, honorary chairman, chairman, or vice-chairman of the firm.

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \alpha_2 MFD_{it} + \psi_2 NMFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}, \qquad (3a)$$

where MFD_{it} is a dummy variable that equals 1 for family firms in which the family is actively involved in the management of the company, and zero otherwise, and $NMFD_{it}$, is a dummy variable that equals 1 for the remaining family firms (i.e., those in which the family does not directly participate in the firm's management), and zero otherwise. Now $(\beta_2 + \alpha_2)$ measures the effect of cash flow on corporate investment for family businesses with active family involvement in the company's management, and $(\beta_2 + \psi_2)$ captures this effect for the family-controlled corporations without active management; β_2 measure the effect for non-family firms (given both MFD_{it} and $NMFD_{it}$ = 0). Consistent with Hypothesis 3, we expect $(\hat{\beta}_2 + \hat{\alpha}_2) < (\hat{\beta}_2 + \hat{\psi}_2)$.

In Model (3a), we differentiate between family firms in which the family actively participates in the management of the company and those in which family members simply hold a large stake in the firm. Following Faccio and Lang (2002), our family firm sample includes corporations whose ultimate owner is a family, an individual, or an unlisted company. However, Faccio and Lang do not provide information on active or passive family control for unlisted firms (i.e., whether the ultimate owner holds a top management position). Thus, whenever the ultimate owner of a family firm is an unlisted company, the firm is classified as passively controlled. Consequently, in Model (3a), $NMFD_{it}$ equals 1 for all family firms whose ultimate owner is an unlisted company as well as for those controlled by an individual or a family that is not involved in managerial activities. To avoid the risk that the results from estimating Eq. (3a) are driven by the family firm subsample in which the ultimate owner is a family unlisted company, we split the nonmanager family dummy, $NMFD_{it}$, into a strict nonmanager family dummy and a family unlisted company dummy:

$$\begin{aligned} IAI_{it} = \beta_0 &+ \beta_1 IAI_{it-1} + (\beta_2 + \alpha_2 MFD_{it} + \varphi_2 SNMFD_{it} + \varpi_2 FUCD_{it})CF_{it} \\ &+ \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it} \end{aligned}, \qquad (3b)$$

where $SNMFD_{it}$ equals 1 for family firms in which the ultimate owner is a family or an individual that does not actively participate in the company management, and zero otherwise, and $FUCD_{it}$ equals 1 for family firms whose ultimate owner is an unlisted company, and zero otherwise. Consequently, the relation between liquidity and investment for non-family firms and for family firms with active family involvement in managerial activities is evaluated by the same coefficients as before. However, in this model, the impact of cash flow on the dependent variable for the remaining family firms is captured by $(\beta_2 + \varphi_2)$ or $(\beta_2 + \varpi_2)$, depending on whether the controlling shareholder is a family or an individual with no active participation in the firm management or a family unlisted company, respectively. We, therefore, expect $(\hat{\beta}_2 + \hat{\alpha}_2) < (\hat{\beta}_2 + \hat{\varphi}_2)$.

We initially propose lower investment–cash flow sensitivities in family firms based on the potential benefits associated with family control. We then account for the possibility that the presence of a controlling family in the company endangers minority shareholders' interests in Hypothesis 2, and in Hypothesis 3, we consider the moderating effect of active/passive family management. We now examine whether the presence of a second large shareholder acts as a mechanism that disciplines the controlling family, thus counteracting the potential disadvantages attributed to family ownership, and therefore helps alleviate the dependence of investment spending on internal cash flow. La Porta, Lopez-de-Silanes, and Shleifer (1999) suggest that in companies with concentrated ownership, large shareholders may monitor each other but, using a sample of large corporations, find that family control appears to be typically unchallenged by other investors.

Conversely, subsequent literature on the relation between multiple large shareholders and firm performance shows that, when firms have a second blockholder, firm value increases as a result of this second blockholder's ability to monitor and contest the largest shareholder. That is, under particular circumstances, the presence of several blockholders in family firms results in positive outcomes for minority investors in terms of value creation—a finding that has been substantiated in numerous studies of European family-controlled corporations (Maury and Pajuste, 2005; Jara-Bertin, López-Iturriaga, and López-de-Foronda, 2008).

Furthermore, in a recent study, Attig, Guedhami, and Mishra (2008) show that multiple large shareholders, used as a proxy for a firm's internal governance, may reduce the agency problems and information asymmetries that increase a firm's cost of equity financing. By using a sample of corporations from eight East Asian and 13 Western European countries, Attig, Guedhami, and Mishra find that the implied cost of equity decreases with the presence, number, and voting size of large shareholders beyond the controlling owner. Chen, Chen, and Wei (2009) find that ownership concentration measured by the Herfindahl index of the five largest shareholders is significantly and negatively associated with the cost of equity capital in their sample of corporations from 17 emerging economies. This finding, which confirms Attig, Guedhami, and Mishra's empirical evidence, points to the presence of multiple large shareholders in a company as a firm-level corporate governance mechanism that can influence important corporate decisions (e.g., investment) significantly.

Given this discussion, we investigate whether family businesses in which a second large shareholder (in addition to the controlling family) is present exhibit lower investment–cash flow sensitivities. That is, we posit that a second blockholder exerts a monitoring role in family firms, thus disciplining the controlling family and reducing the risk that the controlling family will engage in value-destroying projects. Additionally, the contestability to the control of owner families may prevent them from acting in their own best interest in the investment decision-making process. If this argument holds, family firms with other large investors will reach an investment level closer to the optimum, and their investment spending will be less dependent on internal funds. Thus, we formulate Hypothesis 4 as follows:

H4. *The presence of a second large shareholder in family firms further contributes to reduce the investment–cash flow sensitivity in this type of corporation.*

To test this hypothesis, we develop the following model:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \theta_2 NSSPFD_{it} + \vartheta_2 SSPFD_{it})CF_{it} \\ + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it} \quad , \qquad (4a)$$

where $NSSPFD_{it}$ equals 1 for family firms without a second blockholder, and zero otherwise, and $SSPFD_{it}$ equals 1 for family firms with a second large shareholder, and zero otherwise. As a result, for family firms without a second large investor the influence of cash flow on investment is measured by $(\beta_2 + \theta_2)$ and for family firms with a second large shareholder, it is evaluated by $(\beta_2 + \vartheta_2)$. As in the previous model, for non-family businesses, the relation between cash flow and investment is captured by β_2 (given both $NSSPFD_{it}$ and $SSPFD_{it} = 0$). We therefore expect $(\hat{\beta}_2 + \hat{\theta}_2) > (\hat{\beta}_2 + \hat{\vartheta}_2)$.

Model (4a), however, does not account for the identity of the second large shareholder. Failing to do so can give rise to confounding results because, while certain types of second blockholders are likely to have a particular interest in monitoring the controlling family, others may collude with the family to enjoy the private benefits of control (Maury and Pajuste, 2005). Although they do not focus on second blockholder's identity, López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal (2007) find that in European civil law countries, the mere existence of a second reference shareholder can give rise to conflicts among large investors, thus reducing firm performance. However, by owning a higher stake in the company, second large shareholders can have a particular incentive to monitor controlling owner's extraction of private benefits. In other words, López-de-Foronda, López-Iturriaga, and Santamaría-Mariscal find a positive relation between the size of the second reference shareholder's stake in the company and firm value.

In their analysis of the relation between ownership structure and performance in the Italian market, Perrini, Rossi, and Rovetta (2008) find that the presence of multiple controlling blockholders is negatively but insignificantly associated with firm performance. To explain the overall insignificance of the existence of multiple large shareholders, they suggest—consistent with Maury and Pajuste (2005), and López-de-Foronda, López-Iturriaga, and Santamaría-

Mariscal (2007)—that the alternative incentives to monitor or collude with the controlling owner may depend on the type and relative size of the other blockholders.

Given that second large investors can serve as an internal governance mechanism either in collusion with or as a monitor of controlling owners, and in a similar fashion as in Hypotheses 1 and 3, we extend the Model (4a) by replacing $SSPFD_{it}$ with two new dummies that account for the identity of the second blockholder in the subsample of family businesses with a second large shareholder. Specifically, we investigate whether a second large shareholder in family firms can be a mechanism that effectively monitors the controlling family and lowers the dependence of investment on internally generated funds with the following model:

$$\begin{aligned} IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \theta_2 NSSPFD_{it} + \mu_2 FSSPFD_{it} + \eta_2 NFSSPFD_{it})CF_{it} \\ + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it} \end{aligned}, \qquad (4b)$$

where $FSSPFD_{it}$ equals 1 for family firms with a second family large shareholder, and zero otherwise, and $NFSSPFD_{it}$ equals 1 for family firms with a second non-family large investor, and zero otherwise. The distinction between family and non-family second large shareholders is based on prior empirical evidence on the relation between multiple large investors and value in family firms that concludes that only when the second large blockholder is non-family does firm value increase. By contrast, when two families own a large stake in the company, they act opportunistically in the detriment of corporate performance (Maury and Pajuste, 2005; Jara-Bertin, López-Iturriaga, and López-de-Foronda, 2008).

Attig, Guedhami, and Mishra (2008) find that in East Asian and Western European family-controlled firms, the identity of the second largest shareholder is important in shaping the risk of expropriation. In particular, they find that when the two largest investors are families, the information risk is high, and, consequently, the cost of equity capital increases. Conversely, in family firms in which the state is the second largest shareholder, agency costs are alleviated and the cost of equity is lowered. Consistent with these findings, we expect

$(\hat{\beta}_2 + \hat{\theta}_2) > (\hat{\beta}_2 + \hat{\eta}_2)$, and if both the monitoring and the collusion phenomena discussed in the literature emerge in the investment decision-making process, then $(\hat{\beta}_2 + \hat{\theta}_2) < (\hat{\beta}_2 + \hat{\mu}_2)$.

III.2.2. Family control and the source of the investment–cash flow sensitivity

Thus far, we posit that the presence of a controlling family in the company positively affects the investment–cash flow sensitivity in the sense that it contributes to alleviating firm dependence on internally generated funds to finance new investments, thus allowing family firms to approach their optimal investment level. We base this proposition on the peculiarities inherent in the family business model and on prior research that accounts for the firm's ownership structure when analyzing the relation between investment and liquidity. We do not consider the source of the positive relation between investment spending and cash flow. Previous literature supports two main explanations as to why companies experience investment–cash flow sensitivities: namely, the financial constraints arising from asymmetric information problems and the agency conflicts of free cash flow. Each explanation gives rise to a different distortion in the investment decision-making process: whereas the existence of financial constraints in capital markets can lead to underinvestment, the free cash flow problems are commonly related to overinvestment processes.

The underinvestment problem is a result of agency conflicts among firms' stakeholders with different degrees of information about the quality of the company's investment opportunities. Current shareholders, given their insider information, may choose to abandon profitable investments if their net present value is lower than the amount of debt issued (Myers, 1977). In addition, they may have incentives to undertake riskier investment projects than external debt providers are willing to finance without a premium (Jensen and Meckling, 1976). In other words, the adverse selection problem arises because the quality of information available to external providers of funds (i.e., creditors and prospective shareholders) is not sufficient to determine the quality of the investment projects (Stiglitz and Weiss, 1981; Myers and Majluf, 1984). Due to these information asymmetries between the different firms' stakeholders, the external providers of capital demand a risk premium, which increases the cost of external finance above the cost of internally generated funds. As a result, companies may pass over some positive net present value projects when sufficient internal cash flow is not available.

The overinvestment problem is created by the divergence of interests between owners and managers or, alternatively, between controlling and minority investors. When ownership is dispersed among minority shareholders and control is concentrated in the hands of managers, managers have the ability and the incentive to pursue their own interests by making certain investment decisions that deviate from the value-maximization rule. Consequently, managers have incentives to use the firm's free cash flow to finance negative net present value projects for their personal benefit (Jensen, 1986). They would, however, be unable to pursue these private interests if expensive external capital was required. Therefore, in the case of overinvestment, the positive relation between investment and liquidity is not a consequence of the high cost of external funds (as occurs in the underinvestment problem), but rather due to the low cost of excess internal funds that allow managerial discretion in the decision-making process.

Previous studies attempt to disentangle whether the observed positive and significant relation between investment and cash flow is due to asymmetric information or free cash flow problems (Kathuria and Mueller, 1995; Vogt, 1994; Hadlock, 1998; Pawlina and Renneboog, 2005; Andres, 2009). However, in most cases, prior research finds that these two explanations are not mutually exclusive. Empirical evidence, in fact, suggests that the investment–cash flow sensitivity arises as a result of both underinvestment and overinvestment, depending on the specific features of the firm (see, e.g., Hoshi, Kashyap, and Scharfstein, 1991; Vogt, 1994, 1997; Carpenter, 1995; Koch and Shenoy, 1999; Miguel and Pindado, 2001; Morgado and Pindado, 2003; Hovakimian and Hovakimian, 2009).

We go a step further in our analysis of the moderating role of family ownership in the investment–cash flow sensitivity to determine whether the proposed lower dependence of family firms on internal funds is due to lower risk of over- or underinvestment in these corporations. That is, is the positive and significant relation between investment and cash flow mitigated within family firms because these firms are in a better position to reduce the financial constraints that derive from information asymmetries or because they are better able to solve the agency problems of free cash flow? Thus, we investigate whether underinvestment, overinvestment, or, alternatively, both problems are alleviated in family-controlled corporations.

III.2.2.1. Family control and financial constraints due to asymmetric information problems

Overall, the underinvestment problem resulting from the information asymmetries and financial constraints in capital markets is the most widely accepted interpretation of the investment–cash flow sensitivity. Beginning with Fazzari, Hubbard, and Petersen (1988), prior research (see, e.g., Devereux and Schiantarelli, 1990; Bond, Elston, Mairesse, and Mulkay, 2003; Love, 2003; Allayannis and Mozumdar, 2004; Moyen, 2004), provides empirical evidence of a strong positive relation between the level of investment and the availability of internal funds, with consensus that this relation is driven by underinvestment caused by financing constraints in financial markets. However, this interpretation of the investment–cash flow sensitivity is not without criticism. In this respect, Kaplan and Zingales (1997), Kadapakkam, Kumar, and Riddick (1998), Cleary (1999), and Cleary (2006), among others, find that investment spending of corporations considered to be most financially constrained is the least sensitive to cash flow.

We propose that family control can contribute to alleviating the asymmetric information problems and, in turn, the associated financing constraints given the peculiarities associated with this type of organizational form. First, as previously noted, prior research shows that family firms enjoy a lower cost of debt financing due to the alleviation of agency conflicts between bondholders and investors (Anderson, Mansi, and Reeb, 2003). In fact, the long-term presence of the family in the company can facilitate a relation based on trust and commitment with external providers of capital, which is likely to result in better conditions for external financing to undertake new investments. As highlighted by Le Breton-Miller and Miller (2006), long-term associations with bankers and suppliers of capital provide valuable resources and lend stability to the company.

In addition, the lengthy presence of family members in the business allows them to acquire knowledge of the firm and its industry, which can be particularly important to making efficient investment decisions. In fact, prior research shows that close familiarity with the business on the part of owners and top managers reduces uncertainty about future cash flows and thus lengthens investment time horizons (James, 1999). Family owners may, consequently, be able to manage the financial constraints that exist in capital markets more efficiently than other types of dominant shareholders due to their better understanding of the company along with greater room for maneuvering as a result of their extended investment horizons.

Moreover, as evidenced by the higher earnings quality in family firms (Wang, 2006; Ali, Chen, and Radhakrishnan, 2007), family owners appear particularly interested in providing capital markets with accurate financial information about the firm's performance. This interest in relaying accurate information suggests that controlling families are willing to reduce the information asymmetries between internal and external stakeholders, which is often attributed as the cause for the financial constraints of corporations and, consequently, for the investment–cash flow sensitivities. As in the case of blockholdings by financial institutions (Hoshi, Kashyap, and Scharfstein, 1991), family large shareholdings act to reduce information asymmetries between the firm and capital markets; however, in this case, they are motivated by the reputation attached to the family name and the long-term presence of the family in the company.

Taking into account these arguments, which point to less information asymmetries and a lower wedge between the cost of internal and external funds in family firms, we formulate the fifth hypothesis of the chapter:

H5. *Family control reduces the investment–cash flow sensitivity due to financial constraints that exist in capital markets.*

To test this hypothesis empirically, we propose the following model in which we interact CF_{it} with the dummy included in Eq. (1a), FD_{it}, and a new dummy for financially constrained companies:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \omega_2 FICOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}\,, \qquad (5)$$

where $FICOD_{it}$ equals 1 for financially constrained corporations, and zero otherwise. In this way, we are able to compare the positive and negative effects of family control and financial constraints on the investment–cash flow sensitivity, respectively. Although we refer to the positive effect of family control and negative effect of financial constraints on the sensitivity of investment to cash flow, we expect the estimated coefficients of the interactions between FD_{it} and $FICOD_{it}$ with CF_{it} to be negative and positive, respectively (i.e., the sensitivity decreases under family control but increases under high financial constraints). Consequently, the impact of cash flow on investment for financially constrained family firms is $(\beta_2 + \gamma_2 + \omega_2)$, and the impact for the remaining family firms is $(\beta_2 + \gamma_2)$. For non-family businesses, the effect of cash flow on investment for the financially constrained and unconstrained subsamples is $(\beta_2 + \omega_2)$ and β_2, respectively.

The construction of our $FICOD_{it}$ variable, which allows us to classify corporations as financially constrained and unconstrained, improves on criteria used in prior research because it captures the effects of not just one but both debt and equity constraints. This innovative measure of a firm's financial constraints (and hence the likelihood that the company faces underinvestment problems) comes from Whited (1992), who emphasizes that debt is a more important source of incremental funding than outside equity for most companies. Therefore, Whited uses the firm's debt ratio—rather than the payout ratio, as in most previous research (Fazzari, Hubbard, and Petersen, 1988)—to identify financially constrained corporations. In turn, we combine these two financial variables into one factor, which is then used to divide the sample into financially constrained and unconstrained subsamples and thus allow us to differentiate between those firms that are more and less likely to underinvest, respectively.

Specifically, to capture the debt and equity constraints in one single variable, we perform a factor analysis with principal components using our debt and dividend measures.[20] The coordinates of these variables on the first factorial axis are -0.7859 and 0.7859 for dividends and debt, respectively; the eigen value is 1.23542. We then construct a factor, $FICO_{it}$[21] and define our $FICOD_{it}$ dummy variable, which equals 1 for corporations with low dividends and a high level of debt (i.e., those more likely to be financially constrained), and zero otherwise.[22] This classification is based on the arguments provided in previous literature (since the seminal work by Fazzari, Hubbard, and Petersen, 1988). In fact, most studies that investigate the investment–cash flow sensitivity argue that a low payout ratio is associated with major financial constraints. Additionally, Whited (1992) argues that corporations with a high level of debt are more likely to be financially constrained.[23] Our new variable captures these two effects in one single measure, allowing us to identify corporations more likely to face major financial constraints and therefore be more prone to underinvesting in a more refined way than previous works. Using this new measure, we estimate Eq. (5).

III.2.2.2. Family control and free cash flow problems

Although the underinvestment problem is the most extensively accepted explanation for the dependence of investment on internal funds, the overinvestment hypothesis is also supported by the literature. Devereux and Schiantarelli (1990), Lang, Ofek, and Stulz (1996), Lamont (1997), Chen and Ho (1997), Del Brio, Miguel, and Pindado (2003), Del Brio, Perote, and Pindado (2003) and Aivazian, Ge, and Qiu (2005b), among others, provide empirical

[20] Oliner and Rudebusch (1992) also carry out a factor analysis to obtain a univariate measure of information asymmetries, but they use different variables from ours.

[21] The value of the factor is high for companies with low dividends and a high debt ratio. The firms in this group are financially constrained. On the contrary, companies face minor financial constraints when the value of the factor is low.

[22] In particular, in line with recent prior studies (Hahn and Lee, 2009), we rank firm-year observations based on their $FICO_{it}$ measure and classify the top three deciles of the sample observations as financially constrained. Hence, for these firms the $FICOD_{it}$ dummy equals 1, and zero otherwise.

[23] In a more recent paper, Whited and Wu (2006) also point out that constrained firms are usually characterized by higher leverage, and Hobdari (2008) reports that firms with a higher debt to capital ratio are more likely to be financially constrained.

evidence that supports the view that free cash flow costs are the source of the investment–cash flow sensitivity.

Several arguments can be made that suggest that family firms are in a good position to mitigate the overinvestment problem and the agency conflicts of free cash flow as related to the investment–cash flow sensitivity, First, controlling families, as large shareholders with a substantial stake in the firm, have a great interest in monitoring managerial activities to ensure that managers do not spend the firm's financial resources in value-destroying investment projects. Thus, family ownership may reduce the agency problems between owners and managers (Jensen and Meckling, 1976). As noted in previous literature, when shareholders perform an active monitoring role, the costs of free cash flow are reduced (Lasfer, 1995) and the investment policy may improve because managers have less room to overinvest (Goergen and Renneboog, 2001).

Second, as previously pointed out, families usually participate in the management of the firm, either directly by holding executive positions or indirectly by influencing the managerial decision-making process. This influence further contributes to the convergence of interests between managers and investors, which previous literature on corporate investment (beginning with Hadlock, 1998) has shown to be associated with a reduction in the investment–cash flow sensitivity. In addition, executives with extended horizons, as in the case with family managers, are more reluctant to engage in highly risky projects, such as unrelated diversification or hazardous acquisitions (Amihud and Lev, 1999; Morck, Shleifer, and Vishny, 1990), even when free cash flow is available.

Consequently, we propose that family control also helps to mitigate the agency problems of free cash flow and thereby formulate the last hypothesis of the chapter as follows:

H6. *Family control reduces the investment–cash flow sensitivity due to free cash flow problems.*

To test it, the following model is proposed:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \pi_2 AGCOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}\ , \qquad (6)$$

where $AGCOD_{it}$ equals 1 for corporations more likely to face agency problems of free cash flow on the basis of the cash flow rights and voting rights owned by the controlling shareholder, and zero otherwise. We adopt an approach similar to the model used to test Hypothesis 5. However, in this case we interact CF_{it} with FD_{it} and the agency conflicts dummy, $AGCOD_{it}$. We expect, as in Hypothesis 5, the estimated coefficients of the interactions between FD_{it} and $AGCOD_{it}$ with CF_{it} to be negative and positive, respectively (i.e., the investment–cash flow sensitivity decreases under family control but increases under agency conflicts of free cash flow). The $(\beta_2 + \gamma_2 + \pi_2)$ measures the effect of cash flow on investment for family firms that are more likely to face agency conflicts of free cash flow, and $(\beta_2 + \gamma_2)$ measures the effect for the remaining family firms. The $(\beta_2 + \pi_2)$ and β_2 measure the effect for non-family corporations with and without free cash flow problems, respectively.

In particular, we posit that the scope for agency conflicts of free cash flow is higher in firms with a higher wedge between the cash flow and control rights in the hands of the dominant owner because in these companies, controlling shareholders are in a better position to pursue their own interests at the expense of minority shareholders' wealth by overinvesting.[24] Consequently, we use the ratio of cash flow to control rights provided by Faccio and Lang (2002) as our criterion to classify companies with more and less likelihood of facing agency conflicts. Specifically, as the value of the ratio decreases, the deviation of cash flow from control rights increases and, thus, the probability rises that the firm will face the problems of free cash flow due to the increased discretion of large shareholders to act in their own interest. Taking this into account, we define firms with a lower cash flow to control rights ratio as likely to face the agency problems of free cash flow. Thus, $AGCOD_{it}$ equals 1 for firms

[24] This classification criterion is in line with the empirical evidence provided by Wei and Zhang (2008) for East Asian corporations.

likely to face agency problems, and zero otherwise.[25] Then, we enter $AGCOD_{it}$ in the right-hand side of Eq. (6), interacted with CF_{it}, and we estimate the model.

III.3. Data and estimation method

III.3.1. Data

We need three different types of information to estimate the empirical models as specified. First, we need the financial statements of companies in the calculation of the investment and cash flow variables as well as to compute the control variables included in the models. Second, we need stock data to calculate Tobin's *q*, which is used to proxy for the investment opportunities and future prospects of corporations. Finally, we need detailed information on the ownership structure of companies to test our hypotheses. Therefore, we employ two different sources of information. We extract financial and stock data from Worldscope database, and we obtain the information related to the firms' ownership structure from the database developed by Faccio and Lang (2002). In addition, we obtain some macroeconomic data (such as the growth of capital goods prices and the rates of interest of short- and long-term debt) necessary to calculate the variables as explained in Appendix III.A from the Organisation for Economic Co-operation and Development's *Main Economic Indicators.*

From the 13 Western European countries in Faccio and Lang's (2002) data set, we focus on the nine Eurozone nations: Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal. We manually merge the ownership data of corporations that operate in these countries with the financial information from Worldscope. Then, following the literature

[25] Specifically, $AGCOD_{it}$ equals 1 for companies with a cash flow to control rights ratio below the sample median, and zero otherwise. The median value of the cash flow to control rights ratio in the sample is 1, which means that we consider a firm to be more likely to face free cash flow problems when the ultimate owner's voting rights are above their cash flow rights. Note also that the lower the ratio, the higher the wedge between the cash flow rights and control rights owned by the ultimate owner and that when the ratio equals 1, the control rights and cash flow rights in the hands of the controlling shareholder are exactly the same. Further, following this classification scheme, about 30% of the firm-year observations are included in the subsample of firms facing agency conflicts of free cash flow (see Panel A of Table III.5), which is consistent with the approach adopted before for the $FICO_{it}$ criterion.

on corporate investment (see, e.g., Whited, 2006; Whited and Wu, 2006; Wei and Zhang, 2008), we exclude from the sample financial companies (SIC codes 6000–6999) as well as regulated utilities (SIC codes 4900–4999).

Faccio and Lang's (2002) database only provides ownership information for each company for one single year. Nevertheless, this limitation is not important to our study because, as highlighted in previous research (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Zhou, 2001), the ownership structure of corporations tends to be relatively stable over time and typically changes slowly from year to year, and we only use the ownership data to build dummy variables.[26] Moreover, to reduce further the possible bias that might arise as a consequence of combining the ownership information from one specific year with financial data from several consecutive years, we only include in the final sample firms whose first year of financial information is between 1996 and 1999, which are the years covered by Faccio and Lang's (2002) database.[27]

The time period of our study—namely, from 1996 to 2006—is also restricted by the availability of the information needed to test our hypotheses. Finally, our methodology imposes an additional restriction to account for the unobservable heterogeneity and endogeneity problems. That is, we need at least four consecutive years of information per company to test for the absence of second-order serial correlation because our estimation method, the GMM, is based on this assumption. Therefore, the final sample is an unbalanced panel comprised of 684 companies (6,024 observations) for which information is available for at least four consecutive years between 1996 and 2006. Nevertheless, the models are not estimated using all observations as a consequence of including in the right-hand side of the models the lag of some variables (6,024 – 684 = 5,340 observations used in the estimation process). The structure of the total and family firm samples, by number of companies and

[26] Fan and Wong (2002) also merge ownership data from one single year (in particular, 1996 information) with stock return and financial data from several years (1991–1995 data). Similarly, Attig, Guedhami, and Mishra (2008) also match ownership information from one year (data from one year between 1996 and 1999) with data from several years (1995–1997 data).

[27] Although Faccio and Lang (2002) only provide ownership information for each company for one single year, the information does not come from the same year for all companies. Depending on the countries in which firms operate, the data can come from 1996, 1997, 1998, or 1999.

observations per country, is provided in Table III.1. About 75% (510 / 684 ≈ 75%) of the companies included in the sample are family firms. Although this percentage may seem high, it is quite reasonable when we consider that we exclude financial institutions and UK companies from the analysis.[28] Table III.2 presents the distribution of the sample by industry, and Table III.3 provides the main summary statistics (median, mean, standard deviation, minimum, and maximum) of the variables included in the models and the correlations between them.

Table III.1

Distribution of the sample by country and ownership structure

This table shows the number and percentage of firms and observations by country and ownership structure. Data were extracted for companies for which information was available for at least four consecutive years between 1996 and 2006. Following Faccio and Lang (2002), the family firm sample includes all corporations whose ultimate owner at the 10% threshold is an individual, a family, or an unlisted company. Of the total sample, 74.56% are family businesses. The percentage of family firms by country is as follows: 58.33% family firms in Austria, 70.97% family firms in Belgium, 79.41% family firms in Germany, 70.73% family firms in Spain, 56.52% family firms in Finland, 80.85% family firms in France, 30.77% family firms in Ireland, 84.91% family firms in Italy, and 72.00% family firms in Portugal.

Panel A: Distribution of the full sample by country

	Firms		**Observations**	
Country	***n***	**%**	***n***	**%**
Austria	36	5.26	333	5.53
Belgium	31	4.53	293	4.86
Germany	238	34.80	2,036	33.80
Spain	41	5.99	373	6.19
Finland	46	6.73	398	6.61
France	188	27.49	1,634	27.12
Ireland	26	3.80	240	3.98
Italy	53	7.75	510	8.47
Portugal	25	3.65	207	3.44
Total	**684**	**100**	**6,024**	**100**

Table III.1 continues

[28] As pointed out by Faccio and Lang (2002), family-controlled firms are least prevalent in the United Kingdom and among financial institutions.

Table III.1 (*continued*)

Panel B: Distribution of the sample by ownership structure								
	Type of firm							
	Family				**Non-family**			
	Firms		**Observations**		**Firms**		**Observations**	
Country	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Austria	21	4.12	176	3.91	15	8.62	157	10.30
Belgium	22	4.31	209	4.64	9	5.17	84	5.51
Germany	189	37.06	1,643	36.51	49	28.16	393	25.79
Spain	29	5.69	249	5.53	12	6.90	124	8.14
Finland	26	5.10	207	4.60	20	11.49	191	12.53
France	152	29.80	1,362	30.27	36	20.69	272	17.85
Ireland	8	1.57	72	1.60	18	10.34	168	11.02
Italy	45	8.82	443	9.84	8	4.60	67	4.40
Portugal	18	3.53	139	3.09	7	4.02	68	4.46
Total	**510**	**100**	**4,500**	**100**	**174**	**100**	**1,524**	**100**

Table III.2

Distribution of the sample by industry

This table contains the number and percentage of observations and firms by primary two-digit SIC code. This industry classification has been used to compute the industry-adjusted investment measure. As can be noted, following prior literature, financial companies (SIC codes in the interval 6000–6999) and regulated utilities (SIC codes in the interval 4900–4999) have been excluded from the sample.

SIC Code	**Industry description**	**Firms**		**Observations**		**% family firms**
		n	**%**	***n***	**%**	
01	Agricultural production - crops	1	0.15	11	0.18	100
08	Forestry	2	0.29	15	0.25	50
10	Metal mining	2	0.29	12	0.20	50
12	Coal mining	2	0.29	16	0.27	100
13	Oil and gas extraction	3	0.44	21	0.35	100
14	Nonmetallic minerals, except fuels	6	0.88	52	0.86	100
15	General building contractors	16	2.34	126	2.09	75
16	Heavy construction, except buildings	12	1.75	116	1.93	75
17	Special trade contractors	2	0.29	22	0.37	50
20	Food and kindred products	71	10.38	585	9.71	77.46
22	Textile mill products	11	1.61	104	1.73	90.91
23	Apparel and other textile products	14	2.05	126	2.09	92.86
24	Lumber and wood products	9	1.32	75	1.25	66.67
25	Furniture and fixture	4	0.58	22	0.37	100

Table III.2 continues

Table III.2 (*continued*)

SIC Code	Industry description	Firms		Observations		% family firms
		n	%	*n*	%	
26	Paper and allied products	20	2.92	175	2.91	70
27	Printing and publishing	8	1.17	67	1.11	100
28	Chemicals and allied products	32	4.68	308	5.11	71.88
29	Petroleum and coal products	8	1.17	79	1.31	37.50
30	Rubber and misc. plastics products	23	3.36	217	3.60	69.57
31	Leather and leather products	6	0.88	52	0.86	50
32	Stone, clay, and glass products	38	5.56	366	6.08	73.68
33	Primary metal industries	17	2.49	152	2.52	41.18
34	Fabricated metal products	25	3.65	206	3.42	68
35	Industrial machinery and equipment	53	7.75	444	7.37	73.58
36	Electronic and other electronic equipment	37	5.41	324	5.38	75.68
37	Transportation equipment	32	4.68	305	5.06	81.25
38	Instruments and related products	11	1.61	94	1.56	90.91
39	Miscellaneous manufacturing industries	10	1.46	93	1.54	70
41	Local and interurban passenger transit	6	0.88	46	0.76	83.33
42	Trucking and warehousing	4	0.58	32	0.53	75
44	Water transportation	11	1.61	104	1.73	81.82
45	Transportation by air	6	0.88	54	0.90	50
47	Transportation services	2	0.29	22	0.37	50
48	Communications	10	1.46	98	1.63	40
50	Wholesale trade - durable goods	32	4.68	287	4.76	84.38
51	Wholesale trade - nondurable goods	37	5.41	337	5.59	70.27
52	Building materials and garden supplies	8	1.17	71	1.18	75
53	General merchandise stores	6	0.88	46	0.76	83.33
54	Food stores	9	1.32	90	1.49	77.78
55	Automotive dealers and service stations	2	0.29	10	0.17	50
56	Apparel and accessory stores	3	0.44	24	0.40	100
57	Furniture and home furnishings stores	2	0.29	15	0.25	100
58	Eating and drinking places	3	0.44	24	0.40	66.67
59	Miscellaneous retail	8	1.17	76	1.26	100
70	Hotels and other lodging places	10	1.46	89	1.48	80
73	Business services	25	3.65	207	3.44	80
75	Auto repair, services and parking	4	0.58	27	0.45	75
78	Motion pictures	1	0.15	5	0.08	100
79	Amusement and recreation services	5	0.73	43	0.71	80
80	Health services	5	0.73	53	0.88	100
84	Museums, botanical, zoological gardens	2	0.29	16	0.27	0
87	Engineering and management services	7	1.02	53	0.88	42.86
96	Administration of economic programs	1	0.15	10	0.17	100
	Total	**684**	**100**	**6,024**	**100**	**74.56**

Table III.3

Summary statistics for the full sample

In this table are the means, standard deviations, minimums, medians, and maximums of the variables used in the descriptive and regression analyses, as well as the correlations between them. The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's (2002) data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, $SALES_{it}$ denotes scaled net sales, FCF_{it} is a firm's free cash flow, ROA_{it} stands for return on assets, and $SIZE_{it}$ is the firm's size. These variables are defined in Appendix III.A.

Panel A: Summary statistics

Variable	Mean	Standard deviation	Minimum	Median	Maximum
IAI_{it}	0.005	0.072	-1.486	0.000	0.931
CF_{it}	0.039	0.066	-0.742	0.042	0.495
Q_{it}	0.789	0.649	0.010	0.610	8.425
$DEBT_{it}$	0.106	0.112	0.000	0.074	0.764
DIV_{it}	0.014	0.022	0.000	0.009	0.468
$SALES_{it}$	1.014	0.583	0.000	0.928	7.378
FCF_{it}	0.047	0.129	-1.639	0.064	1.962
ROA_{it}	0.057	0.076	-0.753	0.058	0.637
$SIZE_{it}$	13.114	1.895	7.077	12.926	19.109

Panel B: Correlation matrix

		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
IAI_{it}	(1)	1.000								
CF_{it}	(2)	0.143	1.000							
Q_{it}	(3)	0.071	0.338	1.000						
$DEBT_{it}$	(4)	-0.017	-0.230	-0.340	1.000					
DIV_{it}	(5)	0.001	0.365	0.359	-0.235	1.000				
$SALES_{it}$	(6)	0.005	0.054	0.004	-0.172	0.057	1.000			
FCF_{it}	(7)	0.077	0.781	0.023	-0.106	0.154	0.036	1.000		
ROA_{it}	(8)	0.121	0.953	0.387	-0.230	0.401	0.101	0.715	1.000	
$SIZE_{it}$	(9)	-0.003	0.099	-0.039	0.209	-0.040	-0.184	0.118	0.078	1.000

III.3.2. Estimation method

We use panel data methodology in the estimation of the models. We select this methodology to avoid obtaining biased estimates due to the unobservable heterogeneity problem and the potential endogeneity of the regressors. The importance of accounting for these two problems when estimating investment models is highlighted in recent literature

(Guariglia, 2008; Carpenter and Guariglia, 2008). First, it is very important in our study to consider the unobservable individual heterogeneity given that we are comparing the investment–cash flow sensitivity across types of corporations according to whether they are family-controlled. More precisely, we must taken into account that every firm—especially those controlled by a family—has its own specificity (Lee, 2004; McVey and Draho, 2005) that gives rise to a particular behavior closely linked to the company's culture. In family firms, this firm culture is instilled by the controlling family and manifests itself in the investment decision-making process. Therefore, to eliminate the risk of obtaining biased results, we control for the individual heterogeneity by modeling it as a firm-specific effect, η_i, which is then eliminated by taking first differences of the variables. Therefore, the error term in our models, ε_{it}, is split into four different components. The first component is the individual or firm-specific effect, η_i. The second component, d_t, measures the temporal or time-specific effect with the corresponding time dummy variables so that we can control for the effect of macroeconomic variables on investment. The third component, c_i, consists of country dummy variables included to control for country-specific effects. Finally, v_{it} is the random disturbance.

Second, to control for the possible endogenenity of our explanatory variables, we estimate the models using the GMM. This estimation method, unlike within-groups and generalized least squares estimators, accounts for endogeneity by using instruments. The importance of considering the endogeneity problem in our analysis is reinforced by previous literature that shows that investment impacts on the firm's ownership structure (Pindado and de la Torre, 2006, 2008). Consequently, to avoid this problem, we use an instrumental variable estimator (i.e., the GMM), which allows us to control for problems of endogeneity by using the lags of the explanatory variables as instruments.

Finally, we check for the potential misspecification of the models. First, we use the Hansen *J* statistic of overidentifying restrictions to test for the absence of correlation between the instruments and the error term. The instruments used are valid in all models. Second, we use the m_2 statistic, developed by Arellano and Bond (1991), to test for the lack of second-order serial correlation in the first-difference residual and find no such problem in our model. Third, we obtain good results for three Wald tests: z_1 is a test of the joint significance of the reported coefficients, z_2 is a test of the joint significance of the time dummy variables, and z_3 is a test of the joint significance of the country dummy variables.

III.4. Results

This section presents the main findings of our analyses. We first comment on the results of the univariate tests performed, which though not conclusive, allow us to point out some interesting features of the sample. Then, we discuss the regression results focusing mainly on the moderating role of family control in the investment–cash flow relation. Following the structure adopted when proposing the hypotheses and developing the models, we first comment on the impact of family control on the investment–cash flow sensitivity, considering the possibility of nonlinearities in such impact, the active role of the family in the company's management, and the interaction between the controlling family and other large shareholders. And subsequently, the role of family control as a means to counteract the sensitivity of investment to cash flow depending on its source is discussed.

III.4.1. Descriptive analysis

To investigate the differences that exist between family firms and their non-family counterparts in Eurozone countries, we carry out several difference of means tests for all variables used in the multivariate analyses. Table III.4 presents the results of these univariate tests. In Panel A, we simply differentiate between family and non-family businesses, and in Panel B, we go a step further by splitting the family firm sample in two groups depending on the likelihood that controlling families are able to expropriate minority shareholders' wealth based on the use of control-enhancing mechanisms.

Table III.4

Firm-level characteristics by ownership structure

This table shows the difference of means tests between family and non-family firms in their financial characteristics. The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's (2002) data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's q, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, $SALES_{it}$ denotes scaled net sales, FCF_{it} is a firm's free cash flow, ROA_{it} stands for return on assets, and $SIZE_{it}$ is the firm's size. These variables are defined in Appendix III.A. The firms are classified either as family or non-family according to the family firm definition proposed by Faccio and Lang. *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Family firms versus non-family firms

	All	**Family**	**Non-family**	***t*-statistic**
	(1)	(2)	(3)	(2)–(3)
No. obs.	6,024	4,500	1,524	
IAI_{it}	0.005	0.005	0.004	0.469
CF_{it}	0.039	0.038	0.042	-1.904**
Q_{it}	0.789	0.797	0.765	1.672**
$DEBT_{it}$	0.106	0.103	0.117	-4.231*
DIV_{it}	0.014	0.013	0.014	-1.889**
$SALES_{it}$	1.014	1.051	0.905	8.526*
FCF_{it}	0.047	0.042	0.060	-4.784*
ROA_{it}	0.057	0.058	0.057	0.243
$SIZE_{it}$	13.114	12.866	13.845	-17.899*

Panel B: Accounting for different family firm categories

	All	**Non-exp. family**	**Exp. family**	**Non-family**	***t*-statistic**	***t*-statistic**	***t*-statistic**
	(1)	(2)	(3)	(4)	(2)–(4)	(3)–(4)	(2)–(3)
No. obs.	6,024	3,142	1,358	1,524			
IAI_{it}	0.005	0.006	0.003	0.004	0.829	-0.359	1.269
CF_{it}	0.039	0.036	0.043	0.042	-2.808*	0.673	-3.482*
Q_{it}	0.789	0.817	0.753	0.765	2.475*	-0.561	2.985*
$DEBT_{it}$	0.106	0.100	0.108	0.117	-4.729*	-2.038**	-2.146**
DIV_{it}	0.014	0.013	0.013	0.014	-1.390***	-2.235**	1.035
$SALES_{it}$	1.014	1.096	0.948	0.905	10.232*	2.402*	7.478*
FCF_{it}	0.047	0.038	0.053	0.060	-5.633*	-1.790**	-3.418*
ROA_{it}	0.057	0.056	0.061	0.057	-0.402	1.579***	-2.013**
$SIZE_{it}$	13.114	12.667	13.327	13.845	-20.691*	-7.098	-11.665*

As Panel A of Table III.4 shows, family-controlled corporations differ from their non-family counterparts in several aspects (see the (2)–(3) *t*-statistics). First, family firms in our sample have a lower level of cash flow but, at the same time, face higher investment opportunities, as proxied by Tobin's *q*. Accordingly, the level of free cash flow is significantly higher in non-family corporations than in the family firm sample. These findings suggest that family firms in Eurozone countries are more likely to be financially constrained, whereas non-family companies are potential overinvestors. Second, we find that both the debt and dividends ratios are significantly lower in family firms. Finally, the only two other firm-level characteristics that are different between subsamples are sales and firm size. Specifically, family firms have significantly higher sales but, by contrast, are smaller (at a 1% significance level).

The univariate tests presented in Panel B of Table III.4 (see the (2)–(3) *t*-statistics) show that family companies are heterogeneous. In fact, the findings in this panel support the criterion used to differentiate between expropriating and nonexpropriating family firms to test Hypothesis 2. As highlighted in the panel, family firms that do not use any control-enhancing mechanism own less internal funds but have higher investment opportunities than the remaining family companies (i.e., those that have at least one control-enhancing mechanism in place). As a result, the level of free cash flow is significantly higher in expropriating family firms. Moreover, these family companies are also significantly larger in terms of our size measure. Overall, these findings point to potential problems of overinvestment in family firms that make use of at least one control-enhancing mechanism, which is consistent with Hypothesis 2, which posits that lower investment–cash flow sensitivities are present only in certain family businesses. The other *t*-statistics (i.e., the (2)–(4) and (3)–(4) *t*-statistics) reported in Panel B compare the two family firm subsamples with non-family corporations. They corroborate the idea that family firms are heterogeneous in the sense that, while nonexpropriating family businesses are significantly different from non-family firms with respect to certain characteristics, the same differences do not hold when comparing expropriating family corporations with the non-family firm subsample (see, e.g., cash flow, Tobin's *q*, and firm size).

Table III.5 presents the distribution of the sample according to the financial constraints and agency conflicts criteria. In Panel A, we once again split the sample into family and non-family subsamples. Panel B contains the results of the *t*-statistics performed to analyze the differences that exist between financially constrained and unconstrained corporations as well as between firms more and less likely to face free cash flow problems.

As shown in Panel A of Table III.5, 30% of the firm-year observations are included in the subsample of financially constrained corporations. To categorize a firm as financially constrained, we rank firm-year observations based on the $FICO_{it}$ measure and then categorize the top three deciles of the sample observations as financially constrained.[29] This procedure is in line with recent previous studies (Hahn and Lee, 2009), which also classify the bottom or the top three deciles of the firm sample based on different classification criteria as financially constrained or unconstrained. Interestingly, if we focus on the distribution of the family and non-family firm subsamples according to the $FICO_{it}$ criteria, we find that both groups are similarly distributed. That is, in both subsamples, about 30% of the observations are included in the financially constrained category (28.56% and 34.25% of family and non-family firm-year observations, respectively, are categorized as financially constrained). This finding is important because it rules out the possibility that by using the proposed classification scheme we might be including in the subsample of financially constrained firms only companies featuring one specific ownership structure (i.e., either family or non-family control).

Turning now to the distribution based on the agency conflicts measure, we use the median level of the ratio of cash flow to control rights owned by the ultimate owner to divide the sample, as previously described. However, only about 30% of the firm-year observations are included in the group facing free cash flow problems because all companies in which the level of cash flow rights owned by the ultimate owner equals his or her control rights—that is, whose ratio of cash flow rights to control rights takes the value of 1 (which constitute more than 50% of the sample)—are included in the group of corporations that do not face agency conflicts of free cash flow. In fact, if we rank companies based on the cash flow to control rights ratio and then categorize the bottom three deciles of the sample firms as having free cash flow problems (in a similar fashion as done before with the financial constraints criterion), we

[29] Recall that the higher the value of the $FICO_{it}$ measure, the more likely that the company faces financial constraints in the investment decision-making process.

obtain exactly the same distribution shown in the right-hand side of Panel A of Table III.5. This result suggests that we are being coherent with our previous classification scheme and that we are, indeed, classifying about 30% of the sample in the category of companies with free cash flow problems. Finally, the distribution of the family and non-family groups according to the agency conflicts variable resembles to a great extent that of the full sample (28.33% and 34.51% of the family and non-family firms, respectively, are included in the subsample of companies with free cash flow problems).

Table III.5

Classification according to financial constraints and potential for agency conflicts

This table shows the number and percentage of observations by ownership structure and category– depending on whether corporations are financially constrained and whether they have agency conflicts of free cash flow–, and also contains the difference of means tests between firm categories in their financial characteristics. The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's (2002) data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The $FICOD_{it}$ is the financial constraints dummy constructed to differentiate between financially constrained and unconstrained corporations, whereas $AGCOD_{it}$ is the dummy variable used to identify companies more likely to suffer from free cash flow problems based on the ratio of cash flow rights to control rights owned by the firm's controlling shareholder. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's q, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, $SALES_{it}$ denotes scaled net sales, FCF_{it} is a firm's free cash flow, ROA_{it} stands for return on assets, and $SIZE_{it}$ is the firm's size. These variables are defined in Appendix III.A. The firms are classified either as family or non-family according to the family firm definition proposed by Faccio and Lang. *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Distribution of the sample by ownership structure

	FICOD $_{it}$ ***n*** **(%)**			***AGCOD*** $_{it}$ ***n*** **(%)**		
Firms	**0**	**1**	***Total***	**0**	**1**	***Total***
All	4,217 (70.00)	1,807 (30.00)	*6,024 (100)*	4,223 (70.10)	1,801 (29.90)	*6,024 (100)*
Family	3,215 (71.44)	1,285 (28.56)	*4,500 (100)*	3,225 (71.67)	1,275 (28.33)	*4,500 (100)*
Non-family	1,002 (65.75)	522 (34.25)	*1,524 (100)*	998 (65.49)	526 (34.51)	*1,524 (100)*

Table III.5 continues

Table III.5 (*continued*)

Panel B: Univariate analysis of firm-level characteristics								
	$FICOD_{it}$				***$AGCOD_{it}$***			
	All	**0**	**1**	***t*-stat.**	**All**	**0**	**1**	***t*-stat.**
	(1)	(2)	(3)	(2)–(3)	(4)	(5)	(6)	(5)–(6)
No. obs.	6,024	4,217	1,807		6,024	4,223	1,801	
IAI_{it}	0.005	0.006	0.003	1.063	0.005	0.005	0.004	0.90
CF_{it}	0.039	0.047	0.020	15.012*	0.039	0.038	0.042	-2.12**
Q_{it}	0.789	0.913	0.499	23.732*	0.789	0.810	0.740	3.81*
$DEBT_{it}$	0.106	0.048	0.242	-1.0e+02*	0.106	0.103	0.113	-3.17*
DIV_{it}	0.014	0.017	0.006	17.159*	0.014	0.014	0.013	1.45***
$SALES_{it}$	1.014	1.075	0.872	12.504*	1.014	1.045	0.941	6.36*
FCF_{it}	0.047	0.053	0.031	6.079*	0.047	0.044	0.054	-2.93*
ROA_{it}	0.057	0.067	0.035	15.541*	0.057	0.057	0.058	-0.43
$SIZE_{it}$	13.114	12.885	13.647	-14.549*	13.114	12.900	13.615	-13.62*

Panel B of Table III.5 presents the results of the univariate analyses that allow us to investigate the differences that exist between different types of corporations. In the left-hand side of the panel, we compare financially constrained and unconstrained firms, and in the right-hand side, we compared firm categories according to whether firms face agency conflicts of free cash flow. As expected, financially constrained corporations exhibit a higher level of debt and a lower dividends ratio (see the (2)–(3) *t*-statistics), which is a consequence of using the measure of financial constraints previously explained to split the sample and is consistent with prior literature on corporate investment. Regarding the classification based on the wedge between cash flow rights and control rights owned by the ultimate owner—which, following previous studies, we use to proxy for free cash flow problems—several findings are worth noting. First, corporations that are more likely to face agency conflicts of free cash flow have more internal funds but lower investment opportunities (see the (5)–(6) *t*-statistics), which along with a higher wedge between cash flow and control rights in the hands of the ultimate owner provides them with the necessary tools for overinvesting. Second, the panel shows that companies that are more likely to face free cash flow problems own a significantly higher level of free cash flow (see the (5)–(6) *t*-statistic). Overall, these findings support the use of the cash flow to control rights ratio as the criterion to disentangle whether companies suffer from problems of free cash flow.

III.4.2. Regression results

This section presents the results of estimating the empirical models explained in Section III.2. First, by estimating Models (1a), (1b), and (2), we are able to learn whether family firms indeed enjoy lower investment–cash flow sensitivities. Second, the estimation of Eqs. (3a) and (3b) provide evidence on whether the proposed lower dependence of family businesses when undertaking new investment projects is mainly due to the active participation of family members in managerial activities. Third, by estimating Eqs. (4a) and (4b), we evaluate the role of multiple large shareholders in family firms when it comes to corporate investment. And finally, we analyze the investment–cash flow relation differentiating between family and non-family firms and accounting for the source of the sensitivity by means of estimating Models (5) and (6).

III.4.2.1. Family control and the investment–cash flow sensitivity

The results of estimating the Eq. (1a), developed to analyze whether family control either attenuates or increases the investment–cash flow sensitivity, are presented in Table III.6 (column 1). The results show that the positive effect of cash flow on investment is weaker for family firms ($\hat{\beta}_2 + \hat{\gamma}_2 = 0.124 - 0.090 = 0.034$ is statistically significant, see t_1) than for non-family firms ($\hat{\beta}_2 = 0.124$). We, therefore, conclude that although cash flow continues to affect investment positively and significantly in family firms, the effect is considerably lower in comparison with their non-family counterparts.

Table III.6

Family control and the investment–cash flow sensitivity

GMM regressions results from:

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \chi_2 MSD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$ and

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \lambda_2 NEXFD_{it} + \delta_2 EXFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; MSD_{it} equals 1 for companies with a non-family ultimate owner at the 10% threshold, and zero otherwise; $NEXFD_{it}$ equals 1 for nonexpropriating family firms, and zero otherwise; and $EXFD_{it}$ equals 1 for expropriating family firms, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$; t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\chi_2=0$; t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\lambda_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from t–1 to t–3 as instruments for the equations in differences, and t–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from t–2 to t–4 for the equations in differences, and t–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	**(1)**	**(2)**	**(3)**
β_0 (Constant)	0.033* (0.006)	0.039* (0.005)	0.033* (0.006)
β_1 (IAI_{it-1})	0.135* (0.007)	0.135* (0.006)	0.138* (0.006)
β_2 (CF_{it})	0.124* (0.026)	0.144* (0.026)	0.144* (0.026)
γ_2 ($FD_{it}CF_{it}$)	-0.090* (0.029)	-0.101* (0.029)	
χ_2 ($MSD_{it}CF_{it}$)		-0.115* (0.028)	
λ_2 ($NEXFD_{it}CF_{it}$)			-0.114* (0.030)
δ_2 ($EXFD_{it}CF_{it}$)			-0.030 (0.032)
β_3 (Q_{it-1})	0.005* (0.001)	0.004* (0.001)	0.006* (0.001)
β_4 ($DEBT_{it-1}$)	-0.048* (0.008)	-0.049* (0.006)	-0.048* (0.007)
β_5 (DIV_{it-1})	0.140* (0.026)	0.135* (0.025)	0.155* (0.025)
β_6 ($SALES_{it-1}$)	0.006*** (0.003)	0.005** (0.002)	0.005*** (0.003)
t_1	2.535	3.541	
t_2		2.996	
t_3			1.900
z_1	81.97 (7)	89.71 (8)	113.74 (8)
z_2	17.71 (8)	32.10 (8)	20.22 (8)
z_3	10.97 (9)	20.52 (9)	14.01 (9)
m_1	-6.55	-6.59	-6.62
m_2	-0.23	-0.21	-0.17
Hansen	284.38 (239)	322.86 (274)	308.12 (274)
N	5,340	5,340	5,340

An important question concerning this conclusion is whether the lower dependence of investment on internal funds in family-controlled corporations derived from estimating Eq.

(1a) is only driven by the general blockholder effect rather than the specific family influence inside the company that we are trying to capture. To address this issue, we examine Model (1b). The estimated coefficients of this specification are presented in Table III.6 (column 2). The results suggest that although corporations with other categories of ultimate owners exhibit lower investment–cash flow sensitivities ($\hat{\beta}_2 + \hat{\chi}_2 = 0.144 - 0.115 = 0.029$ is statistically significant, see t_2) in relation to widely held firms ($\hat{\beta}_2 = 0.144$), family control continues to be associated with reductions in the impact of liquidity on investment spending ($\hat{\beta}_2 + \hat{\gamma}_2 = 0.144 - 0.101 = 0.043$ is statistically significant, see t_1). These results thus support Hypothesis 1 and are consistent with previous studies that find that insider ownership under specific circumstances and ownership concentration in the hands of some investor categories facilitate a reduction in investment–cash flow sensitivities (Hadlock, 1998; Goergen and Renneboog, 2001; Pawlina and Renneboog, 2005; Koo and Maeng, 2006; Wei and Zhang, 2008; Pindado and de la Torre, 2009). Furthermore, the peculiarities inherent to the family business model, such as the long-term investment horizons of family owners and their concern for the family's reputation, are additional explanations for the lower investment–cash flow sensitivity present in family-controlled corporations.

However, previous finance literature also points to a nonlinear impact of the firm's ownership structure on the investment–cash flow sensitivity, in line with the nonlinearities of firm value with respect to insider ownership and ownership concentration. To take into account this nonmonotonic effect in our analysis, we propose Hypothesis 2 and develop Model (2) to test it. The estimated results, provided in Table III.6 (column 3), show that the moderating effect of family control on the investment–cash flow sensitivity is nonlinear.[30] That is, family control effectively contributes to reducing the dependence of investment on internal funds, but when the discretion of the controlling family to act in its own best interest is high (as proxied

[30] Although we suggest that the moderating role of family control on the investment–liquidity relation is nonlinear, we are not directly including family ownership concentration and its square as explanatory variables in the model. By contrast, the monitoring and expropriation hypotheses, which are the usual explanations for the nonlinearities between ownership concentration and performance, are proxied by the presence of a family ultimate owner and by the use of control-enhancing mechanisms in family firms, respectively, and not by means of including a linear and a quadratic term simultaneously in the model.

by the use of control-enhancing mechanisms), the monitoring role of the family as dominant shareholder vanishes, thus pointing to the possible expropriation of minority investors' wealth. Consequently, the investment–cash flow sensitivity is not reduced in the case of family firms that use at least one control-enhancing mechanism. Hypothesis 2 is, therefore, supported by these findings, and we conclude that the monitoring and expropriation phenomena usually associated with ownership concentration also apply to the family firms in our sample. Specifically, whereas the impact of liquidity on our measure of investment is lower in family firms that do not resort to control-enhancing mechanisms to increase its voting rights above its cash flow rights ($\hat{\beta}_2 + \hat{\lambda}_2 = 0.144 - 0.114 = 0.030$ is statistically significant, see t_3), the same does not hold for family-controlled corporations that make use of at least one such mechanism ($\hat{\beta}_2 + \hat{\delta}_2 = \hat{\beta}_2 = 0.144$ is statistically significant; $\hat{\delta}_2$ is statistically nonsignificant).

We also examine whether the positive effect of family control in terms of reducing the dependence of investment with respect to cash flow is only attributable to family firms in which the family actively participates in the company's management. However, the results from the estimation of Model (3a) are not perfectly consistent with our hypothesis. Although the estimated coefficients of Eq. (3a), presented in Table III.7 (column 1), point to a weaker relation between liquidity and investment in family firms with active involvement of the family in the company's top management ($\hat{\beta}_2 + \hat{\alpha}_2 = 0.126 - 0.079 = 0.047$ is statistically significant, see t_1) than in the remaining family businesses ($\hat{\beta}_2 + \hat{\psi}_2 = 0.126 - 0.074 = 0.052$ is statistically significant, see t_2), given that both $\hat{\alpha}_2 = -0.079$ and $\hat{\psi}_2 = -0.074$ are negative and statistically significant, we cannot assert that the reduction of investment–cash flow sensitivities attached to family control only occurs when the controlling family actively participates in the management of the company. Nonetheless, we must be cautious when interpreting these findings because, as highlighted in the previous discussion, the nonmanager family firm sample is made up of all corporations ultimately owned by a family unlisted company, for which Faccio and Lang (2002) do not distinguish whether the family is involved in the company's top management.

Table III.7

Family management and the investment–cash flow sensitivity

GMM regressions results from:

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \alpha_2 MFD_{it} + \psi_2 NMFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$ and

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \alpha_2 MFD_{it} + \varphi_2 SNMFD_{it} + \varpi_2 FUCD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

in which MFD_{it} equals 1 for family firms whose ultimate owner holds a top management position, and zero otherwise; $NMFD_{it}$ equals 1 for family firms whose ultimate owner does not hold a top management position, and zero otherwise, $SNMFD_{it}$ equals 1 for family firms whose ultimate owner is an individual or a family that does not hold a top management position, and zero otherwise; and $FUCD_{it}$ equals 1 for family firms whose ultimate owner is a family unlisted company, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\alpha_2=0$; t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\psi_2=0$; t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varphi_2=0$; t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varpi_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	**(1)**	**(2)**
β_0 **(Constant)**	0.042* (0.006)	0.042* (0.005)
β_1 (IAI_{it-1})	0.138* (0.006)	0.139* (0.005)
β_2 (CF_{it})	0.126* (0.025)	0.122* (0.024)
α_2 ($MFD_{it}CF_{it}$)	-0.079* (0.029)	-0.076* (0.028)
ψ_2 ($NMFD_{it}CF_{it}$)	-0.074** (0.029)	
φ_2 ($SNMFD_{it}CF_{it}$)		0.127* (0.030)
ϖ_2 ($FUCD_{it}CF_{it}$)		-0.092* (0.028)
β_3 (Q_{it-1})	0.005* (0.001)	0.004* (0.001)
β_4 ($DEBT_{it-1}$)	-0.048* (0.007)	-0.051* (0.005)
β_5 (DIV_{it-1})	0.160* (0.025)	0.170* (0.022)
β_6 ($SALES_{it-1}$)	0.003 (0.003)	0.004*** (0.002)

Table III.7 continues

Table III.7 (*continued*)

Dep. var.: IAI_{it}	**(1)**	**(2)**
t_1	3.193	3.160
t_2	3.417	
t_3		14.689
t_4		2.075
z_1	107.43 (8)	161.10 (9)
z_2	26.07 (8)	32.41 (8)
z_3	15.91 (9)	17.60 (9)
m_1	-6.60	-6.60
m_2	-0.19	-0.11
Hansen	315.23 (274)	344.01 (309)
N	5,340	5,340

For this reason, we extend Model (3a) as specified in Eq. (3b). Table III.7 (column 2) provides the estimated coefficients for this model. Interestingly, we find that the alleviation in investment–cash flow sensitivities is only present in family firms with active family participation in management ($\hat{\beta}_2 + \hat{\alpha}_2 = 0.122 - 0.076 = 0.046$ is statistically significant, see t_1) and those firms in which the ultimate owner is a family unlisted company ($\hat{\beta}_2 + \hat{\varpi}_2 = 0.122 - 0.092 = 0.030$ is statistically significant, see t_4). By contrast, when the ultimate owner is an individual or a family that simply owns a large stake in the firm, the positive effect of liquidity on the dependent variable is stronger ($\hat{\beta}_2 + \hat{\varphi}_2 = 0.122 + 0.127 = 0.249$ is statistically significant, see t_3). Therefore, we conclude that although the results from estimating Model (3a) are not totally consistent with Hypothesis 3, when we adjust the model to make it more suitable to analyze the participation of family members in the company's management, namely Model (3b), we find support for our hypothesis. That is, family owners are only able to exert a significant influence in the investment decision-making process and, in turn, reduce the sensitivity of investment with respect to cash flow when they are directly involved in managerial activities. A likely explanation for this finding is that the experience and better knowledge of the industry and the company on the part of controlling families, which are a consequence of long-term involvement of the family in the business, provide them with the necessary skills to avoid overly risky and unprofitable investment projects. This finding is further consistent with the idea that family owners are only able to induce positive performance effects when they have a close relation with their businesses and are acting as stewards of the firm (Andres, 2008).

We also investigate whether the presence of a second large shareholder in family firms can serve as a mechanism that aligns the interests of the controlling owner with those of the rest of investors by performing a monitoring role. To this end, we pose Hypothesis 4 and develop Model (4a). The results of estimating this model are provided in Table III.8 (column 1). Contrary to our predictions, we find that only family firms with no second large investor exhibit a weaker relation between investment and internal funds ($\hat{\beta}_2 + \hat{\theta}_2 = 0.122 - 0.112 = 0.010$, statistically nonsignificant, see t_1). In the cases in which a second equity holder with a significant stake is present in the company, family firms are not distinguishable from non-family firms in terms of investment–cash flow sensitivities ($\hat{\beta}_2 + \hat{\vartheta}_2 = \hat{\beta}_2 = 0.122$ is statistically significant; $\hat{\vartheta}_2$ is statistically nonsignificant).

Table III.8

Family control, second large shareholders, and investment–cash flow sensitivities

GMM regressions results from:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \theta_2 NSSPFD_{it} + \vartheta_2 SSPFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it} \text{ and}$$

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \theta_2 NSSPFD_{it} + \mu_2 FSSPFD_{it} + \eta_2 NFSSPFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it},$$

in which $NSSPFD_{it}$ equals 1 for family firms with no second large shareholder and zero otherwise, $SSPFD_{it}$ equals 1 for family firms with a second blockholder and zero otherwise, $FSSPFD_{it}$ equals 1 for family firms with a second family blockholder and zero otherwise, and $NFSSPFD_{it}$ equals 1 for family firms with a second non-family blockholder and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's q, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\theta_2=0$; t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\mu_2=0$; t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\eta_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as

χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	(1)	(2)
β_0 (Constant)	0.025* (0.006)	0.027* (0.005)
β_1 (IAI_{it-1})	0.138* (0.006)	0.148* (0.005)
β_2 (CF_{it})	0.122* (0.025)	0.135* (0.023)
θ_2 ($NSSPFD_{it}CF_{it}$)	-0.112* (0.028)	-0.115* (0.026)
ϑ_2 ($SSPFD_{it}CF_{it}$)	0.033 (0.033)	
μ_2 ($FSSPFD_{it}CF_{it}$)		0.105* (0.033)
η_2 ($NFSSPFD_{it}CF_{it}$)		-0.083* (0.028)
β_3 (Q_{it-1})	0.005* (0.001)	0.003* (0.001)
β_4 ($DEBT_{it-1}$)	-0.052* (0.007)	-0.058* (0.006)
β_5 (DIV_{it-1})	0.130* (0.024)	0.137* (0.023)
β_6 ($SALES_{it-1}$)	0.012* (0.003)	0.010* (0.002)
t_1	0.749	1.482
t_2		9.903
t_3		3.515
z_1	95.32 (8)	168.40 (9)
z_2	21.46 (8)	23.10 (8)
z_3	12.90 (9)	15.63 (9)
m_1	-6.55	-6.66
m_2	-0.18	-0.06
Hansen	318.45 (274)	354.19 (309)
N	5,340	5,340

These unexpected findings are likely caused by our failure to account for the identity of second large shareholders. In fact, the nonsignificant moderating role of second blockholders in family firms found when estimating Eq. (4a) is likely to be the result of two opposing effects that cancel each other out. That is, whereas non-family second shareholders are likely to exert a monitoring role inside family businesses (thus leading to lower investment–cash flow sensitivities), family second blockholders will probably collude with the controlling family to enjoy the private benefits of control (which might result in inefficient investments that increase the sensitivity of investment with respect to cash flow). As a consequence of these phenomena, the estimated coefficient $\hat{\vartheta}_2$ is nonsignificant. Therefore, to analyze in more detail the moderating role of second blockholders in family businesses, we propose Eq. (4b), in which we take into consideration the identity of second large investors. The regression results of this model are as expected. Family firms with no second large equity holder continue to enjoy lower investment–cash flow sensitivities ($\hat{\beta}_2 + \hat{\theta}_2 = 0.135 - 0.115 = 0.020$ is statistically significant, see t_1). In family businesses with a second blockholder, if that second investor is a family, then the sensitivity of investment with respect to cash flow is higher ($\hat{\beta}_2 + \hat{\mu}_2 = 0.135 + 0.105 = 0.140$ is statistically significant, see t_2) and if the second blockholder is non-family, the opposite holds ($\hat{\beta}_2 + \hat{\eta}_2 = 0.135 - 0.083 = 0.052$ is statistically significant, see t_3). As a consequence, these results suggest that the collusion and the monitoring phenomena commonly associated with multiple large shareholders in prior literature (Maury and Pajuste, 2005; Jara-Bertin, López-Iturriaga, and López-de-Foronda, 2008) are also important in the investment decision-making process.

III.4.2.2. Family control and the source of the investment–cash flow sensitivity

After empirically showing that family control effectively contributes to reducing investment–cash flow sensitivities, we now take into account the source of the sensitivity. In this way, we evaluate whether the lower dependence of family firms on internal funds when undertaking additional investments is due to family owners who mitigate the financial constraints arising from asymmetric information problems or because the agency conflicts of free cash flow are less severe in family firms.

Table III.9 (column 1) provides the estimated coefficients that address one of this chapter's final hypotheses and show that the interaction between our family dummy and cash flow exhibits a negative and significant coefficient, consistent with Eqs. (1a) and (1b). In addition, the estimated coefficient of the interaction term between cash flow and the $FICOD_{it}$ dummy is positive and significant, as expected. This finding thus confirms the validity of our innovative measure as a proxy for the financial constraints faced by corporations. To compare the impact of cash flow on investment between firm categories, we perform several linear restriction tests. The results show that family firms with less financial constraints experience less investment–cash flow sensitivities ($\hat{\beta}_2 + \hat{\gamma}_2 = 0.088 - 0.071 = 0.017$ is statistically significant, see t_1) than their non-family counterparts ($\hat{\beta}_2 = 0.088$). More important, in line with Hypothesis 5, controlling families counteract, at least in part, the financial constraints present in capital markets. Specifically, although the effect of cash flow on investment is positive and significant for family firms with major financial constraints ($\hat{\beta}_2 + \hat{\gamma}_2 + \hat{\omega}_2 = 0.088 - 0.071 + 0.122 = 0.139$ is statistically significant, see t_3), it is considerably lower than that of their non-family counterparts ($\hat{\beta}_2 + \hat{\omega}_2 = 0.088 + 0.122 = 0.210$ is statistically significant, see t_2). This result is consistent with previous literature that shows that family firms enjoy a lower cost of debt financing as a result of the alleviation of agency conflicts between bondholders and shareholders (Anderson, Mansi, and Reeb, 2003), which turns into a lower wedge between the cost of internal and external funds and, thus, allows family control to counteract partially the financial constraints that exist in capital markets.

Table III.9

Family control and the source of the investment–cash flow sensitivity

GMM regressions results from:

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \omega_2 FICOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$ and

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \pi_2 AGCOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; $FICOD_{it}$ equals 1 for financially constrained corporations, and zero otherwise; and $AGCOD_{it}$ equals 1 for companies more likely to suffer from agency conflicts of free cash flow, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$; t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\omega_2=0$; t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2+\omega_2=0$; t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\pi_2=0$; t_5 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2+\pi_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	**(1)**	**(2)**
β_0 (Constant)	0.030* (0.006)	0.035* (0.006)
β_1 (IAI_{it-1})	0.132* (0.006)	0.140* (0.006)
β_2 (CF_{it})	0.088* (0.024)	0.081* (0.026)
γ_2 ($FD_{it}CF_{it}$)	-0.071* (0.025)	-0.074* (0.028)
ω_2 ($FICOD_{it}CF_{it}$)	0.122* (0.018)	
π_2 ($AGCOD_{it}CF_{it}$)		0.196* (0.030)
β_3 (Q_{it-1})	0.005* (0.001)	0.006* (0.001)
β_4 ($DEBT_{it-1}$)	-0.051* (0.007)	-0.050* (0.007)
β_5 (DIV_{it-1})	0.144* (0.025)	0.122* (0.023)
β_6 ($SALES_{it-1}$)	0.009* (0.003)	0.003 (0.003)
t_1	1.397	0.491
t_2	8.807	
t_3	8.066	
t_4		8.434
t_5		7.337
z_1	121.00 (8)	100.46 (8)
z_2	23.18 (8)	19.56 (8)
z_3	14.98 (9)	14.82 (9)
m_1	-6.56	-6.70
m_2	-0.25	-0.14
Hansen	325.94 (274)	318.54 (274)
N	5,340	5,340

Regarding the agency conflicts of free cash flow, we find that family control is related to a weaker relation between investment and cash flow when such conflicts are accounted for. Moreover, consistent with Wei and Zhang (2008), the results provided in Table III.9 (column 2) show that our proxy for agency problems of free cash flow (i.e., the deviation of control rights from cash flow rights of the dominant shareholder) is associated with higher investment–cash flow sensitivities. As in the previous model, we carry out several linear restriction tests that allow us to reach the following conclusions. Family firms with fewer agency conflicts depend less heavily on internal funds to finance their investments ($\hat{\beta}_2 + \hat{\gamma}_2 = 0.081 - 0.074 =$

0.007, statistically nonsignificant, see t_1) than their non-family counterparts ($\hat{\beta}_2 = 0.081$) whereas family firms with a lower cash flow to control rights ratio[31] depend less heavily on internally generated funds ($\hat{\beta}_2 + \hat{\gamma}_2 + \hat{\pi}_2 = 0.081 - 0.074 + 0.196 = 0.203$ is statistically significant, see t_5) than non-family corporations with a similar wedge between cash flow rights and control rights ($\hat{\beta}_2 + \hat{\pi}_2 = 0.081 + 0.196 = 0.277$ is statistically significant, see t_4). The estimated coefficients thus point to family control as a means by which the agency conflicts of free cash flow can be counteracted to some extent.

The estimated coefficients of the control variables included in the right-hand side of the models are stable across all specifications and have the expected signs. On the one hand, lagged industry-adjusted investment, Tobin's *q*, dividends, and sales exhibit a significant and positive impact on investment (although the estimated coefficient of sales is nonsignificant in some specifications, it is always positive, as expected). On the other hand, the effect of debt on the dependent variable is negative and significant. A positive and significant correlation of current investment rate with last-period investment spending confirms that an accelerator effect exists (Aivazian, Ge, and Qiu, 2005a), and the positive influence of Tobin's *q* (which measures growth opportunities), dividends, and sales on investment is consistent with previous studies that analyze the determinants of investment spending (Fazzari, Hubbard, and Petersen, 1988; Aivazian, Ge, and Qiu, 2005b; among others). Finally, a significant negative effect of debt on investment has already been found in prior research (Lang, Ofek, and Stulz, 1996; Aivazian, Ge, and Qiu, 2005a, 2005b) and can be explained in that leverage acts as a mechanism that alleviates incentives to invest in poor projects.

III.5. Robustness tests

Our descriptive analyses and the regression results are based on the family firm definition suggested by Faccio and Lang (2002) and subsequently used by Maury (2006).

[31] A lower cash flow to control rights ratio means a higher deviation of control rights from cash flow rights owned by the controlling shareholder.

According to this definition, a company is defined as family-controlled when the ultimate owner at the 10% threshold is an individual, a family, or an unlisted company. Nevertheless, Faccio and Lang (2002) also identify ultimate owners of Western European corporations at the 20% threshold and make this information available. Consequently, we check the robustness of our previous findings using a more restrictive family firm definition; that is, we redefine a company as being family-controlled if the ultimate owner at the 20% cutoff point is an individual, a family, or an unlisted company. As expected, when we use the 20% threshold to define family control, the proportion of family businesses in the sample decreases whereas the percentage of widely held corporations increases.

Using this new family firm definition, we rerun all regressions. The estimated coefficients are presented in Tables III.10 to III.13, following the same structure as previously employed. All findings already discussed still hold when we use the 20% threshold to identify the family firms in the sample. Therefore, we provide evidence that our results are not affected by the level of ownership concentration used to define control by an ultimate owner.

Table III.10

Family control and the investment–cash flow sensitivity: 20% threshold family firm definition

GMM regressions results from:

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \chi_2 MSD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$ and

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \lambda_2 NEXFD_{it} + \delta_2 EXFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; MSD_{it} equals 1 for companies with a non-family ultimate owner at the 10% threshold, and zero otherwise; $NEXFD_{it}$ equals 1 for nonexpropriating family firms, and zero otherwise; and $EXFD_{it}$ equals 1 for expropriating family firms, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$; t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\chi_2=0$; t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\lambda_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	**(1)**	**(2)**	**(3)**
β_0 (Constant)	0.032* (0.006)	0.043* (0.004)	0.036* (0.006)
β_1 (IAI_{it-1})	0.139* (0.007)	0.142* (0.006)	0.142* (0.006)
β_2 (CF_{it})	0.115* (0.022)	0.125* (0.021)	0.125* (0.021)
γ_2 ($FD_{it}CF_{it}$)	-0.099* (0.027)	-0.094* (0.026)	
χ_2 ($MSD_{it}CF_{it}$)		0.016 (0.023)	
λ_2 ($NEXFD_{it}CF_{it}$)			-0.123* (0.027)
δ_2 ($EXFD_{it}CF_{it}$)			-0.005 (0.031)
β_3 (Q_{it-1})	0.005* (0.001)	0.004* (0.001)	0.006* (0.001)
β_4 ($DEBT_{it-1}$)	-0.045* (0.008)	-0.046* (0.006)	-0.048* (0.007)
β_5 (DIV_{it-1})	0.137* (0.023)	0.124* (0.022)	0.150* (0.022)
β_6 ($SALES_{it-1}$)	0.005*** (0.003)	0.004*** (0.002)	0.002 (0.003)
t_1	1.072	2.214	
t_2		11.649	
t_3			0.095
z_1	91.53 (7)	116.29 (8)	124.36 (8)
z_2	17.79 (8)	45.33 (8)	22.28 (8)
z_3	11.01 (9)	28.46 (9)	13.54 (9)
m_1	-6.56	-6.63	-6.63
m_2	-0.22	-0.18	-0.15
Hansen	274.46 (239)	323.60 (274)	303.44 (274)
N	5,340	5,340	5,340

Table III.11

Family management and the investment–cash flow sensitivity: 20% threshold family firm definition

GMM regressions results from:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \alpha_2 MFD_{it} + \psi_2 NMFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it} \text{ and}$$

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \alpha_2 MFD_{it} + \varphi_2 SNMFD_{it} + \varpi_2 FUCD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it},$$

in which MFD_{it} equals 1 for family firms whose ultimate owner holds a top management position, and zero otherwise; $NMFD_{it}$ equals 1 for family firms whose ultimate owner does not hold a top management position, and zero otherwise, $SNMFD_{it}$ equals 1 for family firms whose ultimate owner is an individual or a family that does not hold a top management position, and zero otherwise; and $FUCD_{it}$ equals 1 for family firms whose ultimate owner is a family unlisted company, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\alpha_2=0$; t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\psi_2=0$; t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varphi_2=0$; t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varpi_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from t–1 to t–3 as instruments for the equations in differences, and t–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from t–2 to t–4 for the equations in differences, and t–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	**(1)**	**(2)**
β_0 (Constant)	0.041* (0.005)	0.041* (0.005)
β_1 (IAI_{it-1})	0.139* (0.006)	0.139* (0.005)
β_2 (CF_{it})	0.114* (0.021)	0.104* (0.019)
α_2 ($MFD_{it}CF_{it}$)	-0.055** (0.026)	-0.046*** (0.024)
ψ_2 ($NMFD_{it}CF_{it}$)	-0.105* (0.029)	
φ_2 ($SNMFD_{it}CF_{it}$)		0.344* (0.034)
ϖ_2 ($FUCD_{it}CF_{it}$)		-0.118* (0.026)
β_3 (Q_{it-1})	0.005* (0.001)	0.003* (0.001)
β_4 ($DEBT_{it-1}$)	-0.045* (0.007)	-0.045* (0.005)
β_5 (DIV_{it-1})	0.153* (0.023)	0.157* (0.021)
β_6 ($SALES_{it-1}$)	0.001 (0.002)	0.005** (0.002)
t_1	3.909	4.189
t_2	0.498	
t_3		15.965
t_4		-0.883
z_1	107.24 (8)	169.40 (9)
z_2	26.39 (8)	36.56 (8)
z_3	14.92 (9)	20.26 (9)
m_1	-6.61	-6.62
m_2	-0.20	-0.03
Hansen	306.04 (274)	345.85 (309)
N	5,340	5,340

Table III.12

Family control, second large shareholders, and investment–cash flow sensitivities: 20% threshold family firm definition

GMM regressions results from:

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \theta_2 NSSPFD_{it} + \vartheta_2 SSPFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$ and

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \theta_2 NSSPFD_{it} + \mu_2 FSSPFD_{it} + \eta_2 NFSSPFD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it},$$

in which $NSSPFD_{it}$ equals 1 for family firms with no second large shareholder and zero otherwise, $SSPFD_{it}$ equals 1 for family firms with a second blockholder and zero otherwise, $FSSPFD_{it}$ equals 1 for family firms with a second family blockholder and zero otherwise, and $NFSSPFD_{it}$ equals 1 for family firms with a second non-family blockholder and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\theta_2=0$; t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\vartheta_2=0$; t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\mu_2=0$; t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\eta_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Dep. var.: IAI_{it}	**(1)**	**(2)**
β_0 (Constant)	0.026* (0.006)	0.034* (0.004)
β_1 (IAI_{it-1})	0.143* (0.006)	0.152* (0.005)
β_2 (CF_{it})	0.112* (0.020)	0.120* (0.019)
θ_2 ($NSSPFD_{it}CF_{it}$)	-0.114* (0.026)	-0.118* (0.026)
ϑ_2 ($SSPFD_{it}CF_{it}$)	0.060*** (0.032)	
μ_2 ($FSSPFD_{it}CF_{it}$)		0.323* (0.043)
η_2 ($NFSSPFD_{it}CF_{it}$)		-0.050** (0.025)
β_3 (Q_{it-1})	0.005* (0.001)	0.004* (0.001)
β_4 ($DEBT_{it-1}$)	-0.053* (0.007)	-0.049* (0.006)
β_5 (DIV_{it-1})	0.127* (0.022)	0.107* (0.020)
β_6 ($SALES_{it-1}$)	0.010* (0.003)	0.006* (0.002)

Table III.12 continues

Table III.12 (*continued*)

Dep. var.: IAI_{it}	**(1)**	**(2)**
t_1	-0.134	0.163
t_2	6.912	
t_3		12.406
t_4		4.409
z_1	115.88 (8)	182.92 (9)
z_2	20.32 (8)	32.20 (8)
z_3	12.59 (9)	18.23 (9)
m_1	-6.57	-6.66
m_2	-0.13	0.01
Hansen	315.89 (274)	350.72 (309)
N	5,340	5,340

Table III.13

Family control and the source of the investment–cash flow sensitivity: 20% threshold family firm definition

GMM regressions results from:

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \omega_2 FICOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it} \text{ and}$$

$$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \pi_2 AGCOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it},$$

in which FD_{it} equals 1 for family firms, and zero otherwise; $FICOD_{it}$ equals 1 for financially constrained corporations, and zero otherwise; and $AGCOD_{it}$ equals 1 for companies more likely to suffer from agency conflicts of free cash flow, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$; t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\omega_2=0$; t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2+\omega_2=0$; t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\pi_2=0$; t_5 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2+\pi_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions. *Table III.13 continues*

Table III.13 (*continued*)

Dep. var.: IAI_{it}	**(1)**	**(2)**
β_0 **(Constant)**	0.032* (0.005)	0.034* (0.006)
β_1 (IAI_{it-1})	0.137* (0.006)	0.137* (0.006)
β_2 (CF_{it})	0.095* (0.020)	0.061* (0.023)
γ_2 $(FD_{it}CF_{it})$	-0.094* (0.025)	-0.061** (0.026)
ω_2 $(FICOD_{it}CF_{it})$	0.121* (0.018)	
π_2 $(AGCOD_{it}CF_{it})$		0.164* (0.032)
β_3 (Q_{it-1})	0.005* (0.001)	0.006* (0.001)
β_4 $(DEBT_{it-1})$	-0.050* (0.007)	-0.042* (0.007)
β_5 (DIV_{it-1})	0.143* (0.022)	0.113* (0.021)
β_6 $(SALES_{it-1})$	0.007** (0.003)	0.002 (0.003)
t_1	0.057	-0.009
t_2	9.971	
t_3	6.542	
t_4		7.035
t_5		5.543
z_1	130.66 (8)	100.27 (8)
z_2	24.12 (8)	19.83 (8)
z_3	16.09 (9)	12.92 (9)
m_1	-6.60	-6.66
m_2	-0.22	-0.19
Hansen	317.14 (274)	317.24 (274)
N	5,340	5,340

We further analyze whether the results concerning the moderating role of family control in the investment–cash flow relation when accounting for the source of the sensitivity depend on how we capture the financial constraints and the free cash flow problems. Consequently, we propose two new measures: one to proxy for the financial constraints due to asymmetric information problems and another to capture the agency conflicts of free cash flow that arise in the investment decision-making process.

Firm's size has been widely used in prior studies on corporate investment to identify corporations that are more likely to be financially constrained (see, e.g., Whited, 2006; Hahn and Lee, 2009; Denis and Sibilkov, 2010).[32] The argument proposed in the literature is that small companies are more likely to face financial constraints because they are typically

[32] In line with this rationale, Whited and Wu (2006) construct an index according to which smaller firms have a higher shadow value of external funds and thus will be more financially constrained whereas Hobdari's (2008) evidence suggests that bigger and more established companies are less likely to be included in the financially constrained regime.

younger and less well known and, therefore, more vulnerable to capital market imperfections due to information asymmetries and collateral constraints (Gertler and Gilchrist, 1994). Consistent with this idea, we now use the size of the company as an alternative proxy for the status of financial constraints. Specifically, as previously done with our financial constraints measure and in line with prior research (Hahn and Lee, 2009), we rank firms based on their size (see the firm size measure in Appendix III.A) and classify the bottom three deciles of the sample firm-year observations as financially constrained (i.e., the smallest corporations of the sample). Now, the $FICOD_{it}$ dummy included in our fifth model equals 1 for these firm-year observations, and zero otherwise.

Using this new proxy for financial constraints arising from asymmetric information problems, we reestimate Eq. (5). The results, provided in Table III.14 (column 1), are qualitatively the same as the results from the estimation using our initial proxy for financial constraints. This finding further corroborates the validity of our innovative measure and confirms our finding that family control partially reduces investment–cash flow sensitivities due to financial constraints problems.

Although we previously rely on the wedge between the cash flow and control rights of the ultimate owner to proxy for potential conflicts of free cash flow, following Wei and Zhang (2008), such measure may also capture other agency conflicts and not only the free cash flow problems in which we are interested.[33] We, therefore, propose a more precise proxy measure to identify companies that are more likely to suffer from free cash flow problems. In particular, we now consider those firms whose level of free cash flow (as defined in Miguel and Pindado, 2001) is above the sample average but whose industry-adjusted return on assets is below the sample mean to be potential overinvestors and thus more likely to face agency conflicts of free cash flow. Indeed, firms with an excess of internal cash flow in relation to their investment opportunities and with a low profitability as compared to their industry peers seem to be more likely to overinvest. An additional advantage of this new proxy measure is that, as happens

[33] Nevertheless, a higher wedge between cash flow and control rights in the hands of the ultimate owner is also associated with a higher level of free cash flow and hence a higher likelihood of overinvesting, as explained when presenting the results of the univariate analyses and as highlighted in Panel B of Table III.5.

with the cash flow to control rights ratio (which we used previously to classify corporations), about one-third (28.24%) of the firm-year observations of the sample is classified as suffering from free cash flow conflicts.

Using this new criterion, we now redefine our agency conflicts dummy and reestimate Model (6); the results are presented Table III.14 (column 2). Again we find that investment–cash flow sensitivities increase in the case of firms with free cash flow problems but that family control is an effective ownership structure in terms of reducing the dependence on internal funds when undertaking new investment projects. Therefore, our previous results are confirmed when we use a more direct measure of free cash flow problems.

Table III.14

Family control and the source of the investment–cash flow sensitivity: New proxies for financial constraints and FCF problems

GMM regressions results from:

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \omega_2 FICOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$ and

$IAI_{it} = \beta_0 + \beta_1 IAI_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \pi_2 AGCOD_{it})CF_{it} + \beta_3 Q_{it-1} + \phi X_{it-1} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; $FICOD_{it}$ equals 1 for financially constrained corporations, and zero otherwise; and $AGCOD_{it}$ equals 1 for companies more likely to suffer from agency conflicts of free cash flow, and zero otherwise. The IAI_{it} is the firm's industry-adjusted investment, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $DEBT_{it}$ is the debt ratio, DIV_{it} is the dividends ratio, and $SALES_{it}$ denotes scaled net sales. All of the variables are defined in Appendices III.A and III.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 684 listed companies (6,024 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error in parentheses; (ii) *, ** and *** indicate significance at the 1%, 5% and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$; t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\omega_2=0$; t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2+\omega_2=0$; t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\pi_2=0$; t_5 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2+\pi_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relationship, degrees of freedom in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, degrees of freedom in parentheses; and (vii) we use all the right hand-side variables in the models lagged from *t*–1 to *t*–3 as instruments for the equations in differences, and *t*–1 for the equations in levels (except for the lagged variables included in the right-hand side of the models, whose instruments are lags from *t*–2 to *t*–4 for the equations in differences, and *t*–2 for the equations in levels) as suggested by Blundell and Bond (1998) when deriving the system estimator used in our regressions.

Table III.14 continues

Table III.14 (*continued*)

Dep. var.: IAI_{it}	**(1)**	**(2)**
β_0 **(Constant)**	0.030* (0.006)	0.033* (0.006)
β_1 (IAI_{it-1})	0.141* (0.006)	0.133* (0.006)
β_2 (CF_{it})	0.110* (0.021)	0.133* (0.024)
γ_2 $(FD_{it}CF_{it})$	-0.111* (0.025)	-0.088* (0.026)
ω_2 $(FICOD_{it}CF_{it})$	0.073* (0.019)	
π_2 $(AGCOD_{it}CF_{it})$		0.185* (0.033)
β_3 (Q_{it-1})	0.006* (0.001)	0.006* (0.001)
β_4 $(DEBT_{it-1})$	-0.043* (0.007)	-0.055* (0.007)
β_5 (DIV_{it-1})	0.151* (0.024)	0.146* (0.026)
β_6 $(SALES_{it-1})$	0.008* (0.003)	0.005*** (0.003)
t_1	-0.074	3.598
t_2	6.717	
t_3	5.434	
t_4		7.831
t_5		6.548
z_1	111.02 (8)	99.90 (8)
z_2	23.91 (8)	21.95 (8)
z_3	13.14 (9)	14.15 (9)
m_1	-6.60	-6.51
m_2	-0.19	-0.20
Hansen	310.59 (274)	323.59 (274)
N	5,340	5,340

Overall, we conclude that our results are robust to the way in which we define family control. Moreover, concerning the source of investment–cash flow sensitivities, the findings hold under alternative schemes to classify companies into subsamples of those that are financially constrained and unconstrained and those that are more and less likely to face free cash flow problems.

III.6. Conclusions

We posit and find that family firms in the Euro zone enjoy lower investment–cash flow sensitivities. Given that previous finance literature since Fazzari, Hubbard, and Petersen's (1988) seminal work has associated the sensitivity of investment to internal funds as a sign of either information or incentive problems, we interpret this result as a positive aspect of family-controlled corporations. In particular, we suggest that as a result of family firms' lower dependence on internally generated funds when undertaking new investment projects, these companies are able to reach an investment level closer to the optimum, thus being less likely to suffer from underinvestment and overinvestment problems (Morgado and Pindado, 2003). This conclusion is consistent with the benefits generally associated with family firms. Particularly, the ability of family owners to alleviate the agency problems between bondholders and shareholders (Anderson, Mansi, and Reeb, 2003) as well as the conflicts between managers and investors (Jensen and Meckling, 1976) allow family firms to invest more efficiently, which, in turn, may lead to better corporate performance with respect to non-family corporations (Maury, 2006; Barontini and Caprio, 2006).

Although the investment–cash flow sensitivity in family firms is lower, we also provide empirical evidence that when the family's scope for expropriating minority shareholders is high, the potential benefits of family control are, in part, counteracted by the costs attributed to this organizational form. This finding suggests that the moderating role of family control in the investment–cash flow relation is nonmonotonic, which is in line with previous studies that find that the nonlinearities of the ownership structure with respect to firm value also arise when either insider ownership or ownership concentration are incorporated in the investment–cash flow relation (Hadlock, 1998; Pawlina and Renneboog, 2005; Pindado and de la Torre, 2009).

Additionally, other aspects of the ownership structure of family firms appear to influence significantly the relation between investment spending and internally generated funds. In particular, our results point to the requirement of family presence in top management positions to alleviate effectively investment–cash flow sensitivities, which is consistent with the idea that family owners are only able to exert a significant influence inside the company when they are acting as stewards of the firm. Regarding the role of other blockholders in family businesses, we find that non-family second large investors can contribute to alleviating the dependence of investment on internal funds by monitoring the owner family; by contrast, family second blockholders usually collude with the controlling family, thus increasing investment–cash flow sensitivities.

Regarding the source of the positive and significant relation between investment spending and cash flow, we show that both financial constraints due to asymmetric information problems and agency conflicts of free cash flow lead to higher sensitivities. To reach this conclusion, we develop an innovative proxy for financial constraints that improves measures used in previous literature by capturing the influence of both debt and equity constraints. Additionally, our criterion to identify agency conflicts in the investment decision-making process is particularly suitable for our investigation, given its direct link to the firm's ownership structure. But more important for the purpose of our study is that family control seems to be an effective corporate governance mechanism to mitigate both the financial constraints and the incentive problems that arise when companies undertake new investment projects.

Finally, we find that lower investment–cash flow sensitivities in the particular case of family firms remain after we control for the general blockholder effect in a way similar to prior research. Further, our findings are unchanged when we use a different and more restrictive ownership concentration threshold (i.e., 20% vs. 10%) to define control by an ultimate owner and when we use alternative proxies for financial constraints and free cash flow problems.

In sum, the lower dependence of family firms' investments on internally generated funds in Eurozone countries suggests that these corporations face less financial constraints and less free cash flow problems in the investment decision-making process. We, therefore, conclude that family businesses, so prevalent in Western Europe, are in a better position to weather the consequences of the global financial crisis that dates back to July 2007 and that deepened in September 2008. Although obtaining external financing in capital markets has become undeniably more difficult since the beginning of the crisis for the whole economy, including all types of corporations, the long-term investment horizons of owner families and the close link of this type of shareholders to their companies may provide them with more room to maneuver during the current economic turmoil than their non-family counterparts.

Appendix III.A

Definition of financial variables

III.A.1. Investment

$$I_{it} = (NF_{it} - NF_{it-1} + BD_{it}) / K_{it}, \tag{A1}$$

where NF_{it} denotes net fixed assets of the firm in year t and BD_{it} is the book depreciation expense of the firm corresponding to year t. This variable has been calculated according to the proposal by Lewellen and Badrinath (1997). The K_{it} denotes the replacement value of total assets, which is obtained as follows:

$$K_{it} = RF_{it} + (TA_{it} - BF_{it}), \tag{A2}$$

with RF_{it} being the replacement value of tangible fixed assets, TA_{it} the book value of total assets and BF_{it} the book value of tangible fixed assets. The latter two are obtained from the firm's balance sheet and the first is calculated according to the proposal by Perfect and Wiles (1994):

$$RF_{it} = RF_{it-1}\left[\frac{1+\varphi_t}{1+\delta_{it}}\right] + I_{it}, \tag{A3}$$

for $t > t_0$ and $RF_{it_0} = BF_{it_0}$, where t_0 is the first year of the chosen period, in our case 1996. On the other hand, $\delta_{it} = BD_{it} / BF_{it}$ and $\varphi_t = (GCGP_t - GCGP_{t-1}) / GCGP_{t-1}$, with BD_{it} being the book depreciation expense of the firm in year t and $GCGP_t$ the growth of capital goods prices extracted from the *Main Economic Indicators*, published by the Organisation for Economic Cooperation and Development (OECD).

III.A.2. Industry-adjusted investment

The IAI_{it} is calculated by subtracting the industry mean I from the firm's I_{it}. Industry means are computed at the most precise SIC level for which a minimum of five companies is found.

III.A.3. Cash flow

$$CF_{it} = (NI_{it} + BD_{it}) / K_{it}, \tag{A4}$$

where NI_{it} denotes net income of the firm corresponding to year t.

III.A.4. Tobin's q

$$Q_{it} = (MVE_{it} + MVD_{it}) / K_{it}, \tag{A5}$$

where MVE_{it} denotes the market value of equity and $MVD_{it} = MVLTD_{it} + BVSTD_{it}$ is the market value of debt, being $MVLTD_{it}$ and $BVSTD_{it}$ the market value of long-term debt and the book value of short-term debt, respectively.

III.A.5. Debt ratio

$$DEBT_{it} = \frac{MVLTD_{it}}{BVSTD_{it} + MVLTD_{it} + MVE_{it}}, \tag{A6}$$

where $BVSTD_{it}$ is the book value of short-term debt and $MVLTD_{it}$ is the market value of long-term debt obtained from the following formula:

$$MVLTD_{it} = \left[\frac{1+l_{it}}{1+i_l}\right] BVLTD_{it}, \tag{A7}$$

where $BVLTD_{it}$ is the book value of the long-term debt, i_l is the rate of interest of the long-term debt reported in the OECD-*Main Economic Indicators*, and l_{it} is the average cost of long-term debt that is defined as:

$$l_{it} = \frac{IPLTD_{it}}{BVLTD_{it}}, \tag{A8}$$

where $IPLTD_{it}$ is the interest payable on the long-term debt, which has been obtained by distributing the interest payable between the short- and long-term debt depending on the interest rates. That is:

$$IPLTD_{it} = \frac{i_l BVLTD_{it}}{i_s BVSTD_{it} + i_l BVLTD_{it}} IP_{it}, \tag{A9}$$

where IP_{it} is the interest payable and i_s is the rate of interest of the short-term debt, also reported in the OECD-*Main Economic Indicators*.

III.A.6. Dividends

$$DIV_{it} = CDIV_{it} / K_{it} \tag{A10}$$

where $CDIV_{it}$ is the total cash dividends paid by the firm in year *t*.

III.A.7. Sales

$$SALES_{it} = REV_{it} / K_{it}, \tag{A11}$$

where REV_{it} denotes net sales or revenues of the firm in year t.

III.A.8. Free cash flow

$$FCF_{it} = CF_{it} / Q_{it}, \tag{A12}$$

where CF_{it} denotes a firm's cash flow, and Q_{it} is Tobin's *q* of the firm in year *t*. This variable has been computed as in Miguel and Pindado (2001).

III.A.9. Return on assets

$$ROA_{it} = EBIT_{it} / K_{it}, \tag{A13}$$

where $EBIT_{it}$ is earnings before interest and taxes of the firm in year *t*.

III.A.10. Size

$$SIZE_{it} = Ln(K_{it}) . \tag{A14}$$

Appendix III.B

Definition of dummy variables

III.B.1. Family dummy

The FD_{it} is a dummy variable that equals 1 if the firm has an ultimate owner at the 10% threshold that is a family, an individual, or an unlisted company, and zero otherwise. This family firm definition is based on previous studies on the family control of corporations (Faccio and Lang, 2002; Maury, 2006; Laeven and Levine, 2008; Holderness, 2009).

III.B.2. Miscellaneous dummy

The MSD_{it} is a dummy variable that equals 1 if the firm has an ultimate owner at the 10% threshold that is neither a family, nor an individual, nor an unlisted company, and zero otherwise.

III.B.3. Expropriating family dummy

The $EXFD_{it}$ is a dummy variable that equals 1 if the firm is family controlled by using at least one control-enhancing mechanism (i.e., dual-class share structures, pyramids, holdings through multiple control chains, or cross-holdings), and zero otherwise.

III.B.4. Nonexpropriating family dummy

The $NEXFD_{it}$ is a dummy variable that equals 1 if the firm is family controlled through no control-enhancing mechanism, and zero otherwise.

III.B.5. Manager family dummy

The MFD_{it} is a dummy variable that equals 1 if the firm is family controlled and a member of the controlling family is the CEO, honorary chairman, chairman, or vice-chairman of the company, and zero otherwise.

III.B.6. Nonmanager family dummy

The $NMFD_{it}$ is a dummy variable that equals 1 if the firm is family controlled and no member of the controlling family is the CEO, honorary chairman, chairman, or vice-chairman of the company, and zero otherwise.

III.B.7. Strict nonmanager family dummy

The $SNMFD_{it}$ is a dummy variable that equals 1 if the family firm's ultimate owner is an individual or a family and no member of the controlling family is the CEO, honorary chairman, chairman, or vice-chairman of the company, and zero otherwise.

III.B.8. Family unlisted company dummy

The $FUCD_{it}$ is a dummy variable that equals 1 if the family firm's ultimate owner is a family unlisted company, and zero otherwise.

III.B.9. No second shareholder present family dummy

The $NSSPFD_{it}$ is a dummy variable that equals one for family firms with no second large shareholder, and zero otherwise.

III.B.10. Second shareholder present family dummy

The $SSPFD_{it}$ is a dummy variable that equals 1 for family firms with a second large shareholder, and zero otherwise.

III.B.11. Family second shareholder present family dummy

The $FSSPFD_{it}$ is a dummy variable that equals 1 for family firms with a family second blockholder, and zero otherwise.

III.B.12. Non-family second shareholder present family dummy

The $NFSSPFD_{it}$ is a dummy variable that equals 1 for family firms with a non-family second blockholder, and zero otherwise.

III.B.13. Financial constraints dummy

The $FICOD_{it}$ is a dummy variable that equals 1 for financially constrained firms, and zero otherwise. Specifically, this dummy variable takes the value of 1 for companies whose $FICO_{it}$ measure is above the sample median, and zero otherwise.

III.B.14. Agency conflicts dummy

The $AGCOD_{it}$ is a dummy variable that equals 1 for firms with a cash flow to control rights ratio below the sample median, and zero otherwise. Note that the lower the ratio, the higher the wedge between the cash flow rights and control rights in the hands of the ultimate owner.

Appendix III.C

Summary of coefficients of interest in the investment models

III.C.1. Effect of cash flow on firm investment

This appendix presents a summary of the coefficients that capture the effect of cash flow on investment for each model and type of corporation. The sums of coefficients in bold are those for which a linear restriction test is performed. The *t*-statistics of the corresponding linear restriction test are reported in the tables in which the regression results are shown.

Model	**(1a)**	**(1b)**	**(2)**	**(3a)**	**(3b)**	**(4a)**	**(4b)**	**(5)**	**(6)**
Subsample									
Non-family	β_2		β_2	β_2	β_2	β_2	β_2		
Widely held		β_2							
Misc. UO		$\boldsymbol{\beta_2+\chi_2}$							
Fico.								$\boldsymbol{\beta_2+\omega_2}$	
Non-fico.								β_2	
FCF problems									$\boldsymbol{\beta_2+\pi_2}$
Non-FCF prob.									β_2

Appendix III.C.1 continues

III.C.1. Effect of cash flow on firm investment (*continued*)

Model	**(1a)**	**(1b)**	**(2)**	**(3a)**	**(3b)**	**(4a)**	**(4b)**	**(5)**	**(6)**
Subsample									
Family	$\boldsymbol{\beta_2+\gamma_2}$	$\boldsymbol{\beta_2+\gamma_2}$							
Expropriating			$\boldsymbol{\beta_2+\delta_2}$						
Non-exp.			$\boldsymbol{\beta_2+\lambda_2}$						
Manager				$\boldsymbol{\beta_2+\alpha_2}$	$\boldsymbol{\beta_2+\alpha_2}$				
Non-manager				$\boldsymbol{\beta_2+\psi_2}$					
Strict non-man.					$\boldsymbol{\beta_2+\varphi_2}$				
Fam. unlisted					$\boldsymbol{\beta_2+\varpi_2}$				
Non-2nd block.						$\boldsymbol{\beta_2+\theta_2}$	$\boldsymbol{\beta_2+\theta_2}$		
2nd blockholder						$\boldsymbol{\beta_2+\vartheta_2}$			
Fam. 2nd							$\boldsymbol{\beta_2+\mu_2}$		
Non-fam. 2nd							$\boldsymbol{\beta_2+\eta_2}$		
Fico.								$\boldsymbol{\beta_2+\gamma_2+\omega_2}$	
Non-fico.								$\boldsymbol{\beta_2+\gamma_2}$	
FCF problems									$\boldsymbol{\beta_2+\gamma_2+\pi_2}$
Non-FCF prob.									$\boldsymbol{\beta_2+\gamma_2}$

Chapter IV

The Relation between Family Control and Financing and Dividend Policies

IV.1. Introduction

The importance of family businesses for the economy and the society as a whole has been revived in the face of the current economic downturn, as evidenced in a supplement recently published in *The Times* newspaper in association with the Institute for Family Business (Kanekrans, 2009). As noted in this report, the economic recovery that is now underway heavily depends on the performance of the family business sector in the current tough trading conditions. However, the interest in family firms is not new, and the big impact of family control in financial markets is emphasized in prior research. For example, a Morgan Stanley study showed that a portfolio of European family-run companies delivered a significantly higher total shareholder return as compared to the MSCI Europe Index between 2002 and 2006 (Ng, 2007). Other relevant differences between family and non-family corporations relate to their financial policies. Some anecdotal evidence suggests that family firms are likely to be more conservative than their peers, which prevents them from taking on too much debt (Milne, 2010). In addition, although family control of publicly listed corporations can mean potential costs to minority investors, these same investors may also benefit from family companies' more conservative approach to capital structure and financial risk policies as well as their greater commitment to paying out dividends (Hall, 2005).

Family firms are widespread in developing countries as well as some of the most developed economies of the world, and they account for a large percentage of the corporate sector in most geographical regions (see, e.g., La Porta, Lopez-de-Silanes, and Shleifer, 1999;

Morck, Wolfenzon, and Yeung, 2005). In fact, family control is not restricted to certain institutional settings and is a common type of ownership structure in many regions including the United States (Anderson and Reeb, 2003a; Miller, Steier, and Le Breton-Miller, 2003; Villalonga and Amit, 2006; Lee, 2006; Holderness, 2009), Western European countries (Faccio and Lang, 2002), and East Asia (Claessens, Djankov, and Lang, 2000). Moreover, the importance of family firms not only resides in its prevalence but also in its uniqueness as compared to other organizational forms. In this context, interest is growing among scholars and practitioners to understanding better how the peculiarities of the family business model affect specific aspects of the company (see, e.g., Anderson, Duru, and Reeb, 2009; Villalonga and Amit, 2009; Chen, Chen, Cheng, and Shevlin, 2010).

To date, researchers have devoted considerable effort to analyzing the effect of family ownership on corporate performance by focusing on different institutional environments and accounting for specific family firms' characteristics in an attempt to disentangle whether family companies outperform their non-family counterparts (see, e.g., Anderson and Reeb, 2003a; Maury, 2006; Villalonga and Amit, 2006; Lee, 2006; Miller, Le Breton-Miller, Lester, and Cannella, 2007; Andres, 2008; Arosa, Iturralde, and Maseda, 2010). Yet, despite the great attention paid by scholars to the capital structure and dividend policies of corporations since the early works by Modigliani and Miller (1958) and Miller and Modigliani (1961), few studies have investigated whether family control, given its own peculiarities, affects these corporate financial policies. Although recent papers examine the factors that influence a firm's debt (Frank and Goyal, 2009) and dividend decisions (Denis and Osobov, 2008), the finance literature on the relation between companies' ownership structures and these financial policies—and, specifically, on the differences between family and non-family firms when it comes to debt and dividend choices—is still scarce.

Since the earliest attempts to explain the corporate financing policy, a series of models and theories have been developed whose main objective is to determine the factors that affect a firm's debt ratio. Among the different explanations for how companies determine their capital structures, most are based on either pecking order (Myers, 1984; Myers and Majluf, 1984) or trade-off theory.[34] Indeed, debate exists in the finance literature regarding which of these two theories are better able to explain a firm's financing policy (Shyam-Sunder and Myers, 1999; Chirinko and Singha, 2000; Frank and Goyal, 2003; Leary and Roberts, 2010). Thus far, the results are mixed as the empirical evidence supports some of the postulates of the pecking order as well as some propositions from the trade-off theory (Hovakimian, Opler, and Titman, 2001; Fama and French, 2002; Leary and Roberts, 2005; González and González, 2008). In addition to analyzing which firm-level characteristics affect companies' choices between debt and equity, several papers also investigate whether country-level factors influence the financing policies of corporations (Demirgüç-Kunt and Maksimovic, 1999; Giannetti, 2003; Beck, Demirgüç-Kunt, and Maksimovic, 2008; González and González, 2008; Antoniou, Guney, and Paudyal, 2008). However, many questions remain unanswered with respect to the main determinants of companies' financing mix (Rajan and Zingales, 1995), and, as highlighted in recent literature, the effect of ownership structure on capital structure remains largely unexplored (Margaritis and Psillaki, 2010).

Prior research also proposes several theories that attempt to understand why firms pay out dividends and how they determine the amount of cash to be distributed to shareholders in the form of dividends.[35] Since Lintner's (1956) early empirical evidence, it has been widely accepted that companies are reluctant to cut or omit dividend payments and, as a consequence, that dividends are stable over time. The finance literature also highlights the ability of companies to choose between dividend payments and shares repurchases (Von Eije and Megginson, 2008). However, dividends, compared to repurchases, are a more effective control mechanism because they involve an implicit commitment to future similar dividend payouts.[36] Indeed, although dividend decisions have been explained from various perspectives, agency

[34] Additional explanations for how firms choose their financing sources have been provided more recently, such as the market timing explanation (Baker and Wurgler, 2002; Huang and Ritter, 2009).

[35] The free cash flow, signalling, tax clientele, and catering theories are among the alternative explanations for corporate dividend policy.

[36] Although dividends and share repurchases can both be used to force managers to disgorge cash, dividends are a more effective means than share repurchases to achieve this goal (Hu, Wang, and Zhang, 2007) because dividend payments are usually sticky and firms are less reluctant to change their dividend policies (Lintner, 1956); conversely, share repurchases give managers more flexibility (Brav, Graham, Harvey, and Michaely, 2005).

theory (Jensen, 1986) and explanations based on agency issues are supported by prior dividend literature. Therefore, given that different ownership structures are associated with agency problems of varying severity, an analysis of the relation between a firm's ownership structure and its dividend choices is warranted. Although some empirical evidence on the relation between dividends and ownership structure exists, the literature is still scarce and inconclusive (Short, Zhang, and Keasey, 2002; Renneboog and Trojanowski, 2005), and the dividend policy continues to be a puzzle. Additionally, interest in dividend policy has been revived recently as evidence suggests that the US trend of disappearing dividends of the 1990s (Fama and French, 2001) has reversed, and dividends have reappeared with the new millennium (Ikenberry and Julio, 2004).

In addition to the finance literature on the corporate financing and dividend decisions, prior research on the relation between different corporate governance mechanisms is also related to the analyses presented in this chapter. This stream of the literature attempts to disentangle whether control mechanisms, such as a firm's ownership structure, debt, and dividends, either complement or substitute for each other to alleviate the agency conflicts and asymmetric information problems that exist in corporations (see, e.g., Noronha, Shome, and Morgan, 1996; Jensen, Solberg, and Zorn, 1992; Lozano, Miguel, and Pindado, 2002; Miguel, Pindado, and de la Torre, 2005; Setia-Atmaja, 2010). Moreover, whether companies use these mechanisms jointly or separately depends on the institutional environment in which they operate (Miguel, Pindado, and de la Torre, 2005). In legal systems in which strong external corporate governance mechanisms (e.g., an active market for corporate control or efficient capital markets) are in place, firms may use only one internal control device to limit costs. However, in the absence of a strongly protective legal system, companies may need several of these mechanisms to assure a good protection of minority investors' interests. Indeed, previous works suggest that in countries with weak investor protection, concentrated ownership structures—and hence family control—acts as a compensating force that mitigates agency problems (Stulz, 2005). However, given that family firms are also affected by certain conflicts of interests among different stakeholders (Villalonga and Amit, 2006), their use of the debt and dividend policies is likely to reflect these agency problems, and their own peculiarities are likely to determine whether different control mechanisms and monitoring devices are used jointly or separately.

Considering the global importance of family firms and that many questions remain unresolved as to how specific firm-level characteristics affect a firm's financing and dividend decisions, we investigate the impact of family control on these corporate policies, based on previous capital structure (Myers, 1984; Myers and Majluf, 1984) and dividend (Lintner, 1956; Jensen, 1986) theories. Therefore, we cover two key issues of interest to scholars and practitioners in the field of finance: namely, the family business model and the debt and dividend decisions of companies. Specifically, we focus on (a) whether family control moderates the extensively documented relation between a firm's debt ratio and its internally generated funds and (b) whether family firms' dividend policies are used in a way consistent with their own agency conflicts. We also attempt to disentangle whether family and non-family companies differ from each other in the rebalancing of their capital structures and their preferences for stable dividend payments.

To achieve our objective, we structure our analysis in two parts. First, we focus on the capital structure decision and analyze the role that family control plays in shaping a firm's financing choices. In particular, we examine whether the relation proposed by the pecking order theory between a firm's internal funds and its debt ratio depends on whether companies are family-controlled. Then, based on the trade-off theory of capital structure, we attempt to disentangle the differences between family and non-family firms in the adjustment speeds to their target debt levels. Second, based on the agency explanation of dividends, we analyze the moderating role of family control on a company's dividend policy. Accounting for the dynamic nature of this corporate decision, we further investigate how family control affects the stability of corporations' dividend payments. In addition, in both parts of our analysis, we acknowledge that family businesses are heterogeneous and, therefore, propose that family firms with and without a wedge between the voting and cash flow rights owned by the controlling family (as a consequence of the use of control-enhancing mechanisms) might behave differently. We also consider the role of second blockholders in the debt and dividend decision-making processes.

We address these issues empirically using information obtained from various sources. Financial and stock data are extracted from the Worldscope database. We complement this information with data on the ownership structure of corporations obtained from the database developed by Faccio and Lang (2002), which identifies family-controlled firms. However, given that the only company identifier present in this database is the company name, we merge Faccio and Lang's ownership data with the information extracted from the Worldscope database manually. From the nations represented in Faccio and Lang's data set, we focus on the Eurozone countries. Thus, all companies in our sample operate in Western Europe, and most (except Irish firms) operate in Continental Europe, where family control is particularly relevant. An additional advantage of focusing on the Euro zone is that all corporations in the sample are subject to a common monetary policy, which is responsibility of the European Central Bank, and that the macroeconomic conditions under which they operate are to some extent similar, given that all countries that are members of this economic and monetary union were required to meet specific convergence criteria before entering the Euro zone.

We base our empirical analyses on the debt and dividend models developed in prior research and extend them to incorporate the role of family control in the capital structure and payout policies. To begin, we propose a partial adjustment model of debt and adapt it to ascertain the moderating role of family control in the relation between cash flow and debt. Consequently, we account for two stylized facts from the most widely accepted theories of capital structure (i.e., the pecking order and trade-off theories). Further, the use of a dynamic model of debt allows us to evaluate how family firms differ from non-family firms in terms of adjustment speeds toward their target debt ratios. Capital structure models similar to ours are supported by prior research, which finds that firms actively rebalance their capital structures toward a target debt level over time (see, e.g., Leary and Roberts, 2005; Flannery and Rangan, 2006).

We then propose a specification consistent with Lintner's (1956) payout model, which accounts for the dynamic nature of the payout policy, to analyze the relation between family control and dividends. Specifically, we develop a partial adjustment model of dividends in which we incorporate several variables that capture the family effect on this financial policy. With this model, we can test whether family firms' dividend choices are a result of agency problems and other firm peculiarities and whether their preferences for stable dividend payments differ from that of their non-family counterparts. Throughout the chapter, we extend the proposed debt and dividend models to investigate the likely interactions between these financial policies and different aspects of family firms' ownership structures. In doing so, we ascertain how family control and the firms' leverage and payout policies—which have all been previously recognized as corporate governance mechanisms—are related to one another and how family firms' agency conflicts affect their corporate choices in the Eurozone context.

We use panel data to estimate our empirical models, which allows us to use an instrumental variable estimator, the generalized method of moments (GMM). The use of panel data and the GMM are particularly suitable for this part of the dissertation. First, by requiring time-series data on the firms in our sample, we can account for unobservable heterogeneity in the estimation of the models. Considering this econometrical issue is particularly important in our analyses because family businesses differ from other types of corporations in several firm-level characteristics (e.g., culture, values) that remain constant over time but are unobservable to the researcher. Because these firm-specific characteristics are likely to influence the debt and dividend decisions, unobservable heterogeneity must be controlled in the estimation process to avoid obtaining biased estimates. Second, as in most corporate governance studies, endogeneity is an issue, particularly in a setting such as ours in which we analyze the interactions among different control mechanisms (i.e., debt, dividends, and ownership structure). A GMM estimator, which is an instrumental variable estimator, allows us to control for endogeneity problems when panel data are available. Finally, the use of a GMM estimator is especially suitable for our investigation given the dynamic nature of the financial policies that we analyze. Because firms have target debt and dividend ratios that they pursue over time, current debt and dividend levels are likely to affect future levels. As a consequence, the lags of the dependent variables in our models must enter the right-hand side of the specifications. Thus, we must account for endogeneity issues, which we do by using the GMM approach.

The main findings of the chapter are as follows. We find a negative link between internal funds and the debt ratio, which is consistent with the pecking order theory and with previous empirical studies on capital structure. However, this negative relation is weaker in the case of family firms, thus suggesting that these companies are less constrained when accessing debt financing due to fewer agency conflicts between debtholders and shareholders attached to family control (Anderson, Mansi, and Reeb, 2003). This result complements prior research that investigates family firms' preferences among alternative sources of funds (see, e.g., Ellul, 2008). Our analyses also confirm that the weaker negative effect of cash flow on debt in family companies is mainly driven by family firms without a wedge between the voting and cash flow rights owned by the family (i.e., those with better corporate governance structures). Therefore, the alleviation of agency problems between debtholders and shareholders and the resulting lower cost of debt is mostly due to family firms with no deviation between family ownership and control.

Overall, our findings suggest that family-controlled corporations have easier access to debt financing than non-family firms due to lower information asymmetries and fewer agency conflicts between debt providers and the controlling family. To test whether our argument is correct, we examine whether family firms more likely to suffer from asymmetric information problems exhibit a weaker negative relation between internal funds and leverage compared to their non-family counterparts. Interestingly, we find that whereas the impact of internally generated funds on the debt ratio is weaker for family businesses more likely to face asymmetric information conflicts, the same does not hold for their non-family counterparts. Thus, our empirical evidence supports the idea that family control, because of its own peculiarities, contributes to alleviating information asymmetries and agency problems between debtholders and shareholders.

We also investigate whether non-family second blockholders perform an active monitoring role in family businesses, which could help explain the fewer information asymmetries and the weaker negative relation between internal funds and leverage in these companies. However, contrary to our expectations, we find that the presence of a non-family second blockholder in family firms leads to a more negative effect of cash flow on debt. A likely explanation for this finding is that some control mechanisms substitute for each other—in this case, debtholders and second blockholders—in the role of assuring that the controlling family does not expropriate other firms' shareholders. Further, this finding is in line with the view that too much monitoring does not always benefit family-controlled companies.

With respect to firms' adjustment speeds toward their target capital structures, we find that family firms exhibit a higher speed of adjustment. Such result is consistent with our line of reasoning that family businesses have easier access to debt financing and, therefore, rebalance their financial mix faster. Nevertheless, the difference between family and non-family firms in relation to their adjustment speeds is not very pronounced, which may be because all companies in the sample are operating in the same institutional setting and under similar monetary policies. As previous research on capital structure reports, legal and institutional factors play an important role in determining firms' speed of adjustment toward their target debt ratios.

In terms of dividend policy differences, family companies pursue higher dividend payout ratios, thus alleviating free cash flow concerns (Jensen, 1986) and reducing the potential for minority shareholders' expropriation. Our findings suggest that family control, along with the potential benefits attached to it, can be beneficial to minority investors because it is a corporate ownership structure that leads to higher dividend payments. This explanation is consistent with the outcome model of dividends proposed by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000), according to which dividends are the result of effective legal institutions that protect minority shareholders. Outside an Anglo-Saxon setting (i.e., under weak external protection), family ownership serves as a corporate governance mechanism that benefits shareholders by distributing higher dividends. Nevertheless, mainly family firms with no deviation between the family's voting and cash flow rights adopt higher dividend payout ratios, which further supports the outcome model in the sense that well-governed family companies (i.e., those with no wedge between family ownership and control) are the firms that distribute higher dividends.

To check whether the higher dividend payments by family firms are, indeed, a way to mitigate free cash flow problems in this type of corporation, we focus on companies that are more likely to suffer from free cash flow agency conflicts. Within this subsample of firms, we compare the dividend policies of family and non-family companies. We find that the positive relation between earnings and dividends is stronger in family firms with more free cash flow, but the same is not valid for their non-family counterparts. This result suggests that family firms concern themselves more about the free cash flow agency problem, and to alleviate it, they pursue higher dividends payments. Therefore, this finding indicates that family-controlled corporations make their dividend decisions to mitigate concerns about potential expropriation through empire-building policies.

Our empirical evidence also shows that second-largest shareholders significantly influence family firms' dividend choices. Second family blockholders appear to collude with the controlling family and prefer lower dividend payments because it allows them to have more cash at their disposal and enjoy the private benefits of control. By contrast, non-family second shareholders (primarily widely held financial institutions and corporations) act as a force that induces family companies to disgorge cash as dividends. This result supports the role of institutional investors as effective monitors and confirms their positive impact on corporations' dividend payments.

Finally, in relation to companies' speed of adjustment toward their target dividend ratios, we show that all firms in our sample exhibit a dividend smoothing behavior, consistent with Lintner's (1956) dividend model and with prior studies that focus on listed companies. However, contrary to our hypothesis, family businesses smooth their dividends more and, as a consequence, adjust more slowly to their target dividend ratios. A likely explanation for this result is that family firms opt for a more stable dividend policy as a way to alleviate expropriation concerns. Our findings also suggest that family companies balance the agency benefits of the dividend policy against its transaction costs (Rozeff, 1982) by having higher target dividend ratios that they approach over a longer period of time. That it, family firms seem to mitigate overinvestment concerns by paying out higher dividends, and, at the same time, they attempt to alleviate the risk of underinvestment by pursuing a more stable dividend policy and smoothing dividends more.

The empirical evidence in this chapter makes several contributions to the finance and family business literature. First, we contribute to the ongoing debate in the capital structure literature as to which factors are important in shaping firms' financing choices. As suggested in recent studies, many questions are still unresolved regarding the most relevant determinants of a firm's capital structure. We explore the possibility that family control plays an important role in shaping this financial policy. As a result, our findings contribute to explaining the differences between family and non-family companies in terms of their financing choices. Second, this chapter adds to the stream of the literature that investigates the dividend puzzle by examining whether family and non-family businesses from Eurozone countries differ from each other in the corporate policy. Although previous studies account for the possibility that the ownership structure of the firm may affect its dividend decisions, most attention is focused on insider ownership and ownership concentration in the hands of institutional investors. By contrast, few attempts have been made to ascertain the differences between family and non-family firms regarding dividend policies. In addition, as noted in recent research (Andres, Betzer, Goergen, and Renneboog, 2009), little is known about dividend choices of Continental European firms because most empirical evidence on corporate dividend decisions is based on UK and US data. Third, we examine the interactions among different aspects of family firms' ownership structures (e.g., the presence of a second blockholder in family firms) and their debt and dividend decisions, which provides additional evidence regarding whether specific internal control mechanisms complement or substitute for each other. Finally, our results regarding the impact of family control on companies' leverage and dividend payouts provide some hints as to why family firms perform differently compared to other corporations. As previous research points out, capital structure and dividend decisions are among the factors that have been linked to firm value (Shyu and Lee, 2009). In fact, the higher valuations of family firms may be explained by the lower leverage and the lower cost of debt financing in these companies (Anderson, Mansi, and Reeb, 2003).

IV.2. Literature review and hypotheses development

In this section, we review the most relevant literature on the capital structure and dividend policies of the firm, and summarize the evidence provided so far as to the relation between these two financial decisions and a company's ownership structure. We also explain how the debt and dividend payout choices might relate to the family control of corporations and develop the hypotheses of the chapter. As can be seen below, we first focus on the capital structure policy, and subsequently on the dividend decision.

IV.2.1. Family control and the capital structure decision

Since the seminal work by Modigliani and Miller (1958), the theoretical and empirical literature has attempted to disentangle the determinants of a firm's capital structure, with the trade-off and pecking order theories emerging as the predominant models. According to trade-off theory, debt financing entails a series of benefits and costs, which firms must balance to determine their optimal capital structure. The tax and discipline benefits of debt are widely accepted. However, debt is also associated with financial distress and bankruptcy and can create agency problems between shareholders and debtholders. Therefore, firms, taking into account the advantages and disadvantages of debt, establish a target debt level and approach it over time. According to pecking order theory (Myers, 1984; Myers and Majluf, 1984), corporations follow a hierarchy when choosing their sources of funds due to information asymmetries and signalling problems. Firms first finance their investments with internal funds, and only when these have been exhausted, do they turn to debt financing and then, as a last resort, to new equity issues. Although trade-off and pecking order theories are the traditional models of capital structure, prior research recognizes other theories as well (e.g., market timing theory; Baker and Wurgler, 2002; Frank and Goyal, 2009; Huang and Ritter, 2009), and agency theory (Jensen and Meckling, 1976) undergirds many of the theoretical models of corporate capital structure.

Prior research investigates the factors that are most important in shaping companies' debt–equity choices (Frank and Goyal, 2009). These firm-level characteristics come mainly from the trade-off and pecking order theories and include internal cash flow, growth opportunities, tangibility, and firm size, among others. In line with agency theory, corporate ownership structure is also likely to be a relevant determinant of a firm's financing policy. From a corporate governance perspective, ownership structure and debt can be understood as internal control mechanisms that alleviate agency conflicts among different types of stakeholders within firms (Miguel, Pindado, and de la Torre, 2005; Zhang, 2009; D'Mello and Miranda, 2010). Additionally, different types of owners are likely to prefer different sources of funds depending on the relative costs and benefits related to each financing source. Hence, a firm's ownership structure may significantly influence its financing decisions.

Family firms are of particular interest due to the unique traits and peculiarities associated with family owners and the family business model (Chen, Chen, Cheng, and Shevlin, 2010). Specific to this study, family businesses enjoy a lower cost of debt financing (Anderson, Mansi, and Reeb, 2003), suggesting that family control is an important determinant of corporate capital structure. Yet, few studies address the issue of whether ownership structure influences firms' financing choices and whether family and non-family firms significantly differ from each other in terms of capital structure policies. Moreover, both theoretical explanations and empirical evidence regarding the effect of family ownership on leverage are ambiguous.

Family companies may use less debt in their financing mix for at least two reasons. First, in line with trade-off theory, family owners are likely to give more weight to the costs of debt—namely, financial distress and bankruptcy risks—due to their undiversified portfolios (Anderson and Reeb, 2003b; Margaritis and Psillaki, 2010). Controlling families invest not only a great part of their wealth in their companies but also a great deal of family human capital. As a consequence, family firms introduce less debt in their financing mix to reduce the risk borne by the owner family. Second, from a corporate governance perspective, debt can be understood as a monitoring device that disciplines managers and large shareholders. Thus, if family owners wish to enjoy the private benefits of control (Volpin, 2002; Enriques and Volpin, 2007), they must avoid too much debt because of the monitoring role and potential constraints imposed by creditors (King and Santor, 2008). These two arguments suggest a negative relation between family control and debt. This negative relation also suggests that controlling families may pursue their own personal objectives at the expense of other shareholders, because a low-risk corporate policy, such as using lower debt levels, may benefit the family but not minority investors.

However, family firms might prefer debt financing over equity financing. First, family owners may be motivated by control factors to use more debt (Ellul, 2008; King and Santor, 2008). Consistent with pecking order theory, owner families who use more debt in their financing mix avoid the dilution of their control of the company and, at the same time, reduce the risk of a hostile takeover (King and Santor, 2008). Second, in line with agency theory, family firms can use debt to signal to the market that they have valuable investment opportunities that will allow them to pay back the principal as well as the corresponding interests. In this case, higher debt levels in family firms imply that they are subject to the scrutiny of creditors, which helps alleviate agency conflicts. Additionally, as long as family businesses are perceived as less risky by debtholders, they will have easier access to debt financing and tend to use more debt (Margaritis and Psillaki, 2010).

Therefore, the relation between family control and leverage is unclear as theoretical arguments support both a negative and a positive relation. To date, the empirical evidence on the effect of family ownership on the financing policy is not conclusive either. Contrary to their predictions, Anderson and Reeb (2003b) find that family firms use similar amounts of debt as non-family corporations in the United States. Furthermore, they show that family businesses exhibit higher shareholder value,[37] which suggests that family ownership can be beneficial to minority investors. These findings imply that controlling families do not necessarily engage in financing policies that benefit themselves at the expense of minority investors' interests, at least in the United States. Margaritis and Psillaki (2010) confirm Anderson and Reeb's results and provide empirical evidence that ownership type does not significantly influence a firm's debt usage. However, they show that higher levels of ownership concentration are associated with higher leverage, which suggests that blockholders perceive debt as a governance mechanism that can be used to reduce the agency costs of managerial discretion and that the benefits of debt outweigh its potential bankruptcy costs. Consistent with the dilution of control explanation, King and Santor (2008) find that family firms with no control-enhancing mechanisms issue more debt. That is, family firms tend to use debt when control is not assured by other means. Similarly, Ellul's (2008) main findings support the preference for debt by family-controlled corporations, in line with higher control motivations by owner families. Moreover, Ellul shows that family companies that operate in countries in which minority shareholders' rights are more weakly protected (i.e., in which losing control is more costly) are the ones that use more debt. Consistent with the idea that controlling shareholders increase debt usage to prevent the dilution of their dominant control, Du and Dai (2005) find that in East Asian countries firms whose controlling shareholders own a small proportion of shares tend to have higher leverage.

We examine the influence of family ownership on the corporate financing policy by analyzing the moderating role of family control in the relation between internal funds and debt. According to pecking order theory, cash flow has a negative relation to debt levels due to asymmetric information and agency problems. However, we expect this relation to be moderated by family control because of the peculiarities associated with the family business model. Specifically, family firms have longer investment horizons and concern themselves about the family name's reputation. Moreover, prior research shows that family control

[37] A positive relation between family ownership and performance has also been confirmed in other studies that focus on US firms (Anderson and Reeb, 2003a) and on other institutional settings (Maury, 2006; Barontini and Caprio, 2006; Andres, 2008).

mitigates agency conflicts between shareholders and debtholders, thereby reducing family firms' cost of debt financing (Anderson, Mansi, and Reeb, 2003).[38] Family firms' long-term relationships with debt providers, such as banks and other financial institutions, is also likely to result in better financing terms. In addition, family-owned firms' higher earning and disclosure quality (Wang, 2006; Ali, Chen, and Radhakrishnan, 2007) suggests that family ownership can reduce information asymmetries, which may lead to a lower cost of capital for family firms.

Consequently, we expect family control to reduce the asymmetric information and agency problems associated with corporate financing policy, thus facilitating family firms' access to debt financing. If family control effectively mitigates agency conflicts between different firms' stakeholders—in this case, debtholders and shareholders—they should be less constrained when getting external finance and, therefore, less dependent on internal sources of funds. Consequently, the negative relation between debt and internal funds reported in previous studies on capital structure (see, e.g., Miguel and Pindado, 2001; González and González, 2008) should be less pronounced in the case of family-controlled firms. Therefore, we formulate the first hypothesis of the chapter as follows:

H1. *Family-owned firms, compared to non-family firms, have a weaker negative relation between internal cash flow and debt.*

However, not all agency problems are negated within family firms, and differences exist in how these firms address remaining agency conflicts. In particular, family control can give rise to conflicts of interests between the controlling family and the firm's minority investors (Villalonga and Amit, 2006) and the family may sometimes act in its own best interest, thus hampering the maximization of firm value in the long-term (see, e.g., Smith and Amoako-Adu, 1999; Pérez-González, 2006; Bennedsen, Nielsen, Pérez-González, and Wolfenzon, 2007; Cucculelli and Micucci, 2008; Hillier and McColgan, 2009). When family members' voting rights exceed their cash flow rights, they are better able to make decisions that benefit

[38] In relation to this issue, previous studies show that ownership concentration and the cost of equity capital are significantly and negatively associated in emerging markets, where family control is a common organizational form (Chen, Chen, and Wei, 2009).

themselves at the expense of other shareholders. Consequently, the risk of expropriation of minority investors' wealth, which is the main cost associated with ownership concentration (see, e.g., Miguel, Pindado, and de la Torre, 2004), is higher in family firms in which ownership and control in the hands of the controlling family deviate from one another.

Family companies with more pronounced agency problems may have more difficulty securing debt financing because debt providers may anticipate the risk that the family may expropriate the funds for personal gain. Furthermore, family owners with more scope for expropriating minority shareholders and whose main objective is to enjoy the private benefits of control will prefer to exhaust internal funds available before turning to alternative funding sources to avoid the disciplining role of the debt and equity markets. Moreover, in pyramidal structures and cross-holdings—control-enhancing mechanisms that allow controlling families to own voting rights above their cash flow rights—companies likely transfer funds between each other. Family owners thus often have additional internal financing options, without needing to turn to external funding sources. In sum, in line with the peeking order theory, family firms with a larger divergence between ownership and control are expected to exhibit a stronger negative relation between internal cash flow and debt.

The finance literature that examines the debt policy of family firms finds that the effect of family ownership on leverage depends on whether owner families make use of control-enhancing mechanisms. King and Santor's (2008) empirical evidence suggests that family companies with dual-class shares prefer more expensive equity to cheaper debt to avoid monitoring by creditors and because they are able to issue equity without diluting family control. In addition, Ellul (2008) shows that owner families that make use of control-enhancing mechanisms that secure their control of the company use less debt. In other words, family firms use debt as a substitute for or in lieu of control-enhancing mechanisms to retain strict control over the firm. Therefore, we expect that the moderating role of family control in the cash flow–debt relation will depend on whether a wedge exists between the voting and cash flow rights of the controlling family. Thus, we propose the following hypothesis:

H2. *The weaker negative relation between internal funds and debt in family firms is mainly due to those firms in which no wedge exists between the voting and cash flow rights owned by the family.*

Thus far, we argue that the potential benefits of family control and the alleviation of agency problems between shareholders and debtholders in family firms allow them easier access to debt financing. However, when the potential for agency conflicts and the scope for owner families to enjoy the private benefits of control increases—that is, when it is more likely that they behave following pecking order patterns—this reasoning no longer holds. To check the validity of our argument, we investigate the relation between internal funds and debt within family and non-family firms with more severe asymmetric information problems, which is symptomatic of pecking order behavior (Miguel and Pindado, 2001).

A weaker negative relation between cash flow and debt in family firms with high information asymmetries would suggest that these firms have easier access to debt financing than their non-family counterparts due to long-term relationships with debt providers. In other words, as suggested by prior research, family-controlled corporations may, in fact, face fewer agency problems between shareholders and debtholders (Anderson, Mansi, and Reeb, 2003). Furthermore, by focusing on firms with more severe asymmetric information problems, we investigate why family firms differ from non-family firms in their financing mix (Ellul, 2008; King and Santor, 2008). In this context, we formulate the third hypothesis:

H3. *Family firms with more severe asymmetric information problems, compared to their non-family counterparts, have a weaker negative relation between internal funds and debt.*

Although family ownership provides notable potential benefits in terms of lower agency conflicts, it can also trigger agency problems between the controlling family and outside minority shareholders. Thus, the presence of other large shareholders is an important feature of firms' ownership structures. La Porta, Lopez-de-Silanes, and Shleifer (1999) suggest that within concentrated ownership structures, large shareholders might monitor each other. In addition, Laeven and Levine (2008), who report the prevalence of complex ownership structures with multiple large stakeholders, find that the dispersion of cash flow rights across multiple large shareholders influences corporate valuations.

Previous studies that focus specifically on family firms in Western European countries show that second blockholders can effectively monitor the controlling family, thus leading to better performance. Jara-Bertin, López-Iturriaga, and López-de-Foronda (2008) confirm that family companies with other large shareholders enjoy higher valuations due to the contestability of the largest shareholder's power. In addition, the identity of second blockholders affects family firms' corporate governance and economic outcomes. Although non-family second large shareholders have an incentive to monitor the owner family to avoid being expropriated, family second blockholders may have an incentive to collude with the controlling family to enjoy the private benefits of control, thus endangering firm value in the long-term (Maury and Pajuste, 2005). Attig, Guedhami, and Mishra (2008) find that a firm's cost of equity increases when the two largest shareholders are families, which suggests that the market requires higher rates of return due to the greater risk of expropriation of minority shareholders. They argue that the cost increase is created by the second family shareholder's monitoring passivity or collusion with the largest shareholder to extract private benefits.

Given this discussion, we anticipate that the presence and identity of second blockholders in family companies play an important role in the financing policies of these corporations. First, a second large non-family shareholder with an incentive to monitor the controlling family can serve as a disciplining mechanism that alleviates expropriation concerns. That is, family businesses in which the second large blockholder is a non-family stockholder are likely to be better governed, which may increase the firms' access to debt. In this type of family firm, agency conflicts between managers and shareholders are reduced due to the presence of the controlling family, and, at the same time, conflicts of interest between large and minority investors are alleviated as a consequence of the supervising incentive of the second blockholder. We therefore formulate our fourth hypothesis:

H4. *Family firms with a non-family second blockholder, compared to other family and non-family counterparts, exhibit a weaker negative relation between internal funds and debt.*

Firms have target debt ratios that they pursue over time, and the speed at which companies adjust toward their target debt ratios is another important aspect of capital structure decisions of corporations. Overall, the finance literature examines the relation between firms' adjustment speeds and the environment in which they operate. Most studies investigate the impact of country-level factors on the speed at which companies fill the gap between their actual and their target debt ratios. The empirical evidence suggests that companies adjust toward their target capital structures at different speeds depending on the ease of access to funds (see, e.g., Antoniou, Guney, and Paudyal, 2008; Öztekin and Flannery, 2009). Specifically, firms in capital markets with better institutions and more protective legal systems reach their target debt ratios faster.

Studies on how firm-level factors can influence the speed at which firms adjust toward their target capital structure are much scarcer. However, this issue can be of great importance to corporations because knowing which firm characteristics are associated with higher adjustment speeds could allow them to rebalance their capital structures faster. Therefore, we aim to fill this gap in the literature by analyzing whether a firm's ownership structure, and in particular family control, has an impact on the adjustment speed toward companies' target debt ratios. If we consider previous findings on the moderating role of country-level characteristics in the rebalancing behavior of companies (Öztekin and Flannery, 2009)[39] and translate these results to specific firm-level features, we expect that, overall, companies with better governance structures and fewer agency conflicts will approach their target capital structures more rapidly. Consequently, we anticipate that family firms will be able to rebalance their capital structures faster than non-family firms, thus approaching their target debt levels at a higher speed for two reasons. First, family firms are able to alleviate agency conflicts between

[39] In general, these findings suggest that better legal systems and institutional settings allow firms to adjust toward their target capital structures at a higher speed.

shareholders and debtholders (Anderson, Mansi, and Reeb, 2003). Second, family firms tend to have lower information asymmetries (Wang, 2006; Ali, Chen, and Radhakrishnan, 2007). Thus, if family control is an efficient ownership structure as compared to other organizational forms and if it is associated with overall fewer costs derived from agency problems (as the potential benefits attached to family control imply), family firms should have a higher adjustment speed toward their target debt ratios. Consequently, the following hypothesis is proposed:

H5. *The speed of adjustment toward the target capital structure is higher in family firms than in non-family firms.*

IV.2.2. Family control and the dividend decision

Since Miller and Modigliani's (1961) irrelevance propositions, several theories have attempted to explain how companies decide whether to pay out dividends and the amount of the dividend payments.[40] In particular, the finance literature recognizes the potential of agency theory to explain firms' dividend policy. Rozeff (1982) proposes a model in which the optimal dividend policy is the result of a trade-off between equity agency costs and transaction costs. On the one hand, increasing dividend payments leads to a reduction in agency costs because the firm is forced to raise external capital when new funds are needed. To obtain this additional funding, managers must reduce agency costs and reveal new information to the market. On the other hand, paying too many dividends can result in excessive transaction costs. Therefore, companies should balance the benefits derived from lower agency costs against the higher transactions costs associated with dividends when deciding their payout policies. In a similar fashion, Easterbrook (1984) argues that dividends can help control equity agency problems by

[40] The signalling and tax clientele theories are among the traditional explanations for the corporate dividend policy provided in the finance literature. According to the signalling theory, dividends are based on the desire to communicate information to shareholders. The tax clientele explanation, by contrast, proposes that dividend payments depend on the preference between capital gains and dividends of clienteles, which differ from each other in their taxation regimes.

encouraging primary capital market monitoring of companies' activities and performance. The logic behind this reasoning is that higher dividend payments increase the probability that the firm must issue new equity in primary capital markets, which, in turn, leads to an inspection of management by potential underwriters and other involved stakeholders. In addition, Jensen's (1986) free cash flow theory provides a reason in favor of dividend payments. Namely, when firms have excess internal cash, paying out dividends prevents managers from spending these funds on projects that do not necessarily add value to the company.

Based on agency and other dividend theories, some studies examine the main determinants of the corporate dividend policy and how a firm's ownership structure can affect companies' dividend payments.[41] Prior research focuses on specific types of control, such as institutional holdings, insider ownership, and control by corporations (see, e.g., Short, Zhang, and Keasey, 2002; Farinha, 2003; Barclay, Holderness, and Sheehan, 2009), but the evidence provided is not conclusive. With respect to the particular case of family firms, whether family control and dividends are positively or negatively related from a theoretical point of view is not clear. In the literature, dividends are understood as either an alternative, or substitute, control mechanism or as an outcome of effective legal protections.

First, dividends can be seen as an alternative control mechanism aimed at alleviating agency conflicts within family firms. Because owner families, given their large stake in the company, are in themselves efficient monitoring mechanisms, the need to pay out dividends to reduce free cash flow agency conflicts (Jensen, 1986) should be lower in family firms. This reasoning is consistent, to a certain degree, with La Porta, Lopez-de-Silanes, Shleifer, and Vishny's (2000) "substitute model" of dividends. According to this model, dividends are a substitute for legal protection of shareholders. In a similar vein, family control and dividend payments can be considered as alternative corporate governance devices.

[41] Some studies focus on the importance of dividends and share repurchases in firms' total payout ratios (Grullon and Michaely, 2002; Von Eije and Megginson, 2008). We focus on the dividend decision because of the higher future commitments that dividends imply in comparison with share repurchases (Brav, Graham, Harvey, and Michaely, 2005; Moser, 2007).

The literature also supports a substitution effect between corporate ownership structure and the payout policy. Moh'd, Perry, and Rimbey (1995) show that the number of shareholders is positively related to the payout ratio, whereas insider ownership is negatively associated with dividends. These findings suggest that in companies with ownership dispersion, dividends resolve agency conflicts between owners and managers (Jensen and Meckling, 1976). However, when managers' and investors' interests are aligned via higher insider ownership, dividends are reduced to avoid excessive transaction costs (Rozeff, 1982). Farinha (2003) confirms a positive link between ownership dispersion and dividend payments but reports a U-shaped relation between insider ownership and dividend payouts. This result points to a substitution effect between both monitoring devices. That is, under convergence of managers' and shareholders' interests, dividends are not needed, but they become a necessary monitoring mechanism when managers become entrenched. Truong and Heaney (2007) investigate how large shareholdings influence the dividend policy and, like Farinha, find a U-shaped relation. Under monitoring, ownership concentration and dividends substitute for each other; conversely, under expropriation, dividend payments alleviate agency conflicts. With respect to specific types of owners, Gugler (2003) shows that state-controlled firms pay out the highest dividends, and family firms have the lowest target payout ratios in Austria. He argues that state-owned firms are forced to distribute higher dividends due to more severe agency problems in state-controlled businesses; meanwhile, in family firms, in which family control serves as an effective corporate governance mechanism, the need for dividends is reduced. In a similar fashion, Goergen, Renneboog, and Correia da Silva (2005) show empirical evidence that in Germany banks mitigate information asymmetry and agency costs and thus reduce the need for dividends as a disciplining device.

Second, dividends can be the outcome of an effective system of shareholders' legal protection, in line with the "outcome model" of dividends (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000). According to this dividend model, companies that operate in countries with better legal protection for minority shareholders pay higher dividends. Indeed, La Porta, Lopez-de-Silanes, Shleifer, and Vishny empirically test the substitute against the outcome model of dividends and find support for the latter. Their findings, therefore, suggest that better corporate governance structures are associated with higher dividend payments. Also, Michaely and Roberts (2006) find that companies in which managers' and shareholders' interests are more closely aligned—as is the case in family firms—pay higher dividends compared to corporations with higher ownership dispersion.[42]

Furthermore, companies' dividend choices may also depend on the value that shareholders attribute to corporate cash holdings (Pinkowitz, Stulz, and Williamson, 2006; Kalcheva and Lins, 2007). These studies conclude that corporate cash holdings are less valuable in countries with weaker investor protection but that in these countries, investors value dividends more positively because they signal lower consumption of private benefits. Therefore, if we consider the potential advantages of family control,[43] which help explain the higher corporate performance of family firms (Maury, 2006; Barontini and Caprio, 2006; Andres, 2008), we expect higher dividend payments by listed family-controlled corporations that operate in Eurozone countries, where minority shareholder protection afforded by the law is generally weaker than in Anglo-Saxon settings, in relation to their non-family counterparts.[44] In addition, alternative control mechanisms (particularly external mechanisms, such as capital markets and the market for corporate control) play a less important role within Eurozone countries, which also suggests a positive link between family control and the dividend policy.

[42] Although Michaely and Roberts (2006) refer to differences in the severity of agency problems between private firms with highly concentrated ownership and those with diffuse ownership, their argument could be applicable to publicly listed corporations as well.

[43] In particular, we may consider the reputation cost concerns of owner families (Chen, Chen, and Cheng, 2008; Chen, Chen, Cheng, and Shevlin, 2010).

[44] This proposition suggests that certain internal corporate governance mechanisms (in this case, family control) substitute for the lack of strongly protective laws in the task of forcing managers to pay out dividends to hinder minority investors' expropriation. A similar argument is put forward by Michaely and Roberts (2006), who analyze the differences in behavior between public and private corporations in terms of their dividend payout policies. Michaely and Roberts argue that in some private companies entirely owned by one entity (such as a family), outside investors have a significant interest and expertise in the operations of the business and, as a consequence, play an active monitoring and disciplining role inside the company. For these private firms, the authors suggest, the power afforded to shareholders via ownership concentration, expertise, and active monitoring is, arguably, significantly greater than that provided to outside shareholders of public firms by external institutional and governance mechanisms. Although our context is different from Michaely and Roberts' (2006) because we do not have privately owned firms in the sample, we might expect controlling families in public family firms to continue to perform an active monitoring and scrutinizing role given their close links with their businesses.

In the absence of strong external protection for minority shareholders, internal control mechanisms may need to complement each other (Miguel, Pindado, and de la Torre, 2005). This reasoning is supported by previous empirical evidence on the dividend policy of group-affiliated corporations in Europe, whereby dividends are used by Western European companies as a means to hinder minority shareholder expropriation (Faccio, Lang, and Young, 2001). In addition, recent research that focuses on the Australian Stock Exchange confirms that family firms adopt higher dividend payout ratios (Setia-Atmaja, Tanewski, and Skully, 2009). Considering these arguments, we formulate the next hypothesis:

H6. *Family firms, compared to non-family firms, pay out a higher proportion of their earnings as dividends.*

The two main explanations for a positive effect of family control on dividends imply that family firms with varying severity of agency conflicts should pursue different dividend policies. On the one hand, if dividend payments are the outcome of the legal protection of minority shareholders (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000) and family control contributes to improve corporate governance practices, thereby benefiting outside investors, family companies with less scope for minority investors' expropriation will pay out higher dividends. On the other hand, family-controlled corporations can use dividends to reduce expropriation concerns (Faccio, Lang, and Young, 2001). In this case, family firms with more severe agency problems should be associated with higher dividend payments. Overall, based on these two arguments, we should expect differences in companies' dividend decisions within the family business sample, which supports that the family companies are heterogeneous.

In line with the view that dividend policy can be used as a tool to attenuate agency conflicts (i.e., substitute model), Gugler (2003) suggests that the need for dividends decreases when other corporate governance mechanisms are in place, such as a second effective blockholder. Truong and Heaney (2007) support this reasoning as they conclude that agency problems between the largest shareholder and minority investors—particularly significant issue in family firms (Villalonga and Amit, 2006)—can be mitigated by paying out more dividends. However, some literature suggests that those corporate governance structures that are more likely to create agency conflicts (e.g., concentrated ownership combined with the use of control-enhancing mechanisms) lead to reductions in dividend payments. Specifically, Gugler and Yurtoglu (2003) find that when the largest shareholders' voting rights deviate from their cash flow rights, dividend payouts decline.

According to the outcome model of dividend payouts, family control only benefits minority investors under certain circumstances (i.e., strong governance, strong legal protection for minority shareholders). If the controlling family can use control-enhancing mechanisms to increase their control of the company above their ownership stakes, they can more easily expropriate private benefits at the expense of minority shareholders. That is, when owner families' control rights are higher than their cash flow rights, they are better able to act in their own best interest because of their higher control of the business.[45] Consequently, family-controlled corporations in which the interests of the largest shareholder and the minority investors are better aligned are more likely to provide the benefits of family control. In other words, family firms that cannot take advantage of control-enhancing mechanisms to create a wedge between the control and cash flow rights will distribute a higher rate of dividends. For these reasons, we propose the seventh hypothesis of the chapter as follows:

H7. *Family firms with no wedge between the voting rights and cash flow rights of the controlling family, compared to other family and non-family firms, distribute a higher proportion of their earnings as dividends.*

Dividend increases generally impact firm value positively, and dividend cuts and omissions generally have a negative effect on market valuations and stock prices (Al-Yahyaee, Pham, and Walter, 2010). In countries with weaker investor protection, corporate cash holdings are less valued whereas dividend payments signal lower consumption of private

[45] The deviation of cash flow rights from voting rights provides controlling owners with the incentives (small cash–flow rights) and ability (sufficient voting rights) to divert corporate resources for private gain (Laeven and Levine, 2008).

benefits and, as a result, are positively valued by the market (Pinkowitz, Stulz, and Williamson, 2006; Kalcheva and Lins, 2007). Interestingly, previous studies suggest that ownership concentration and, hence, family control may make up for the lack of a strongly protective legal system and efficient institutional governance mechanisms (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998); other studies find that family firms commonly outperform their non-family counterparts (see, e.g., Anderson and Reeb, 2003a; Maury, 2006; Barontini and Caprio, 2006; Andres, 2008). These arguments and findings indicate that family firms with more severe free cash flow problems should pay out higher dividends, which could, in turn, increase their market valuations.

However, family businesses may prefer to retain excess internally generated cash flow to increase their financial slack and reduce the firm's risk of financial distress due to the controlling family's undiversified portfolios and risk aversion (Anderson and Reeb, 2003b). Cash flow accumulation by powerful investors, such as family blockholders, can also be explained by their desire to pursue nonvalue maximizing objectives (Khan, 2006). Overall, these arguments contradict our line of reasoning that family companies use dividend payouts to mitigate expropriation concerns in European countries (Faccio, Lang, and Young, 2001).

To clarify whether family control is beneficial to outside investors in that family firms pay out higher dividends when the company has excess cash to reduce agency conflicts (Jensen 1986), we focus on corporations with more free cash flow. Consistent with the idea that family control is an efficient organizational form and that family firms pay out higher dividends to mitigate minority investors' concerns that the controlling family may invest internal funds in nonvalue-enhancing projects (or that only create value for the controlling family), we formulate the following hypothesis:

H8. *Family firms with severe free cash flow problems, compared to their family and non-family counterparts, pay out a higher proportion of their earnings as dividends.*

By distributing a higher proportion of their earnings as dividends family firms can reduce the divergence of interests between the controlling family and minority shareholders, which is one of the main agency problems faced by family businesses (Villalonga and Amit, 2006). The distribution of dividends is positively valued by the market, and in the case of family companies it is a way of preventing controlling shareholders from engaging in expropriation of minority shareholders (Faccio, Lang, and Young, 2001). As previously discussed, in firms with a high level of ownership concentration, second blockholders play a vital role in the organizational structure (La Porta, Lopez-de-Silanes, and Shleifer, 1999; Laeven and Levine, 2008). In the case of family firms, family second large shareholders are likely to collude with the controlling family to expropriate minority investors, thus hindering the payment of dividends. In this type of family business, powerful investors impose dividend policies inside the company that allow them to increase the cash flow at their disposal (Khan, 2006) and to enjoy the private benefits of control (Volpin, 2002; Enriques and Volpin, 2007). By contrast, non-family second blockholders can serve as monitoring and disciplining mechanisms that force the owner family to disgorge excess cash. Gugler and Yurtoglu (2003) find that firms with a controlling owner and a second large investor have the highest payout ratios. However, they fail to account for the identity of either of the company's large shareholders, which, in light of prior research, is likely to be very important, mainly when differentiating between family and non-family firms (Maury and Pajuste, 2005). These non-family second blockholders may also be associated with higher dividend payouts due to their nature; that is, they are mainly widely held financial institutions (which, among others, include institutional investors). As such, they may prefer dividends due to tax considerations (i.e., in line with the tax clientele theory of dividends) and they could exhibit a preference for dividends as a way to lower the agency cost of free cash flow (Rubin and Smith, 2009), thus forcing the family companies in which they invest to distribute dividends.

Based on prior literature that focuses on firms with multiple large shareholders, we expect non-family second blockholders to monitor the controlling family and to serve as corporate governance mechanisms that induce family firms to pay out higher dividends. Thus, we posit:

H9. *Family firms in which the second blockholder is non-family pay out a higher proportion of their earnings as dividends.*

Since the pioneering work by Lintner (1956), previous dividend levels are generally accepted as important determinants of current dividend payments. Given the value that shareholders attribute to dividend payout ratios, companies usually pursue a stable dividend policy, and they are reluctant to either reduce or omit dividend payments (Brav, Graham, Harvey, and Michaely, 2005; Ferris, Jayaraman, and Sabherwal, 2009).[46] Compared with share repurchases, dividends imply a stronger future commitment on the part of the company, and, as a result, most corporations (mainly publicly listed; Michaely and Roberts, 2006) smooth their dividend payments over time. The effect of past dividends on current dividend levels allows us to determine the speed at which firms approach their target dividend ratios; that is, the stronger the positive relation between past and current dividends, the longer the company will take to reach its target payout ratio.

Companies that suffer from more severe agency problems will be more likely to smooth dividends to alleviate such concerns (e.g., state-controlled firms). On the contrary, firms in which the conflicts of interests and the information asymmetries between owners and managers are less severe (e.g., family firms) will smooth dividends to a lesser extent (Gugler, 2003). Michaely and Roberts (2006) argue that companies with the least severe information and agency conflicts are likely to alter their dividend policy and thus less likely to smooth dividends. Although Gugler's results and conclusions are based on a sample of mainly unlisted firms and the dividend smoothing behavior of privately owned and publicly listed companies is likely to differ (Michaely and Roberts, 2006),[47] we expect that, overall, family firms be less constrained when cutting or omitting dividends due to owner families' long-term commitments

[46] A dividend smoothing behavior can also be explained, to some extent, by tax clientele effects. For instance, the theoretical model developed in Mori (2010) shows that some investors (i.e., individual investors) prefer non-dividend-paying stocks; meanwhile, other types of investors (i.e., corporate investors) might have a preference for dividend-paying stocks, but not for high dividends. Therefore, no type of investor wishes to receive one-off high dividends.

[47] Furthermore, prior research that compares family and non-family firms in terms of their corporate performance suggests that performance differences between them may depend on whether they are publicly listed (Martínez, Stöhr, and Quiroga, 2007; Oswald, Muse, and Rutherford, 2009).

to their businesses (James, 1999) and lower asymmetric information problems and agency problems in these companies (Wang, 2006; Ali, Chen, and Radhakrishnan, 2007). Consistent with these propositions, we formulate the final hypothesis of the chapter:

H10. *A weaker positive relation exists between past and current dividend levels in family firms compared to non-family firms; that is, family firms smooth dividends to a lesser extent than non-family firms.*

IV.3. The models

In each of the two subsections that follow, we present the partial adjustment models of capital structure and dividends on which we base our analyses. Subsequently, we detail how we extend the general models to test the hypotheses formulated above.

IV.3.1. The debt models

To examine the role of family control in companies' financing policies, we begin with a general partial adjustment model of debt. This model is supported by the trade-off theory, which proposes that firms rebalance their capital structures over time to reach their target debt levels. We use a dynamic capital structure model and focus on the relation between internal cash flow and debt (and the moderating role of family control in this relation); therefore, we combine both the trade-off and the pecking order theories. The consideration of both theories in our investigation is particularly relevant as prior research offers support for both perspectives (see, e.g., Fama and French, 2002; Flannery and Rangan, 2006; González and González, 2008; Frank and Goyal, 2009), and neither has been proven superior in explaining firms' financing behavior.

IV.3.1.1. The general partial adjustment model of debt

We now develop a general model of debt. In the next section, we extend this model and present the precise empirical specifications that allow us to test our hypotheses. Following previous studies on corporate capital structure (Miguel and Pindado, 2001; Fama and French, 2002; Flannery and Rangan, 2006; González and González, 2008), we express a firm's target debt, $DEBT_{it}^{*}$, as a function of several firm-level characteristics:

$$DEBT_{it}^{*} = \beta_0 + \beta_1 CF_{it} + \varphi Y_{it} + \varepsilon_{it}, \tag{1}$$

where CF_{it} is cash flow and Y_{it} is a vector of other firm characteristics that are likely to influence a firm's debt level. Among the firm-level factors identified in prior research as important determinants of debt, we focus on a measure of internal funds (CF_{it}) because we interact this variable with a series of dummies to test the proposed hypotheses.

However, firms do not adjust to their target debt ratios automatically. On the contrary, companies fill the gap between their actual leverage and their target gradually over time, as captured in the following model:

$$DEBT_{it} - DEBT_{it-1} = \alpha(DEBT_{it}^{*} - DEBT_{it-1}), \tag{2}$$

where $0 < \alpha < 1$ is the speed at which firms adjust their debt ratios over time. We now rearrange terms to obtain:

$$DEBT_{it} = \alpha DEBT_{it}^{*} + (1-\alpha) DEBT_{it-1}. \tag{3}$$

And after replacing the target debt ratio with (1), in which debt is expressed as a function of other factors, we get:

$$DEBT_{it} = \alpha\beta_0 + (1-\alpha) DEBT_{it-1} + \alpha\beta_1 CF_{it} + \alpha\varphi Y_{it} + \varepsilon_{it}, \tag{4}$$

which is equivalent to:

$$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + \delta_2 CF_{it} + \phi Y_{it} + \varepsilon_{it}\ , \tag{5}$$

where $\delta_1 = 1 - \alpha$ allows us to compute the adjustment speed. The inclusion of several interaction terms in (5) permits us to test the hypotheses developed in the previous section.

IV.3.1.2. Extensions of the debt model estimated empirically

First, to analyze empirically whether a different effect of cash flow on debt is found under family control, as proposed in Hypothesis 1, we estimate the model:

$$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \gamma_2 FD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}\ , \tag{6}$$

in which $DEBT_{it}$ is a firm's debt ratio and FD_{it} is a dummy variable that equals 1 for family firms, and zero otherwise. The vector Y_{it} comprises several control variables recognized in previous studies as important determinants of corporate capital structure. Specifically, Y_{it} includes Tobin's *q*, tangible assets, sales, sales growth, dividends, and size. See Appendices IV.A and IV.B for detailed definitions of the financial and dummy variables included in the models. We expect a negative impact of internal funds on debt (i.e., $\hat{\delta}_2 < 0$), consistent with the pecking order theory. However, as posited in our first hypothesis, we expect this negative relation to be weaker in the case of family firms (i.e., $\hat{\gamma}_2 > 0$). Note that in this specification the effect of cash flow on debt for non-family corporations is captured by δ_2 (given $FD_{it} = 0$), and for family firms, it is measured by $(\delta_2 + \gamma_2)$ (see Appendix IV.C for a summary of the coefficients of interest in each of the empirical specifications). Consequently, Hypothesis 1 proposes that $\hat{\delta}_2 < (\hat{\delta}_2 + \hat{\gamma}_2) < 0$. For both family and non-family firm sets, we expect the influence of cash flow on the debt ratio to be negative, but we expect the impact to be weaker in the case of family firms.

To investigate further whether the weaker negative relation between internal funds and leverage is mainly driven by family firms with no deviation between ownership and control, in line with Hypothesis 2, we split the family firm sample into family firms with and without a wedge between the voting and cash flow rights owned by the controlling family and extend (6) as follows:

$$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \chi_2 WEDFD_{it} + \eta_2 NWEDFD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}, \qquad (7)$$

where $WEDFD_{it}$ is a dummy variable that equals 1 for family firms with a wedge between voting and cash flow rights of the family owner, and zero otherwise, and $NWEDFD_{it}$ is a dummy variable that equals 1 for family firms with no wedge, and zero otherwise. In this model, the impact of cash flow on debt for family firms depends on their ownership structures. For family companies in which the controlling family's voting rights exceed its cash flow rights, such impact is measured by $(\delta_2 + \chi_2)$ (given $NWEDFD_{it}$ = 0), and it is evaluated by $(\delta_2 + \eta_2)$ for family firms in which family's ownership and control totally coincide with each other (given $WEDFD_{it}$ = 0). We expect $(\hat{\delta}_2 + \hat{\eta}_2) > (\hat{\delta}_2 + \hat{\chi}_2)$ to find support for Hypothesis 2.

To test Hypothesis 3, we focus on companies that are more likely to face information asymmetries and analyze whether a weaker negative relation exists between internal funds and debt in family firms with higher asymmetric information problems as compared to their non-family counterparts. We propose the following model to test the third hypothesis of the chapter:

$$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \mu_2 IAFD_{it} + \psi_2 IANFD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}, \qquad (8)$$

where $IAFD_{it}$ is a dummy variable that equals 1 for family firms with a high level of intangible assets and a low level of tangible assets, and zero otherwise, and $IANFD_{it}$ is a dummy variable that equals 1 for non-family firms with a high (low) level of intangibles (tangibles), and zero otherwise. Therefore, in contrast to both previous models, in (8) δ_2 measures the relation between cash flow and debt for corporations with fewer asymmetric information problems, either family or non-family (given both $IAFD_{it}$ and $IANFD_{it}$ = 0). The influence of internal funds on debt is captured by $(\delta_2 + \mu_2)$ for family firms with higher information asymmetries (given $IANFD_{it}$ = 0) and by $(\delta_2 + \psi_2)$ for their non-family counterparts (given $IAFD_{it}$ = 0). Thus, to confirm Hypothesis 3, we expect that $(\hat{\delta}_2 + \hat{\mu}_2) > (\hat{\delta}_2 + \hat{\psi}_2)$.

To identify the corporations more likely to face asymmetric information problems, we focus on the nature of a firm's asset base. That is, we analyze the proportion of tangible and intangible assets each company owns to define the subsample of firms with higher information asymmetries. Specifically, to capture in one single variable the degree of tangibility of a firm's assets, we perform a factor analysis with principal components using the fraction of tangibles and intangibles that each company possesses. The coordinates of these variables on the first factorial axis are 0.7900 and -0.7900 for tangibles and intangibles, respectively, the eigen value is 1.24811. Subsequently, we construct an information asymmetry factor, IA_{it}, whose value is low for companies with a low level of tangible assets and a high level of intangible assets. These firms are more likely to face severe asymmetric information problems. On the contrary, concerns over information asymmetries will be lower when the value of the factor is high, namely, for firms with many tangible and few intangible assets. Using this factor, we define an information asymmetry dummy, IAD_{it}, which equals 1 for corporations with a value of the IA_{it} factor below the sample median (i.e., those with higher asymmetric information problems), and zero otherwise. Finally, we differentiate between family and non-family businesses within the subsample of firms with higher information asymmetries (those in which IAD_{it} takes the value of 1) and define the $IAFD_{it}$ and $IANFD_{it}$ dummies that we include in (8), which enables us to test Hypothesis 3.

To ascertain the role of second blockholders in family firms' financing choices and test Hypothesis 4, we propose:

$$\begin{aligned} DEBT_{it} = {} & \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} \\ & + \vartheta_2 NSSPFD_{it}) CF_{it} + \phi Y_{it} + \varepsilon_{it} \end{aligned}, \qquad (9)$$

where $FSSPFD_{it}$ is a dummy variable that equals 1 for family firms with a family second blockholder, and zero otherwise; $NFSSPFD_{it}$ is a dummy variable that equals 1 for family firms with a non-family second blockholder present, and zero otherwise; and $NSSPFD_{it}$ is dummy variable that equals 1 for family firms with no second large shareholder, and zero otherwise. Equation (9) is an extension of (6) in which we divide the family firm sample according to the presence of a second large shareholder in the company and his or her category. As in (6) and (7), δ_2 evaluates the impact of cash flow on debt for non-family corporations (given $FSSPFD_{it}$, $NFSSPFD_{it}$, and $NSSPFD_{it}$ = 0). For family firms with no second blockholder, this impact is measured by $(\delta_2 + \vartheta_2)$. Meanwhile, for family companies with a family second large shareholder, the relation between internal funds and the debt ratio is captured by $(\delta_2 + \varpi_2)$, and for those with a non-family second blockholder, by $(\delta_2 + \theta_2)$. Consistent with Hypothesis 4, we expect that $(\hat{\delta}_2 + \hat{\theta}_2) > \hat{\delta}_2$ and $(\hat{\delta}_2 + \hat{\theta}_2) > (\hat{\delta}_2 + \hat{\varpi}_2)$.

Finally, when formulating Hypothesis 5, we posit that family and non-family corporations are likely to differ from each other in their adjustment speeds toward their target debt ratios. Specifically, we expect family firm will adjust to their target ratios faster than their non-family counterparts. To test this proposition, we extend the partial adjustment model of debt as follows:

$$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it})DEBT_{it-1} + \delta_2 CF_{it} + \phi Y_{it} + \varepsilon_{it}\,. \qquad (10)$$

In this specification, δ_1 is a measure of the effect of past debt levels on current debts for non-family companies (given FD_{it} = 0). This effect is captured by $(\delta_1 + \gamma_1)$ in the case of family firms. If family firms exhibit a higher adjustment speed, as proposed by Hypothesis 5, then $\hat{\gamma}_1 < 0$ and, therefore, $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\gamma}_1)$. Note that the estimated coefficients $\hat{\delta}_1$ and $(\hat{\delta}_1 + \hat{\gamma}_1)$ allow us to compute the adjustment speed for non-family and family firms, respectively, and that the higher the value of these coefficients, the lower the speed of adjustment. Specifically, the adjustment speed is measured by $1-(\hat{\delta}_1 + \hat{\gamma}_1)$ for family firms and $1-\hat{\delta}_1$ for non-family firms.

IV.3.2. The dividend models

In this section, we first present the general model of dividends on which we base our regression analyses. Then, we explain the empirical specifications that enable us to test our hypotheses. Following Lintner (1956), we propose a partial adjustment model of dividends in which lagged dividends enter the right-hand side of the equation as an explanatory variable. The role of family control in the dividend payout policy is accounted for by extending the general model with several interaction terms between different dummy variables, depending on the hypothesis under examination, and a company's net income. In this way, we disentangle whether family firms adopt different dividend payout ratios while controlling for the dynamic nature of the dividend policy.

IV.3.2.1. The general partial adjustment model of dividends

To investigate the differences that exist between family and non-family firms in terms of their dividend policies, we develop several empirical specifications based on Lintner's (1956) model of dividends; previous studies that investigate companies' dividend decisions propose similar models (Fama and French, 2002; Gugler, 2003; Aivazian, Booth, and Cleary, 2006; Andres, Betzer, Goergen, and Renneboog, 2009). According to Lintner, a firm's target dividends, DIV_{it}^{*}, depend on the company's earnings. That is:

$$DIV_{it}^{*} = \tau NI_{it}, \tag{11}$$

where NI_{it} is net income, and τ is the fraction of earnings that the firm distributes in the form of dividends to shareholders. Because companies approach their target dividends over time and not automatically:

$$DIV_{it} - DIV_{it-1} = \beta_0 + \lambda(DIV_{it}^{*} - DIV_{it-1}) + \omega X_{it} + \varepsilon_{it}, \tag{12}$$

where $0 < \lambda < 1$ is the speed of adjustment to the target dividend, and X_{it} is a vector of control variables. In fact, given the negative signal that dividend cuts and omissions send to the market, firms usually smooth their dividends, and past dividend levels are important predictors of current dividend payments. We therefore propose (13), which is equivalent to (12) after rearranging terms:

$$DIV_{it} = \beta_0 + (1-\lambda)DIV_{it-1} + \lambda DIV_{it}^{*} + \omega X_{it} + \varepsilon_{it} \,. \tag{13}$$

We now replace (11) in this model to obtain:

$$DIV_{it} = \beta_0 + (1-\lambda)DIV_{it-1} + \lambda\tau NI_{it} + \omega X_{it} + \varepsilon_{it} \,, \tag{14}$$

where the main variables of interest are DIV_{it-1} and NI_{it}, and which can be expressed as:

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + \beta_2 NI_{it} + \omega X_{it} + \varepsilon_{it} \,, \tag{15}$$

where $\beta_1 = 1-\lambda$ and $\beta_2 = \lambda\tau$. By extending this dividend model, we can test our hypotheses. The NI_{it} will be interacted with several dummies in the empirical specifications developed in the following discussion to disentangle how family control affects companies' dividend choices.

IV.3.2.2. Extensions of the dividend model estimated empirically

To investigate how family firms differ from non-family firms in terms of dividend policy, we extend (15) in the following ways. First, we test Hypothesis 6, which posits that family firms distribute a higher fraction of their earnings as dividends, using the following model:

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \gamma_2 FD_{it})NI_{it} + \omega X_{it} + \varepsilon_{it} \,. \tag{16}$$

The coefficients of interest are β_2 and γ_2, and the vector of control variables, X_{it}, includes the following firm-level characteristics: debt, investment, size, Tobin's q, and sales. The β_2 captures the effect of NI_{it} on dividend levels for non-family firms (given that $FD_{it} = 0$), and $\beta_2 + \gamma_2$ measures the relation between NI_{it} and dividends in the case of family firms. If family businesses distribute a higher fraction of their earnings in the form of dividends, consistent with Hypothesis 6, we should find a stronger positive relation between earnings and dividends in these companies; that is, $(\hat{\beta}_2 + \hat{\gamma}_2) > \hat{\beta}_2$.

However, family companies with varying degrees of agency conflicts may adopt different dividend policies. In Hypothesis 7, we posit that the higher dividend payments by family firms are mainly driven by those firms that are less likely to suffer from agency conflicts between the controlling family and minority shareholders. To test this proposition, we extend the model in (16) to differentiate between wedge (i.e., separation between ownership and control right of the controlling owner family) and nonwedge firms as follows:[48]

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \chi_2 WEDFD_{it} + \eta_2 NWEDFD_{it})NI_{it} + \omega X_{it} + \varepsilon_{it}. \quad (17)$$

The impact of net income on dividends for non-family corporations is evaluated as before (given both $WEDFD_{it}$ and $NWEDFD_{it} = 0$). In wedge family firms, the relation between earnings and dividends is captured by $(\beta_2 + \chi_2)$ (given $NWEDFD_{it} = 0$), and in nonwedge family firms, the relation is captured by $(\beta_2 + \eta_2)$ (given $WEDFD_{it} = 0$). To confirm Hypothesis 7, we expect $(\hat{\beta}_2 + \hat{\eta}_2) > (\hat{\beta}_2 + \hat{\chi}_2)$.

To test Hypothesis 8, which posits that family firms with severe free cash flow problems pay out a higher proportion of their earnings as dividends, we focus on corporations with more severe free cash flow problems. Within this subsample of firms, we compare family and non-family businesses in terms of their dividend choices using the following model:

[48] Wedge family companies are those firms in which the voting rights owned by the family exceed its cash flow rights. In nonwedge family firms, family ownership and control coincide with each other.

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \mu_2 FCFFD_{it} + \psi_2 FCFNFD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}, \tag{18}$$

where $FCFFD_{it}$ is a dummy variable that equals 1 for family firms that are more likely to have free cash flow agency conflicts, and zero otherwise, and $FCFNFD_{it}$ is a dummy variable that equals 1 for non-family corporations with free cash flow problems, and zero otherwise. In this model, β_2 measures the influence of earnings on dividends for firms with less severe agency problems of free cash flow, either family or non-family (given that both $FCFFD_{it}$ and $FCFNFD_{it}$ = 0). This influence is evaluated by $(\beta_2 + \mu_2)$ in family companies with free cash flow problems (given $FCFNFD_{it}$ = 0) and by $(\beta_2 + \psi_2)$ for their non-family counterparts (given $FCFFD_{it}$ = 0). Thus, for Hypothesis 8 to hold, $(\hat{\beta}_2 + \hat{\mu}_2) > (\hat{\beta}_2 + \hat{\psi}_2)$.

To distinguish between companies with more and less free cash flow problems, we use the free cash flow measure proposed by Miguel and Pindado (2001). This measure is obtained by dividing a firm's internal cash flow by its investment opportunities, as captured by Tobin's *q*. Therefore, a high value of the free cash flow variable means that the company has a large amount of internal funds relative to its investment opportunities, which indicates a high risk of overinvesting. With this free cash flow measure, FCF_{it}, we define a free cash flow dummy, $FCFD_{it}$, which equals 1 for firms whose free cash flow, FCF_{it}, exceeds the sample median, and zero otherwise. Then, we classify the companies for which the dummy equals 1 into family and non-family controlled and specify the $FCFFD_{it}$ and $FCFNFD_{it}$ dummies that enter the right-hand side of (18), which we then use to test Hypothesis 8.

To examine Hypothesis 9 regarding whether second blockholders influence family firms' dividend decisions, we extend (16) as follows:

$$\begin{aligned} DIV_{it} = {} & \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} \\ & + \vartheta_2 NSSPFD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it} \end{aligned}. \tag{19}$$

Given that different types of second large shareholders in family companies are likely to differ from each other in their dividend preferences, we split the family firm sample in three categories: family companies with a family second blockholder ($FSSPFD_{it}$), family companies with a non-family second blockholder (*$NFSSPFD_{it}$*), and family firms with no second large shareholder (*$NSSPFD_{it}$*). The β_2 captures the relation between earnings and dividends in non-family firms (given *$FSSPFD_{it}$*, *$NFSSPFD_{it}$*, and *$NSSPFD_{it}$* = 0), as in (16) and (17). The relation between these two variables is measured by $(\beta_2 + \varpi_2)$ in family firms with a family second blockholder, by $(\beta_2 + \theta_2)$ in family firms with a non-family second blockholder, and by $(\beta_2 + \vartheta_2)$ in family firms with no second large shareholder. If non-family second blockholders are more likely to perform an active monitoring and disciplining role inside family firms compared to family second large shareholders and thus force family firms to pay out higher dividends, as we propose in Hypothesis 9, then $(\hat{\beta}_2 + \hat{\theta}_2) > \hat{\beta}_2$ and $(\hat{\beta}_2 + \hat{\theta}_2)$ $> (\hat{\beta}_2 + \hat{\varpi}_2)$.

Finally, to test the last hypothesis of the chapter and analyze the possibility that family and non-family companies adjust toward their target dividends at different speeds, we focus on the relation between past and current dividend levels while differentiating between the family and non-family firms. To this end, we interact the family dummy with lagged dividends to test Hypothesis 10 with the following specification:

$$DIV_{it} = \beta_0 + (\beta_1 + \gamma_1 FD_{it})DIV_{it-1} + \beta_2 NI_{it} + \omega X_{it} + \varepsilon_{it}\,. \tag{20}$$

In (20), the influence of past dividend levels on current ones is captured by β_1 in non-family firms (given *FD_{it}* = 0) and by $(\beta_1 + \gamma_1)$ in family companies. To confirm that family firms adjust toward their target dividend payout ratios faster and smooth dividends to a lesser extent, in line with Hypothesis 10, the coefficients in (20) should be related as follows: $(\hat{\beta}_1 + \hat{\gamma}_1) < \hat{\beta}_1$. Note that $1 - (\hat{\beta}_1 + \hat{\gamma}_1)$ and $1 - \hat{\beta}_1$ measure the speed at which family and non-family firms adjust their dividend policies, respectively. Thus, the proposed inequality means that adjustment speed of family firms is higher than that of their non-family counterparts.

IV.4. Data and estimation method

IV.4.1. Data

We require two different types of information to estimate our empirical models. First, we need financial and stock data to compute the dependent and explanatory variables. Second, we need detailed information on companies' ownership structures to identify the family firms in the sample and to define the dummy variables that allow us to test our hypotheses. We obtain these data from two different sources. We extract the financial and stock information from the Worldscope database, and we use the database developed by Faccio and Lang (2002) to obtain the information on the firms' ownership structure of companies. We also require some macroeconomic data (e.g., growth of capital goods prices, the rates of interest of short- and long-term debt) to calculate the variables as detailed in the Appendix IV.A. We obtain this information from the *Main Economic Indicators* published by the Organisation for Economic Cooperation and Development (OECD).

From the Western European countries represented in Faccio and Lang's (2002) database, we focus on those that are part of the Euro zone (i.e., Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal). That is, our sample is comprised of firms from nine different countries, and all companies (except Irish firms) operate in Continental Europe, where family firms represent a large percentage of the corporate sector (see, e.g., Barontini and Caprio, 2006). Because the only company identifier provided in Faccio and Lang's database is the company name, we then merge the ownership data of Eurozone corporations with the financial information from Worldscope manually. Following previous studies on capital structure and dividend policies (see, e.g., Flannery and Rangan, 2006; Shao, Kwok, and Guedhami, 2010; Leary and Roberts, 2010), we exclude from the final sample financial companies (SIC codes 60–69) and regulated utilities (SIC codes 40–49).

Although the data set from Faccio and Lang (2002) only provides ownership information for each company for one single year, this limitation is not important to our analyses. As highlighted in previous studies (see, e.g., La Porta, Lopez-de-Silanes, and Shleifer, 1999;

Zhou, 2001), the ownership structure of corporations tends to be relatively stable over time and typically changes slowly from year to year within a company.[49] In addition, to reduce the possible bias that might arise as a result of combining ownership information from one single year with stock and financial data from several consecutive years, which we require to use our estimation method, we restrict the final sample to only those firms whose first year of financial information is 1996, 1997, 1998, or 1999, which are the years for which Faccio and Lang (2002) provide ownership information.[50]

The availability of information needed to test the hypotheses proposed in Section IV.2 also restricts the time period of the investigation. In particular, our study period ranges from 1996 to 2006. Moreover, the estimation method that we use imposes an additional restriction to account for the unobservable heterogeneity and endogeneity problems; that is, we require information for at least four consecutive years per company to test for the absence of second-order serial correlation because our estimation method, the generalized method of moments (GMM), is based on this assumption. Consequently, the final sample is an unbalanced panel that consists of 645 companies (5,486 firm-year observations) for which we obtain all needed information for at least four consecutive years between 1996 and 2006. However, the models are estimated using fewer observations because of the dynamic nature of the financing and dividend decisions, which require that we include in the right-hand side of the models the lag of the dependent variables.[51] The structure of the full and family firm samples per country is provided in Table IV.1. About 75% (482 / 645 ≈ 75%) of the companies included in the sample are family-controlled. Although this percentage might seem large, it is quite reasonable considering financial institutions and UK companies are excluded from the sample.[52] The main

[49] Fan and Wong (2002) also merge ownership data from one single year (i.e., 1996) with stock return and financial data from several years (i.e., 1991–1995 data). Similarly. Pérez-González (2003) uses ownership information from one single year (i.e., 1994 data) and time-series financial and stock data (i.e., 1980–1999 information).

[50] Although Faccio and Lang (2002) only provide ownership information for each company for one single year, the information does not come from the same year for all companies. Depending on the country in which the firm operates, the data come from 1996, 1997, 1998, or 1999.

[51] Specifically, the models are estimated using 5,486 – 645 = 4,841 observations.

[52] As noted by Faccio and Lang (2002), family-controlled firms are least prevalent in the United Kingdom and among financial institutions.

summary statistics (median, mean, standard deviation, minimum, and maximum) of the variables included in our models are shown in Table IV.2.

Table IV.1

Distribution of the sample by country and ownership structure

This table shows the number and percentage of firms and observations by country and ownership structure. Data come from merging Faccio and Lang's (2002) data set with the Worldscope database. The full sample comprises companies for which stock and financial information is available for at least four consecutive years between 1996 and 2006. Following Faccio and Lang, the family firm sample includes all corporations whose ultimate owner at the 10% threshold is an individual, a family, or an unlisted company. Of the total sample, 74.73% are family businesses. The percentage of family firms by country is as follows: 53.33% family firms in Austria, 71.43% family firms in Belgium, 79.41% family firms in Germany, 69.44% family firms in Spain, 46.88% family firms in Finland, 80.85% family firms in France, 30.00% family firms in Ireland, 84.91% family firms in Italy, and 70.00% family firms in Portugal.

Panel A: Distribution of the full sample by country

	Firms		**Observations**	
Country	***n***	**%**	***n***	**%**
Austria	30	4.65	216	3.94
Belgium	28	4.34	198	3.61
Germany	238	36.90	2,036	37.11
Spain	36	5.58	324	5.91
Finland	32	4.96	246	4.48
France	188	29.15	1,634	29.78
Ireland	20	3.10	151	2.75
Italy	53	8.22	510	9.30
Portugal	20	3.10	171	3.12

Panel B: Distribution of the sample by ownership structure

	Type of firm							
	Family				**Non-family**			
	Firms		**Observations**		**Firms**		**Observations**	
Country	***n***	**%**	***n***	**%**	***n***	**%**	***n***	**%**
Austria	16	3.32	106	2.53	14	8.59	110	8.44
Belgium	20	4.15	141	3.37	8	4.91	57	4.37
Germany	189	39.21	1,643	39.29	49	30.06	393	30.14
Spain	25	5.19	214	5.12	11	6.75	110	8.44
Finland	15	3.11	116	2.77	17	10.43	130	9.97
France	152	31.54	1,362	32.57	36	22.09	272	20.86
Ireland	6	1.24	45	1.08	14	8.59	106	8.13
Italy	45	9.34	443	10.59	8	4.91	67	5.14
Portugal	14	2.90	112	2.68	6	3.68	59	4.52
Total	**482**	**100**	**4,182**	**100**	**163**	**100**	**1,304**	**100**

Table IV.2

Summary statistics for the full sample

In this table are the means, standard deviations, minimums, medians, and maximums of the variables used in the descriptive and regression analyses. The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's (2002) data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, DIV_{it} is the dividend ratio, NI_{it} stands for net income, Q_{it} stands for Tobin's *q*, $GREV_{it}$ denotes sales growth, $SIZE_{it}$ is the firm's size, I_{it} stands for investment, REV_{it} denotes net sales, $TANG_{it}$ is the proportion of tangible assets, INT_{it} is the proportion of intangible assets, and FCF_{it} denotes free cash flow. These variables are defined in Appendix IV.A.

Variable	Mean	Standard deviation	Minimum	Median	Maximum
$DEBT_{it}$	0.107	0.113	0.000	0.075	0.764
CF_{it}	0.039	0.066	-0.737	0.043	0.495
DIV_{it}	0.013	0.020	0.000	0.009	0.374
NI_{it}	0.022	0.065	-0.804	0.026	0.490
Q_{it}	0.774	0.638	0.010	0.598	8.425
$GREV_{it}$	0.075	0.291	-1.000	0.050	8.775
$SIZE_{it}$	13.176	1.915	7.077	12.982	19.109
I_{it}	0.049	0.069	-0.943	0.042	0.974
REV_{it}	1.006	0.562	0.000	0.923	5.504
TAN_{it}	0.251	0.150	0.000	0.226	0.917
INT_{it}	0.082	0.107	0.000	0.039	0.716
FCF_{it}	0.048	0.135	-1.632	0.066	1.962

IV.4.2. Estimation method

We use panel data methodology in the estimation of our empirical models to address two significant problems that emerge when analyzing the relation between a firm's ownership structure and its financing and dividend decisions, namely, the unobservable heterogeneity and endogeneity. First, we must account for the unobservable individual heterogeneity in our study because we examine how family control affects companies' debt and dividend choices compared to other organizational forms. As noted in prior research, unobservable firm heterogeneity captures corporate culture and management ethics (Chi, 2005), which affect corporate financial decisions, such as capital structure and dividend choices, and could directly affect the explanatory as well as the dependent variables in our models. The importance of accounting for this issue is further reinforced when analyzing family firms' behavior given that they are characterized by following the family business model in their decision-making processes. Family and non-family firms differ from each other in several firm-level characteristics, such as their culture and values, which do not change over time but are unobservable to the researcher. Indeed, every company, and especially family companies, has its own specificity (Lee, 2004; McVey and Draho, 2005) that manifests itself in a particular behavior closely linked to the company's culture. An additional advantage of controlling for unobservable heterogeneity is the alleviation of the omitted variable bias (Chi, 2005).[53] Therefore, we control for individual heterogeneity by modeling it as an individual effect, η_i, that is then eliminated by taking first differences of the variables, which allows us to reduce the risk of obtaining biased results. Consequently, the error term in our models, ε_{it}, is split into four different components. The first component is the individual or firm-specific effect, η_i. The second component, d_t, measures the temporal or time-specific effect with the corresponding time dummy variables, which allows us to control for the effect of macroeconomic variables on firm debt and dividends. The third component, c_i, consists of country dummy variables included to control for country-specific effects. Finally, v_{it} is the random disturbance.

The second issue that motivates the use of our estimation method is the endogeneity problem, which is common to most corporate governance studies and is even more severe when examining the interactions between different control mechanisms, such as debt and dividends and corporate ownership structure. In this part of the dissertation, the endogeneity problem arises because controlling families, given their peculiarities and preferences, may decide to invest in corporations that adopt specific debt and payout policies rather than family control affecting capital structure and dividend decisions. That is, causation could run in both directions and not only as we propose in the hypotheses. In fact, prior research finds that debt and dividends influence a firm's ownership structure (Pindado and de la Torre, 2006, 2008). Moreover, the need to control for endogeneity in this study is supported by the dynamic nature

[53] Recent finance literature also highlights the importance of controlling for unobserved firm-specific effects when analyzing the dividend policy of corporations because the potential correlation of these effects with the observed explanatory variables will cause ordinary least squares and within-groups estimators to be biased and inconsistent (Andres, Betzer, Goergen, and Renneboog, 2009).

of the financial policies that we investigate, which require that we include as explanatory variables lagged debt and dividend levels in the capital structure and dividend models, respectively. For these reasons, endogeneity can be a problem that must be controlled in our empirical specifications. Thus, to reduce this problem, we estimate the models by using an instrumental variable estimator, the GMM, that allows us to control for problems of endogeneity by using the lags of the explanatory variables as instruments. As Blundell and Bond (1998) suggest, when deriving our system estimator, we use all the right-hand side variables in the models lagged from t–1 to t–4 as instruments for the equations in differences, and t–1 for the equations in levels (expect for the lagged variables included in the right-hand side of the models, whose instruments are lags from t–2 to t–5 for the equations in differences, and t–2 for the equations in levels).

Finally, we check for the potential misspecification of the models. First, we use the Hansen J statistic of overidentifying restrictions to test for the absence of correlation between the instruments and the error term. The instruments used are valid as discussed in Section IV.5. Second, we use the m_2 statistic, developed by Arellano and Bond (1991), to test for the lack of second-order serial correlation in the first-difference residual. We find no problem with second-order serial correlation in the models, as shown in the Section IV.5 (see m_2). Third, our findings, detailed in the Section IV.5, provide good results for the following three Wald tests: z_1 is a test of the joint significance of the reported coefficients, z_2 is a test of the joint significance of the time dummy variables, and z_3 is a test of the joint significance of the country dummy variables.

IV.5. Results

In this section, we comment on some univariate analyses we have performed and present the regression results from estimating the empirical models that we propose in Section IV.3 to test our hypotheses. Following the same structure as in the hypothesis development section, we first comment on the empirical evidence related to the effect of family control on the capital structure decision. Then, we discuss the results regarding the different behavior of family and non-family firms when it comes to their dividend policies.

IV.5.1. Descriptive analysis

As a preliminary analysis of the differences that exist between family and non-family corporations, we conduct several difference of means tests for the variables that we then use in the regressions. In Table IV.3, we present the results of these univariate tests, which—although not conclusive—highlight some interesting features of the data. In Panel A, we compare family to non-family businesses, and in Panel B, we account for possible differences within the family firm sample. In this second part of the table, we differentiate between family-controlled corporations in which the family's voting rights and cash flow rights totally coincide with each other, and those in which they do not.

Table IV.3

Firm-level characteristics by ownership structure

This table shows the difference of means tests between family and non-family firms in their financial characteristics. The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's (2002) data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, DIV_{it} is the dividend ratio, NI_{it} stands for net income, Q_{it} stands for Tobin's q, $GREV_{it}$ denotes sales growth, $SIZE_{it}$ is the firm's size, I_{it} stands for investment, REV_{it} denotes net sales, $TANG_{it}$ is the proportion of tangible assets, INT_{it} is the proportion of intangible assets, and FCF_{it} denotes free cash flow. These variables are defined in Appendix IV.A. The firms are classified either as family or non-family according to the family firm definition proposed by Faccio and Lang. The *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively.

Panel A: Family firms versus non-family firms

	All	**Family**	**Non-family**	***t*-statistic**
	(1)	(2)	(3)	(2)–(3)
No. obs.	5,486	4,182	1,304	
$\boldsymbol{DEBT_{it}}$	0.107	0.103	0.118	-4.160*
$\boldsymbol{CF_{it}}$	0.039	0.038	0.040	-1.083
$\boldsymbol{DIV_{it}}$	0.013	0.013	0.014	-1.445***
$\boldsymbol{NI_{it}}$	0.022	0.022	0.023	-0.542
$\boldsymbol{Q_{it}}$	0.774	0.788	0.729	2.918*
$\boldsymbol{GREV_{it}}$	0.075	0.075	0.077	-0.232

Table IV.3 continues

Table IV.3 (*continued*)

Panel A: Family firms versus non-family firms				
	All	**Family**	**Non-family**	***t*-statistic**
	(1)	(2)	(3)	(2)–(3)
No. obs.	5,486	4,182	1,304	
$SIZE_{it}$	13.176	12.922	13.989	-18.078*
I_{it}	0.049	0.048	0.051	-1.296***
REV_{it}	1.006	1.044	0.884	9.064*
TAN_{it}	0.251	0.241	0.282	-8.644*
INT_{it}	0.082	0.081	0.085	-1.374***
FCF_{it}	0.048	0.044	0.062	-4.232*

Panel B: Wedge versus non-wedge family firms							
	All	**Wedge family**	**Non-wedge family**	**Non-family**	***t*-statistic**	***t*-statistic**	***t*-statistic**
	(1)	(2)	(3)	(4)	(2)–(4)	(3)–(4)	(2)–(3)
No. obs.	5,486	1,169	3,013	1,304			
$DEBT_{it}$	0.107	0.113	0.099	0.118	-1.064	-5.081*	3.558*
CF_{it}	0.039	0.043	0.036	0.040	1.037	-1.796**	2.853*
DIV_{it}	0.013	0.012	0.013	0.014	-2.119**	-0.935	-1.409***
NI_{it}	0.022	0.025	0.021	0.023	0.749	-0.992	1.772**
Q_{it}	0.774	0.716	0.817	0.729	-0.622	4.009*	-4.428*
$GREV_{it}$	0.075	0.081	0.073	0.077	0.290	-0.543	0.821
$SIZE_{it}$	13.176	13.569	12.671	13.989	-5.302*	-21.660*	15.058*
I_{it}	0.049	0.048	0.049	0.051	-1.207	-1.150	-0.361
REV_{it}	1.006	0.956	1.078	0.884	3.566*	10.560*	-6.060*
TAN_{it}	0.251	0.257	0.235	0.282	-4.115*	-9.571*	4.319*
INT_{it}	0.082	0.074	0.083	0.085	-2.564*	-0.624	-2.370*
FCF_{it}	0.048	0.057	0.039	0.062	-1.021	-5.140*	3.751*

Interestingly, the results in Panel A of Table IV.3 indicate that family firms have lower long-term debt ratios than their non-family counterparts (see (2)–(3) *t*-statistics). This finding supports Hypothesis 1, which posits that family firms have a weaker negative relation between cash flow and debt than non-family firms. As Whited (1992) points out, firms with the highest debt ratios (in our case, non-family companies) are more likely to face biding borrowing constraints. Therefore, the lower debt ratios of family firms indicate that their debt capacity is far from being exhausted and suggest that they might be less financially constrained and have easier access to debt financing, which is the main argument that leads to our hypothesis. Indeed, one of the reasons why family businesses might find it easier to get additional debt financing is their more conservative capital structure policies and their higher risk aversion (Anderson and Reeb, 2003b). Family firms' lower leverage along with their lower cost of debt (Anderson, Mansi, and Reeb, 2003) can also help explain the higher valuations of these companies, as Hu, Wang, and Zhang (2007) point out. Nevertheless, less debt usage by family firms is not consistent with the dilution-of-control explanation for family businesses' capital structure choices (Ellul, 2008). However, family firms are also significantly smaller and have fewer tangible assets, which might explain family firms' lower debt ratios. All in all, we must be very cautious when interpreting these findings because we are not controlling for other factors that could influence firms' financing choices.

In terms of the dividend policy, dividend payout ratios are, on average, lower in family than in non-family companies but only at the 10% level of significance. This result is not consistent with Hypothesis 6. However, given that family firms also differ from their non-family counterparts along several other dimensions, which, in a univariate analysis, are not controlled, we cannot rule out the possibility that the differences in dividend ratios are due to differences in other firm-level characteristics. Another interesting result from this panel is the significantly higher Tobin's *q* of family firms. Because this variable has been used in previous studies on the ownership–value relation as a measure of firm value, our finding suggests that family businesses outperform non-family ones, thus confirming prior research (see, e.g., Anderson and Reeb, 2003a; Maury, 2006; Barontini and Caprio, 2006; Andres, 2008).

Panel B of Table IV.3 shows that wedge and nonwedge family companies differ in terms of debt ratios. Our findings indicate that the less debt usage by family firms is driven by family companies with no deviation between ownership and control (see (3)–(4) and (2)–(3) *t*-statistics), which again supports our hypotheses in that more conservative capital structure policies (as is the case in nonwedge family firms) facilitate access to debt financing and reduces the negative link between cash flow and leverage. The higher debt ratios in family corporations in which families' voting rights and cash flow rights deviate from one another can be explained in light of the finance literature that argues that family companies prefer debt to equity for control motivations. Controlling families who are particularly concerned about retaining control of the company (as evidenced by the use of control-enhancing mechanisms that assure tight family control of the firm) issue more debt. Therefore, our results suggest that control-enhancing mechanisms and debt are used in a complementary way by family firms to retain control of the business.

Another interesting result in Panel B of Table IV.3 is the differences between the two family firm categories and non-family corporations in their dividend ratios (see (2)–(4) and (2)–(3) *t*–statistics). The lower dividend ratios by family firms found in Panel A are entirely driven by family-controlled firms in which minority shareholders' expropriation by the controlling family is more likely (i.e., wedge family firms). This finding is in line with the proposition that better governed family firms are likely to pay out more dividends than those that make use of control-enhancing mechanisms. However, we must be very cautious when interpreting the results of our univariate analyses because, as previously noted, we do not control for other factors previously identified as relevant predictors of the capital structure and dividend decisions. Moreover, as highlighted in Table IV.3, family and non-family firms differ from each other in several aspects, and these differences could, in turn, explain their different behavior in relation to debt and dividend policies.

IV.5.2. Regression results

We now present the results obtained by estimating the empirical models explained in Sections IV.3.1.2 and IV.3.2.2. We first focus on the relation between family control and the corporate financing policy and then analyze how family control affects companies' dividend choices.

IV.5.2.1. Family control and the capital structure decision

The estimated coefficients of our first empirical model are presented in Table IV.4 (column 1). In line with the pecking order theory of capital structure (Myers, 1984; Myers and Majluf, 1984), internal cash flow has a negative effect on the debt ratio. This finding suggests that because external financing is more expensive than internally generated funds, companies prefer to use the cash flow available inside the corporation before resorting to debt. However, consistent with Hypothesis 1, we find that such a negative relation between cash flow and debt is weaker for family firms ($\hat{\delta}_2 + \hat{\gamma}_2 = -0.147 + 0.066 = -0.081$ is statistically significant, see t_1) than for non-family firms ($\hat{\delta}_2 = -0.147$). This finding supports the notion that family firms enjoy easier access to debt financing as a result of their own peculiarities. Due to their long-term perspective, their reputation cost concerns, and their great human and capital investment in the firm, controlling families are particularly interested in not defaulting on their debt commitments. Therefore, debt providers consider family control when lending them money. Our findings support Anderson, Mansi, and Reeb (2003), who conclude that family control mitigates agency conflicts between large shareholders and debtholders and, as a consequence, family firms enjoy a lower cost of debt financing. Although we are not directly testing the impact of family ownership concentration on debt levels, the few previous studies that investigate the relation between family control and capital structure focus on this effect. In this respect, the estimated coefficients of our first model seem to be in line with prior research (see, e.g., Du and Dai, 2005; King and Santor, 2008; Ellul, 2008; Margaritis and Psillaki, 2010), which reports a positive association between family control and debt. Our results also relate to previous international evidence on the capital structure of corporations (González and González, 2008). In line with the pecking order theory, González and González show that firms in poor institutional environments find it more difficult to obtain external funds due to the higher agency costs and information asymmetries; we confirm that such problems are, in part, overcome in family-controlled corporations. That is, González and González conclude that weaker protection of property rights increases the agency costs of external funds, thus leading companies to rely more heavily on internal finance; we complement their evidence by showing that such behavior is partly alleviated by family control, which can be understood as a substitute for effective legal institutions.[54] In addition, we provide evidence based on a partial

[54] Our evidence can also be interpreted in light of recent research that finds that high agency cost firms

adjustment model of debt supported by the trade-off theory. However, consistent with the pecking order theory of capital structure, we find a negative relation between cash flow and leverage. These two points confirm the importance of combining different capital structure theories to gain a more comprehensive view of how companies determine their financing policies.

Table IV.4

Family control, ownership–control wedge, information asymmetries, and debt

GMM regression results from:

$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \gamma_2 FD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}$,

$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \chi_2 WEDFD_{it} + \eta_2 NWEDFD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}$, and

$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \mu_2 IAFD_{it} + \psi_2 IANFD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; $WEDFD_{it}$ equals 1 for family firms in which there is a wedge between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $NEWDFD_{it}$ equals 1 for family firms in which there is no deviation between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $IAFD_{it}$ equals 1 for family firms with high information asymmetries (a high level of intangible and a low level of tangible assets, as captured by a factor constructed following Miguel and Pindado, 2001), and zero otherwise; and $IANFD_{it}$ equals 1 for non-family firms with high information asymmetries, and zero otherwise. The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, Q_{it} stands for Tobin's q, $TANG_{it}$ is the proportion of tangible assets, REV_{it} denotes net sales, $GREV_{it}$ stands for sales growth, DIV_{it} is the dividend ratio, and $SIZE_{it}$ is the firm's size. All of the variables are defined in Appendices IV.A and IV.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\gamma_2=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\chi_2=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\eta_2=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\mu_2=0$, and t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\psi_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Table IV.4 continues

are more likely to adhere to the pecking order (Leary and Roberts, 2010). Our finding of a stronger negative relation between debt and cash flow in non-family firms, which imply that these companies are more likely to follow pecking order patterns in their financing decisions, suggests that family control might attenuate agency cost problems, thus resulting in a weaker negative relation between debt and internal funds in family firms.

Table IV.4 (*continued*)

Dep. var.: $DEBT_{it}$	**(1)**	**(2)**	**(3)**
δ_0 **Constant**	-0.042* (0.006)	-0.046* (0.004)	-0.046* (0.003)
δ_1 $DEBT_{it-1}$	0.599* (0.004)	0.604* (0.002)	0.604* (0.003)
δ_2 CF_{it}	-0.147* (0.005)	-0.145* (0.004)	-0.114* (0.005)
γ_2 $FD_{it}CF_{it}$	0.066* (0.007)		
χ_2 $WEDFD_{it}CF_{it}$		-0.034* (0.007)	
η_2 $NWEDFD_{it}CF_{it}$		0.087* (0.006)	
μ_2 $IAFD_{it}CF_{it}$			0.049* (0.007)
ψ_2 $IANFD_{it}CF_{it}$			-0.064* (0.006)
ϕ_1 Q_{it}	-0.017* (0.001)	-0.016* (0.001)	-0.017* (0.001)
ϕ_2 $TANG_{it}$	0.124* (0.005)	0.124* (0.003)	0.126* (0.003)
ϕ_3 REV_{it}	-0.024* (0.001)	-0.021* (0.001)	-0.022* (0.001)
ϕ_4 $GREV_{it}$	0.019* (0.000)	0.020* (0.000)	0.018* (0.000)
ϕ_5 DIV_{it}	-0.047* (0.009)	-0.061* (0.007)	-0.055* (0.008)
ϕ_6 $SIZE_{it}$	0.006* (0.000)	0.006* (0.000)	0.006* (0.000)
t_1	-14.45		
t_2		-28.25	
t_3		-12.33	
t_4			-14.01
t_5			-74.97
z_1	6429.27 (9)	15424.55 (10)	10290.13 (10)
z_2	225.68 (8)	533.31 (8)	436.15 (8)
z_3	36.87 (8)	53.20 (8)	93.98 (8)
m_1	-7.82	-7.82	-7.83
m_2	1.52	1.62	1.55
Hansen	545.79 (481)	577.28 (533)	578.24 (533)
N	4,841	4,841	4,841

Although our previous findings point to easier access to debt financing by family firms, we must account for heterogeneity among the family business sector, as indicated in recent research (Chen and Nowland, 2010). Indeed, as Table IV.4 (column 2) shows, the weaker negative relation between cash flow and debt among family firms is mainly driven by those firms with no wedge between the cash flow and voting rights of the controlling family ($\hat{\delta}_2 + \hat{\eta}_2 = -0.145 + 0.087 = -0.058$ is statistically significant, see t_3). By contrast, the effect of internal funds on debt levels is more negative in non-family companies ($\hat{\delta}_2 = -0.145$) and family firms with a wedge between ownership and control ($\hat{\delta}_2 + \hat{\chi}_2 = -0.145 - 0.034 = -0.179$ is statistically significant, see t_2). These findings support Hypothesis 2 and confirm that family control structures with less potential for agency conflicts reduce the negative link between cash flow and leverage, thus making debt more easily available. On the contrary, family-controlled firms in which the family entrenches itself by owning more voting rights than cash flow rights exhibit a more negative association between internal funds and debt, which implies that they rely more heavily on internal cash flow as a source of finance. Again, our results are, to a certain degree, in line with Ellul (2008) and King and Santor (2008), who report that family companies with control-enhancing mechanisms use less debt. This finding can be partially explained by the preference of this type of family firm to avoid monitoring by creditors. In general, the main conclusion in these two studies (King and Santor, 2008; Ellul, 2008) is that family firms use more debt in their financing mix to avoid diluting the family's control in the firm. However, we reason that family businesses may have easier access to debt financing due to a lower cost of debt resulting from lower agency conflicts between large shareholders and debtholders (Anderson, Mansi, and Reeb, 2003).

Therefore, to check whether our argument is correct as given in Hypothesis 3, we focus on corporations that are more likely to suffer from asymmetric information problems. Within this subset of firms, we differentiate between family and non-family firms. The estimated coefficients of (3) are presented in Table IV.4 (column 3) and reveal that, as expected, family firms with information asymmetries exhibit a weaker negative relation between cash flow and debt ($\hat{\delta}_2 + \hat{\mu}_2 = -0.114 + 0.049 = -0.065$ is statistically significant, see t_4), while the opposite holds for their non-family counterparts ($\hat{\delta}_2 + \hat{\psi}_2 = -0.114 - 0.064 = -0.178$ is statistically significant, see t_5). Therefore, our findings suggest that family control contributes to reduce asymmetric information problems either due to the reputation cost concerns of owner families (Chen, Chen, and Cheng, 2008; Chen, Chen, Cheng, and Shevlin, 2010), or the need to alleviate agency conflicts between shareholders and debtholders (Anderson, Mansi, and Reeb, 2003). Consequently, family firms can access debt financing more easily and do not follow pecking order patterns as closely in their financing decisions.

The results that address Hypothesis 4 and the role of second large shareholders in family firms as a way to hamper controlling shareholders' expropriation of minority investors and hence reduce the conflicts of interests usually associated with family control are presented in Table IV.5 (column 1). In this case, we do not find support for our hypothesis. Contrary to our expectations, the negative effect of cash flow on the debt ratio is stronger in family firms with either a family ($\hat{\delta}_2 + \hat{\varpi}_2 = -0.148 - 0.012 = -0.160$ is statistically significant, see t_1) or a non-family second blockholder ($\hat{\delta}_2 + \hat{\theta}_2 = -0.148 - 0.157 = -0.305$ is statistically significant, see t_2). Meanwhile, such effect is weaker in family firms with no second large shareholder ($\hat{\delta}_2 + \hat{\vartheta}_2 = -0.148 + 0.099 = -0.049$ is statistically significant, see t_3). These interesting results highlight the important role that other large shareholders, apart from the controlling family, can play in family firms. On the one hand, a stronger negative relation between cash flow and debt in family companies in which another family also holds a large stake is explained by the risk that both owner families might collude to expropriate other stakeholders. As a result, these firms either have more difficulties obtaining debt financing or want to avoid the disciplining role of debt. They, therefore, follow the pecking order behavior in their financing preferences, whereby they prefer financing through internally generated funds before seeking other forms of external financing. Moreover, corporations owned by two large family shareholders may seek to avoid monitoring associated with creditors to enjoy better the private benefits of control. On the other hand, a stronger negative impact of internally generated funds on debt levels in family firm in which a non-family blockholder is also present contradicts Hypothesis 4. According to this hypothesis, we expected non-family second blockholders to play an active monitoring role in family firms and, as a result, lead to easier access to debt financing and less dependence on internal funds. A likely explanation for our contradictory finding comes from the corporate governance literature that examines the interactions between different control mechanisms. This stream of the literature argues that different corporate governance mechanisms can either complement or substitute for each other in the task of reducing agency conflicts, depending on the benefits and costs associated with each. In our particular case, when a monitoring device is already in place in the family company, such as a non-family second blockholder, the use of debt as a control mechanism does not bring additional benefits to the corporation. This reasoning is consistent with recent family business research that finds that an optimal level of monitoring exists for family-controlled companies and that too much monitoring does not benefit family firms and can, in fact, be detrimental to the wealth creation purpose of these businesses (Chen and Nowland, 2010).[55]

Table IV.5

Family control, second large shareholders, adjustment speed, and debt

GMM regression results from:

$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} + \vartheta_2 NSSPFD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}$ and

$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it})DEBT_{it-1} + \delta_2 CF_{it} + \phi Y_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; $FSSPFD_{it}$ equals 1 for family firms with a family second blockholder, and zero otherwise; $NFSSPFD_{it}$ equals 1 for family firms with a non-family second blockholder, and zero otherwise; and $NSSPFD_{it}$ equals 1 for family firms with no second large shareholder, and zero otherwise. The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $TANG_{it}$ is the proportion of tangible assets, REV_{it} denotes net sales, $GREV_{it}$ stands for sales growth, DIV_{it} is the dividend ratio, and $SIZE_{it}$ is the firm's size. All of the variables are defined in Appendices IV.A and IV.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\varpi_2=0$, t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\theta_2=0$, t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\vartheta_2=0$, and t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_1+\gamma_1=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Table IV.5 continues

[55] Alternatively, our findings suggest that non-family second blockholders do not perform an effective monitoring role in Western Europe, which is consistent with Attig, Guedhami, and Mishra (2008), who report that the cost of equity capital of family firms in Europe increases when a bank is the second largest shareholder. According to Attig, Guedhami, and Mishra, this result implies that investors do not perceive a significant governance role by widely held financial institutions as a second large shareholder in this geographical region.

Table IV.5 (*continued*)

Dep. var.: $DEBT_{it}$	**(1)**	**(2)**
δ_0 Constant	-0.048* (0.004)	-0.051* (0.006)
δ_1 $DEBT_{it-1}$	0.600* (0.002)	0.624* (0.005)
γ_1 $FD_{it}DEBT_{it-1}$		-0.026* (0.006)
δ_2 CF_{it}	-0.148* (0.003)	-0.110* (0.005)
ϖ_2 $FSSPFD_{it}CF_{it}$	-0.012* (0.004)	
θ_2 $NFSSPFD_{it}CF_{it}$	-0.157* (0.005)	
ϑ_2 $NSSPFD_{it}CF_{it}$	0.099* (0.005)	
ϕ_1 Q_{it}	-0.017* (0.000)	-0.015* (0.001)
ϕ_2 $TANG_{it}$	0.119* (0.002)	0.130* (0.005)
ϕ_3 REV_{it}	-0.024* (0.001)	-0.024* (0.001)
ϕ_4 $GREV_{it}$	0.019* (0.000)	0.019* (0.001)
ϕ_5 DIV_{it}	-0.062* (0.004)	-0.019*** (0.010)
ϕ_6 $SIZE_{it}$	0.007* (0.000)	0.007* (0.000)
t_1	-42.47	
t_2	-70.84	
t_3	-13.49	
t_4		154.67
z_1	31061.32 (11)	6362.87 (9)
z_2	1031.84 (8)	211.32 (8)
z_3	190.92 (8)	29.79 (8)
m_1	-7.86	-7.88
m_2	1.51	1.55
Hansen	605.65 (586)	539.74 (475)
N	4,841	4,841

Following the capital structure literature based on the trade-off theory, another important issue in companies' financing policies is the speed at which corporations fill the gap between their current and their target debt levels. In line with Hypothesis 5, the estimated coefficients in Table IV.5 (column 2) show that the positive effect of past debt levels on current debt levels is weaker in family firms ($\hat{\delta}_1 + \hat{\gamma}_1 = 0.624 - 0.026 = 0.598$ is statistically significant, see t_4) than in non-family firms ($\hat{\delta}_1 = 0.624$). We now compute companies' speeds of adjustment toward their target capital structures as explained in Section IV.3.1.2 as:

$$SOA^{F}_{DEBT} = 1 - (\hat{\delta}_1 + \hat{\gamma}_1) = 1 - (0.624 - 0.026) = 0.402 \text{ and} \tag{21}$$

$$SOA^{NF}_{DEBT} = 1 - \hat{\delta}_1 = 1 - 0.624 = 0.376, \tag{22}$$

where superscripts *F* and *NF* stand for family and non-family, respectively. The results show that family firms exhibit a higher adjustment speed as compared to their non-family counterparts. Comparing these findings with prior research that confirms that companies that operate in countries with more developed financial markets and better corporate governance systems approach their target capital structures faster (Öztekin and Flannery, 2009), we argue that, overall, family control is a governance mechanism that facilitates access to debt financing. In light of these results, we also conclude that in terms of the capital structure decision, family control translates not only into a weaker negative relation between cash flow and debt but also in higher adjustment speeds.

IV.5.2.2. Family control and the dividend decision

Table IV.6 (column 1), which reports the estimated coefficients for Hypothesis 6, shows that the positive effect of net income on dividends is stronger in family firms ($\hat{\delta}_2 + \hat{\gamma}_2 = 0.005 + 0.019 = 0.024$ is statistically significant, see t_1) than in non-family firms ($\hat{\delta}_2 = 0.005$), which indicates that the former distribute a higher percentage of their earnings in the form of dividends. This result confirms Hypothesis 6, which posits that family firms, compared to their non-family counterparts, pay out a higher proportion of their earnings as dividends, and contradicts previous works that find a substitution effect between a firm's ownership structure and its dividend policy in the task of alleviating agency conflicts (Moh'd, Perry, and Rimbey, 1995; Goergen, Renneboog, and Correia da Silva, 2005). Our findings are also at odds with the empirical evidence provided by Gugler (2003) on the relation between family control and a company's payout ratio. In particular, Gugler concludes that family companies have the lowest target payout ratios in Austria because in these companies conflicts of interests and information asymmetries between managers and the controlling family are less severe. Nevertheless, Gugler's sample is mainly comprised of unlisted firms, which are likely to differ significantly from listed family corporations (as suggested, e.g., by Martínez, Stöhr, and Quiroga, 2007; Oswald, Muse, and Rutherford, 2009). In particular, in unlisted family businesses, the classic agency problem between owners and managers is resolved due to the ownership concentration in the hands of the family; at the same time, agency conflicts between large and minority investors are less severe because minority shareholders are fewer and they usually have a close relationship with the owner family.

Table IV.6

Family control, ownership–control wedge, free cash flow problems, and dividends

GMM regression results from:

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \gamma_2 FD_{it})NI_{it} + \omega X_{it} + \varepsilon_{it},$$

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \chi_2 WEDFD_{it} + \eta_2 NWEDFD_{it})NI_{it} + \omega X_{it} + \varepsilon_{it}, \text{ and}$$

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \mu_2 FCFFD_{it} + \psi_2 FCFNFD_{it})NI_{it} + \omega X_{it} + \varepsilon_{it},$$

in which FD_{it} equals 1 for family firms, and zero otherwise; $WEDFD_{it}$ equals 1 for family firms in which there is a wedge between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $NEWDFD_{it}$ equals 1 for family firms in which there is no deviation between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $FCFFD_{it}$ equals 1 for family firms with high free cash flow problems (as captured by the free cash flow measure proposed in Miguel and Pindado, 2001), and zero otherwise; and $FCFNFD_{it}$ equals 1 for non-family firms with high free cash flow problems, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's *q*, and REV_{it} denotes net sales. All of the variables are defined in Appendices IV.A and IV.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$, t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\chi_2=0$, t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\eta_2=0$, and t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\mu_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	**(1)**	**(2)**	**(3)**
β_0 Constant	0.004* (0.001)	0.006* (0.001)	0.009* (0.001)
β_1 DIV_{it-1}	0.231* (0.002)	0.231* (0.001)	0.247* (0.001)
β_2 NI_{it}	0.005* (0.001)	0.006* (0.001)	0.015* (0.001)

Table IV.6 continues

Table IV.6 (*continued*)

Dep. var.: DIV_{it}	**(1)**	**(2)**	**(3)**
γ_2 $FD_{it}NI_{it}$	0.019* (0.002)		
χ_2 $WEDFD_{it}NI_{it}$		0.004* (0.001)	
η_2 $NWEDFD_{it}NI_{it}$		0.023* (0.001)	
μ_2 $FCFFD_{it}NI_{it}$			0.026* (0.001)
ψ_2 $FCFNFD_{it}NI_{it}$			-0.001 (0.002)
ω_1 $DEBT_{it}$	-0.010* (0.001)	-0.011* (0.000)	-0.008* (0.000)
ω_2 I_{it}	-0.006* (0.000)	-0.006* (0.000)	-0.006* (0.000)
ω_3 $SIZE_{it}$	-0.000* (0.000)	-0.000* (0.000)	-0.001* (0.000)
ω_4 Q_{it}	0.005* (0.000)	0.006* (0.000)	0.006* (0.000)
ω_5 REV_{it}	0.005* (0.000)	0.004* (0.000)	0.003* (0.000)
t_1	20.98		
t_2		12.76	
t_3		31.09	
t_4			30.40
z_1	3340.56 (8)	6801.92 (9)	5109.81 (9)
z_2	99.09 (9)	202.87 (9)	229.27 (9)
z_3	242.47 (8)	442.80 (8)	337.15 (8)
m_1	-2.53	-2.53	-2.54
m_2	1.13	1.13	1.14
Hansen	480.92 (427)	524.11 (480)	528.03 (480)
N	4,841	4,841	4,841

By contrast, in large listed family corporations as represented in our sample, the interests of the controlling family and those of minority investors are not so closely aligned (Villalonga and Amit, 2006); therefore, dividends serve as a disciplining mechanism to hinder minority shareholders' expropriation (Faccio, Lang, and Young, 2001; Setia-Atmaja, Tanewski, and Skully, 2009). Moreover, the family firms in our sample, given their large size and long existence, are likely in the hands of several family generations, as opposed to being founder-owned and founder-managed family businesses. In first-generation family firms, only the founder or, at most, few family members are involved in the business, whereas in more mature family businesses, several members of the controlling family might have an interest in the corporation, either by actively participating in the company management or simply by owning a stake in the firm. In these cases, a way to reward passive family members who are only linked to the corporation by their shares is to pay out steady dividends. In addition, by distributing a higher proportion of their earnings as dividends, these family firms avoid the risk of disputes between inside and outside family members.

Our findings can also be explained by La Porta, Lopez-de-Silanes, Shleifer, and Vishny's (2000) outcome model. That is, family control acts as a corporate governance mechanism, which substitutes for the lack of minority shareholders external protection, which is a characteristic of most Continental European countries (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998), and leads to higher dividend payments. This explanation suggests that high dividend levels signal lower consumption of private benefits and are more positively valued by investors (Pinkowitz, Stulz, and Williamson, 2006; Kalcheva and Lins, 2007) and is consistent with previous empirical evidence that associates family control with higher firm value in Western Europe (Maury, 2006; Barontini and Caprio, 2006; Andres, 2008). Our results are also, to some extent, consistent with Hu, Wang, and Zhang (2007), who find that, in general, family firms in the United States are less likely to pay out dividends and prefer lower dividend payments. However, they also show that these findings are driven by family management, finding that family ownership per se is positively associated with the likelihood of paying dividends and the amount of dividend payments, thus supporting the agency model of dividends. The regression results from estimating Model (6) complement those by Setia-Atmaja, Tanewski, and Skully (2009). These authors conclude that family firms in Australia pay more dividends as a way to mitigate minority investor's wealth expropriation by the owner family. Meanwhile, we show that family control is associated with higher dividend payments in the Euro zone, where minority shareholder protection afforded by the law is in general weaker than in Australia.

Although, overall, family firms pay out higher dividends, the estimated coefficients presented in Table IV.6 (column 2) show that such finding is mainly due to family companies in which the cash flow rights and voting rights owned by the controlling family do not deviate from one another. Family firms with no wedge between ownership and control ($\hat{\beta}_2 + \hat{\eta}_2 = 0.006 + 0.023 = 0.029$ is statistically significant, see t_3) exhibit a stronger positive relation between net income and dividends than other family firms ($\hat{\beta}_2 + \hat{\chi}_2 = 0.006 + 0.004 = 0.010$ is statistically significant, see t_2) and non-family companies ($\hat{\beta}_2 = 0.006$). This result supports Hypothesis 7 and reinforces the relation between family control and the dividend policy as explained by La Porta, Lopez-de-Silanes, Shleifer, and Vishny's (2000) outcome model. While La Porta, Lopez-de-Silanes, Shleifer, and Vishny conclude that companies operating in countries with better legal systems pay out higher dividends, our results indicate that within the family business category, family firms with a better corporate governance structure (i.e., no deviation between cash flow rights and voting rights) distribute higher dividends. Therefore, our empirical evidence contradicts Farinha (2003) and Truong and Heaney (2007), which report a U-shaped relation between dividend payments and insider ownership and large shareholdings, respectively, thus supporting a positive relation between ownership structure and dividends under entrenchment and expropriation. Meanwhile, our results suggest that the positive relation between family control and dividend payments is primarily attributable to family corporations in which the interests of the controlling family are more closely aligned with the interests of the firm's other stakeholders (i.e., managers or minority shareholders). Such complementary roles between effective family control and dividends is in line with Miguel, Pindado, and de la Torre (2005), who conclude that in the Spanish corporate governance system, insider ownership, dividends, and debt are used in a complementary manner but only when the interests of managers and owners converge.

After paying special attention to the difference between family and non-family firms in terms of their dividend policies, we focus on the subsample of corporations in which higher dividend payments are more desirable. Table IV.6 (column 3) reports the estimated coefficients of (18). These coefficients show that family firms with severe free cash flow problems distribute higher dividends relative to their non-family counterparts, supporting Hypothesis 8. Whereas family firms with a level of free cash flow above the sample median exhibit a stronger positive relation between net income and dividends ($\hat{\beta}_2 + \hat{\mu}_2 = 0.015 + 0.026 = 0.041$ is statistically significant, see t_4), thus pointing to higher dividend payments, the same does not hold for non-family corporations with similar free cash flow problems ($\hat{\beta}_2 + \hat{\psi}_2 = \hat{\beta}_2 = 0.015$ is statistically significant; $\hat{\psi}_2$ is statistically nonsignificant). Therefore, we confirm Jensen's (1986) explanation for higher dividend payments in the case of family firms. Accordingly, we conclude that family companies with higher free cash flow agency problems concern themselves about the loss of reputation that might be attached to not paying out dividends to shareholders when the firm has few investment opportunities and high levels of internal cash flow. Further, they also seem to be aware of the value that investors attribute to high dividends, given that they signal lower consumption of private benefits, particularly in countries in which minority shareholders are weakly protected (Pinkowitz, Stulz, and Williamson, 2006; Kalcheva and Lins, 2007). Consequently, these family firms distribute higher dividends to shareholders and avoid investing in value-destroying projects. This finding contradicts Khan (2006), who finds that cash flow accumulation by powerful investors is associated with their desire to pursue nonvalue maximizing goals. It further supports our argument that family control can be understood as a corporate governance mechanism aimed at substituting for the lack of stronger law protection for minority investors' interests. We note, however, that Khan's findings are based on a sample of corporations operating in the United Kingdom, where minority shareholders are better protected, whereas our focus is on the Euro zone, which is mainly comprised of Continental European economies that have been associated with less protective legal systems.

Although concentrated ownership structures (and, in particular, family control) and external minority shareholder protection might be substitutes, we must consider that under specific circumstances family control can lead to conflicts of interests between large and minority shareholders whose costs outweigh the reduction in agency problems between owners and managers (Villalonga and Amit, 2006). In these cases, the company may adopt less efficient corporate policies, and firm value may be destroyed. To avoid such outcome, the role of second blockholders can be of great importance (La Porta, Lopez-de-Silanes, and Shleifer, 1999). Additionally, large shareholders identity in companies with concentrated ownership structures can prove very important (Maury and Pajuste, 2005). In line with these arguments and consistent with Hypothesis 9, the results in Table IV.7 (column 1) show that the presence of a non-family second large shareholder in family firms leads to a stronger positive impact of net income on dividends ($\hat{\beta}_2 + \hat{\theta}_2 = 0.006 + 0.021 = 0.027$ is statistically significant, see t_2), whereas the opposite occurs in the case of family businesses with family second blockholders ($\hat{\beta}_2 + \hat{\varpi}_2 = 0.006 - 0.011 = -0.005$ is statistically significant, see t_1). We also find that family companies with no second large shareholder distribute a higher proportion of their earnings as dividends ($\hat{\beta}_2 + \hat{\vartheta}_2 = 0.006 + 0.027 = 0.033$ is statistically significant, see t_3) as compared to non-family corporations ($\hat{\beta}_2 = 0.006$). Overall, these findings are consistent with prior research by Gugler and Yurtoglu (2003), who find that companies with a controlling owner and a second large investor are those with the highest payout ratios. Moreover, we conclude that non-family second blockholders in family firms are effective in monitoring the controlling family and the family firm's dividend decision-making process, whereas family second large shareholders seem to collude with the owner family to adopt policies that benefit themselves at the expense of minority investors and allow them to enjoy the private benefits of control.

Table IV.7

Family control, second large shareholders, adjustment speed, and dividends

GMM regression results from

$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} + \vartheta_2 NSSPFD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}$ and

$DIV_{it} = \beta_0 + (\beta_1 + \gamma_1 FD_{it}) DIV_{it-1} + \beta_2 NI_{it} + \omega X_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; $FSSPFD_{it}$ equals 1 for family firms with a family second blockholder, and zero otherwise; $NFSSPFD_{it}$ equals 1 for family firms with a non-family second blockholder, and zero otherwise; and $NSSPFD_{it}$ equals 1 for family firms with no second large shareholder, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's *q*, and REV_{it} denotes net sales. All of the variables are defined in Appendices IV.A and IV.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varpi_2=0$, t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\theta_2=0$, t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\vartheta_2=0$, and t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_1+\gamma_1=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	**(1)**	**(2)**
β_0 **Constant**	0.002* (0.001)	0.004* (0.001)
β_1 DIV_{it-1}	0.235* (0.001)	0.146* (0.001)
γ_1 $FD_{it}DIV_{it-1}$		0.140* (0.003)
β_2 NI_{it}	0.006* (0.001)	0.021* (0.001)
ϖ_2 $FSSPFD_{it}NI_{it}$	-0.011* (0.001)	
θ_2 $NFSSPFD_{it}NI_{it}$	0.021* (0.001)	
ϑ_2 $NSSPFD_{it}NI_{it}$	0.027* (0.001)	
ω_1 $DEBT_{it}$	-0.013* (0.000)	-0.012* (0.001)
ω_2 I_{it}	-0.007* (0.000)	-0.007* (0.000)
ω_3 $SIZE_{it}$	-0.000* (0.000)	-0.000** (0.000)
ω_4 Q_{it}	0.006* (0.000)	0.005* (0.000)
ω_5 REV_{it}	0.005* (0.000)	0.002* (0.000)
t_1	-6.76	
t_2	41.07	
t_3	36.02	
t_4		114.81
z_1	10258.03 (10)	5948.22 (8)
z_2	472.88 (9)	124.41 (9)
z_3	1125.26 (8)	279.56 (8)
m_1	-2.54	-2.71
m_2	1.13	1.17
Hansen	551.28 (533)	476.89 (421)
N	4,841	4,841

In Table IV.7 (column 2), we examine Hypothesis 10, the last hypothesis of the chapter. Contrary to our expectations, we find a stronger positive relation between past and current dividend levels in family firms ($\hat{\beta}_1 + \hat{\gamma}_1 = 0.146 + 0.140 = 0.286$ is statistically significant, see t_4) than in non-family firms ($\hat{\beta}_1 = 0.146$). Therefore, we now compute a firm's speed of adjustment toward its target dividend ratio as explained in Section IV.3.2.2 for family and non-family firms, respectively, as:

$$SOA_{DIV}^{F} = 1 - (\hat{\beta}_1 + \hat{\gamma}_1) = 1 - (0.146 + 0.140) = 0.714 \text{ and} \tag{23}$$

$$SOA_{DIV}^{NF} = 1 - \hat{\beta}_1 = 0.854\,. \tag{24}$$

We can see that family firms' adjustment speed is lower. This finding indicates that family-controlled corporations smooth their dividends more than non-family firms, which is contrary to Gugler's (2003) empirical evidence. Nevertheless, we must be cautious when comparing Gugler's results with ours, given that, as noted above, his sample includes a large proportion of nonlisted companies and we focus on large listed corporations. Although our findings do not support Hypothesis 10, Rozeff's (1982) dividend model offers a likely explanation. According to Rozeff's model, the optimal dividend policy is the result of a trade-off between different types of costs. In the case of family firms, the distribution of higher dividends allows them to reduce agency costs. However, at the same time, family companies decide to adopt a dividend smoothing policy, which enables them to alleviate transaction cost concerns (consistent with Rozeff) and to avoid liquidity issues or compromising investments in future value-creating projects.

IV.6. Robustness checks

In this section, we perform several robustness tests that will allow us to check the reliability and validity of the empirical evidence presented above. We first focus on the moderating role of family control in the financing policy and then analyze whether family firms continue to differ from their non-family counterparts in terms of their dividend decisions after modifying our baseline specifications.

IV.6.1. Family control and the capital structure decision

In our first robustness test, we investigate whether the moderating role of family control in the relation between internal cash flow and debt as well as in a firm's adjustment speed toward its target capital structure are the same when we estimate a model in which our FD_{it} variable interacts with cash flow and lagged debt simultaneously. Note that we propose two different models in Section IV.3.1.2, namely (6) and (10), to analyze the differences between family and non-family corporations for these two aspects of the capital structure policy. We now combine theses two equations and obtain a more comprehensive debt model, which is the result of extending (6) by including the interaction between FD_{it} and lagged debt as an explanatory variable. Overall, as Table IV.8 (column 1) shows, the significant and negative relation between cash flow and leverage is still weaker in family firms, thus supporting Hypothesis 1. Moreover, family companies continue to adjust toward their target debt ratios faster than non-family corporations as implied by the negative and significant coefficient obtained for the interaction between lagged debt and FD_{it}, which supports Hypothesis 5.

Table IV.8

Family control, adjustment speed, and debt:
Simultaneous interactions and the general blockholder effect

GMM regression results from:

$$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it})DEBT_{it-1} + (\delta_2 + \gamma_2 FD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it} \text{ ,}$$

$$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \gamma_2 FD_{it} + \omega_2 MSD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it} \text{ , and}$$

$$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it} + \lambda_1 MSD_{it})DEBT_{it-1} + \delta_2 CF_{it} + \phi Y_{it} + \varepsilon_{it} \text{ ,}$$

in which FD_{it} equals 1 for family firms, and zero otherwise; and MSD_{it} takes the value of 1 for non-family firms with an ultimate owner, and zero otherwise. The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $TANG_{it}$ is the proportion of tangible assets, REV_{it} denotes net sales, $GREV_{it}$ stands for sales growth, DIV_{it} is the dividend ratio, and $SIZE_{it}$ is the firm's size. All of the variables are defined in Appendices IV.A and IV.B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). In column 1, we include simultaneously the two interactions between FD_{it} and the $DEBT_{it-1}$ and CF_{it} variables. In columns 2 and 3, we use the 10% cutoff point of voting rights to identify the non-family firms with an ultimate owner. The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_1+\gamma_1=0$ and t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Table IV.8 continues

Table IV.8 (*continued*)

Dep. var.: $DEBT_{it}$	**(1)**	**(2)**	**(3)**
δ_0 **Constant**	-0.050* (0.004)	-0.037* (0.003)	-0.053* (0.004)
δ_1 $DEBT_{it-1}$	0.614* (0.003)	0.605* (0.002)	0.617* (0.004)
γ_1 $FD_{it}DEBT_{it-1}$	-0.013* (0.003)		-0.022* (0.004)
λ_1 $MSD_{it}DEBT_{it-1}$			0.004 (0.005)
δ_2 CF_{it}	-0.141* (0.003)	-0.172* (0.003)	-0.113* (0.003)
γ_2 $FD_{it}CF_{it}$	0.056* (0.005)	0.098* (0.005)	
ω_2 $MSD_{it}CF_{it}$		0.009 (0.009)	
ϕ_1 Q_{it}	-0.016* (0.001)	-0.017* (0.000)	-0.016* (0.001)
ϕ_2 $TANG_{it}$	0.128* (0.003)	0.116* (0.003)	0.134* (0.003)
ϕ_3 REV_{it}	-0.024* (0.001)	-0.023* (0.001)	-0.023* (0.001)
ϕ_4 $GREV_{it}$	0.019* (0.000)	0.019* (0.000)	0.019* (0.000)
ϕ_5 DIV_{it}	-0.038* (0.007)	-0.057* (0.007)	-0.017* (0.007)
ϕ_6 $SIZE_{it}$	0.007* (0.000)	0.006* (0.000)	0.007* (0.000)
t_1	228.53		217.93
t_2	-19.51	-17.54	
z_1	14919.50	16056.51	18688.21
z_2	574.24	495.12	704.14
z_3	62.33	62.48	56.54
m_1	-7.83	-7.84	-7.85
m_2	1.53	1.53	1.55
Hansen	580.60 (528)	579.20 (533)	568.36 (522)
N	4,841	4,841	4,841

As a second sensitivity test, we analyze whether the differences in financing policies between family and non-family firms found in previous sections are driven by a general blockholder effect and not by the specific family influence that we attempt to capture with our FD_{it} variable.[56] To this end, we reestimate (6) and (10) after controlling for the general blockholder effect. To control for this effect, we include in the right-hand side of (6) the interaction between cash flow and a new dummy variable, MSD_{it}, which is a miscellaneous dummy variable that equals 1 for corporations with a non-family ultimate owner at the 10% threshold (which we use to define family control), and zero otherwise. We find that the effect of cash flow on debt continues to be the same for family firms; however, the effect for non-family firms is different depending on whether they are widely held or have an ultimate owner.

[56] Prior research on the performance difference between family and non-family companies (see, e.g., Andres, 2008) highlights the importance of accounting for the general blockholder effect when comparing family and non-family corporations.

The same logic is followed in the reestimation of (10), with the difference that we now interact the MSD_{it} dummy with lagged debt to disentangle whether the higher adjustment speeds of family firms toward their target capital structures is driven by the general blockholder effect. The estimated coefficients confirm our previous findings and support Hypothesis 1 and Hypothesis 5; the interactions between the MSD_{it} variable and cash flow and lagged debt are nonsignificant, as shown in Table IV.8 (columns 2 and 3, respectively).

In all analyses thus far, we use the 10% cut-off point to define family control. However, Faccio and Lang (2002) also identify a company as family-controlled using a 20% threshold of control rights. Therefore, in our third robustness test, we estimate our baseline specifications (6) and (10), using this more restrictive cutoff point to classify companies into family and non-family firms. Again, we find that the negative relation between internal funds and debt is weaker in family firms, as shown in Table IV.9 (column 1). We also corroborate our previous findings that family businesses adjust toward their target debt ratios at a higher speed, as indicated by the regression results (column 2).

Table IV.9

Family control, adjustment speed, and debt:
20% threshold family firm definition and reduced sample

GMM regression results from:

$DEBT_{it} = \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \gamma_2 FD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it}$ and

$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it})DEBT_{it-1} + \delta_2 CF_{it} + \phi Y_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise. The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, Q_{it} stands for Tobin's *q*, $TANG_{it}$ is the proportion of tangible assets, REV_{it} denotes net sales, $GREV_{it}$ stands for sales growth, DIV_{it} is the dividend ratio, and $SIZE_{it}$ is the firm's size. All of the variables are defined in Appendices IV.A and IV.B. In columns 1 and 2, the results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002), and the sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. In columns 3 and 4, we exclude from the sample family firms ultimately owned by unlisted companies to alleviate concerns about the likely misclassification of this type of family-controlled corporations, thus reducing the sample to 371 companies (3,237 observations). Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_1+\gamma_1=0$ and t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: $DEBT_{it}$	**(1)**	**(2)**	**(3)**	**(4)**
δ_0 **Constant**	-0.045* (0.006)	-0.048* (0.006)	-0.020* (0.003)	-0.028* (0.003)
δ_1 $DEBT_{it-1}$	0.597* (0.004)	0.636* (0.005)	0.625* (0.002)	0.644* (0.002)
γ_1 $FD_{it}DEBT_{it-1}$		-0.035* (0.005)		-0.016* (0.003)
δ_2 CF_{it}	-0.150* (0.005)	-0.110* (0.005)	-0.171* (0.004)	-0.140* (0.002)
γ_2 $FD_{it}CF_{it}$	0.072* (0.007)		0.062* (0.006)	
ϕ_1 Q_{it}	-0.017* (0.001)	-0.015* (0.001)	-0.019* (0.000)	-0.017* (0.000)
ϕ_2 $TANG_{it}$	0.128* (0.005)	0.126* (0.005)	0.095* (0.002)	0.115* (0.002)
ϕ_3 REV_{it}	-0.025* (0.001)	-0.025* (0.001)	-0.010* (0.001)	-0.006* (0.001)
ϕ_4 $GREV_{it}$	0.019* (0.000)	0.019* (0.001)	0.022* (0.000)	0.023* (0.000)
ϕ_5 DIV_{it}	-0.032* (0.010)	-0.015 (0.010)	-0.011 (0.008)	0.027* (0.010)
ϕ_6 $SIZE_{it}$	0.007* (0.000)	0.007* (0.000)	0.004* (0.000)	0.004* (0.000)
t_1		148.45		310.90
t_2	-13.41		-30.24	
z_1	6609.18	5656.77	62852.18	69677.88
z_2	214.87	194.70	1438.29	1087.05
z_3	34.60	27.65	305.28	256.73
m_1	-7.81	-7.92	-6.21	-6.25
m_2	1.54	1.58	1.06	1.10
Hansen	542.53 (481)	544.83 (474)	352.39 (481)	359.06 (475)
N	4,841	4,841	2,866	2,866

The final robustness test is related to the possibility of misclassifications when dividing the sample into family and non-family companies. Recall that we use Faccio and Lang's (2002) ownership data to identify the family firms in the sample. However, Faccio and Lang assume that all corporations ultimately controlled by an unlisted company are family-controlled, but this assumption could be incorrect in some cases (Franks, Mayer, Volpin, and Wagner, 2009). Therefore, to mitigate concerns that our results are driven by possible misclassifications of family firms whose ultimate owner is an unlisted company, we drop from the sample this category of family businesses. With this smaller sample (firm-year observations n = 2,866), we reestimate (6) and (10). As Table IV.9 (columns 3 and 4) show, after reducing our sample of firms, family firms still exhibit a weaker negative relation between cash flow and debt than their non-family counterparts, and they also adjust toward their target debt ratios faster. Thus, our results are not due to possible misclassifications resulting from the use of Faccio and Lang's (2002) family firm definition, and Hypotheses 1 and 5 are still supported.

IV.6.2. Family control and the dividend decision

We conduct several robustness tests to check whether our main finding on higher dividend payments in family companies is robust to alternative specifications and modifications. First, in Table IV.10 (column 1), we present the estimation results of (6) using Faccio and Lang's (2002) family firm definition with the 20% threshold of control rights. Recall that we propose (6) to test whether family firms distribute a higher percentage of their earnings as dividends than non-family firms. The estimated coefficients presented in Table IV.10 (column 1) show that family control continues to be associated with higher dividend payout ratios even when using a more restrictive family firm definition.

Table IV.10

Family control and dividends: 20% threshold family firm definition, reduced sample, and the general blockholder effect

GMM regression results from:

$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \gamma_2 FD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}$ and

$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \alpha_2 STD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; and STD_{it} takes the value of 1 for firms ultimately controlled by the state, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's *q*, and REV_{it} denotes net sales. All of the variables are defined in Appendices IV.A and IV.B. In column 1, the results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002), and the sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. In column 2, we exclude from the sample family firms ultimately owned by unlisted companies to alleviate concerns about the likely misclassification of this type of family-controlled corporations, thus reducing the sample to 371 companies (3,237 observations). In column 3, we control for the general blockholder effect by interacting a new dummy variable, STD_{it}, with the net income measure, and again use the 10% cutoff point of voting rights to identify family firms and state-controlled corporations, as well as the larger sample of 645 listed companies (5,486 observations). Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$ and t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\alpha_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	**(1)**	**(2)**	**(3)**
β_0 **Constant**	0.002 (0.001)	-0.002* (0.001)	0.005* (0.001)
β_1 DIV_{it-1}	0.236* (0.002)	0.234* (0.002)	0.235* (0.001)
β_2 NI_{it}	0.011* (0.001)	0.008* (0.000)	0.006* (0.001)
γ_2 $FD_{it}NI_{it}$	0.012* (0.002)	0.022* (0.001)	0.018* (0.001)
α_2 $STD_{it}NI_{it}$			0.026* (0.001)
ω_1 $DEBT_{it}$	-0.011* (0.001)	-0.015* (0.000)	-0.012* (0.001)
ω_2 I_{it}	-0.006* (0.000)	-0.010* (0.000)	-0.006* (0.000)
ω_3 $SIZE_{it}$	-0.000** (0.000)	0.000*** (0.000)	-0.000* (0.000)
ω_4 Q_{it}	0.005* (0.000)	0.007* (0.000)	0.005* (0.000)
ω_5 REV_{it}	0.005* (0.000)	0.007* (0.000)	0.004* (0.000)
t_1	17.67	70.68	23.19
t_2			49.42
z_1	3063.90	21195.26	5246.61
z_2	91.83	1953.62	317.50
z_3	190.73	1126.11	504.34
m_1	-2.53	-2.00	-2.53
m_2	1.13	1.06	1.12
Hansen	471.80 (427)	349.94 (428)	508.84 (480)
N	4,841	2,866	4,841

Second, we eliminate from the sample all family firms ultimately controlled by an unlisted company to alleviate the misclassification concerns. The results of estimating (6) using this smaller sample, shown in Table IV.10 (column 2), provide evidence that our main findings are not driven by family companies whose ultimate owner is an unlisted firm. That is, we corroborate that family firms adopt higher dividends payments, and we find additional support for Hypothesis 6.

Third, we modify (6) to account for the general blockholder effect, which can be important when comparing family and non-family corporations (Andres, 2008). In this respect, one possibility to disentangle whether our results are due to the general blockholder effect is to define new dummies for non-family firms with an ultimate owner. A similar approach is used by Andres (2008) when investigating whether family firms really outperform their non-family counterparts in Germany. Subsequently, we interact these dummies with net income to include them as explanatory variables in the right-hand side of (6). Considering that the majority of non-family corporations in our sample with an ultimate owner are controlled by the state and taking into account Gugler's (2003) empirical results,[57] we extend (6) by including the interaction between net income and a dummy variable, STD_{it}, that equals 1 for firms with the state as an ultimate owner at the 10% cutoff point, and zero otherwise.

The results of estimating this extended model are shown in Table IV.10 (column 3). Interestingly, we find that state-controlled corporations pay out a higher proportion of their earning in the form of dividends than other non-family companies and even than family firms. We also find that family control is associated with higher dividend payments, although state-controlled corporations adopt the highest dividend payout ratios. The results of this model suggest that, overall, the presence of an ultimate owner in the company and, hence, ownership concentration is associated with higher dividends. Our results also imply that the differences between family and non-family firms in their dividend behavior are mainly attributable to the higher dividends of family firms as compared to widely held corporations. In addition, the estimated coefficients that we report in Table IV.10 (column 3) reconcile our findings with those by Gugler (2003), who concludes that Austrian family firms and state-controlled companies exhibit the lowest and the highest target dividend payout ratios, respectively. We confirm Gugler's result that state-controlled corporations use dividends as a way to curb the many agency problems that these companies encounter. However, we find that family firms distribute higher dividends in relation to widely held companies, which can be explained either by the willingness of Western European family businesses to alleviate expropriation concerns (Faccio, Lang, and Young, 2001) or European owner families' awareness of the value that other shareholders and the market attribute to dividends.

Given that firms controlled by the state have dividend preferences different from other companies, we repeat several of our previous analyses by including in the right-hand side of the models the interaction between STD_{it} and net income to control for the different behavior

[57] Gugler (2003) concludes that family firms and state-controlled corporations adopt dividend policies that are most different from one another; the dividend decisions of other types of companies lie in between these two extremes.

of state-owned corporations. In Table IV.11 (column 1), we continue to find that the higher dividend payments of family firms are mainly attributable to those with no wedge between the cash flow and voting rights in the hands of the controlling family, which confirms Hypothesis 7. In line with Hypothesis 9, we also find that non-family second blockholders in family firms induce controlling families to pay out higher dividends even after controlling for the moderating role of state control in corporate dividend policy (column 2).

Table IV.11

Family control, ownership–control wedge, second large shareholders, and dividends: The general blockholder effect and reduced sample

GMM regression results from:

$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \chi_2 WEDFD_{it} + \eta_2 NWEDFD_{it} + \alpha_2 STD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}$,

$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} + \vartheta_2 NSSPFD_{it} + \alpha_2 STD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}$, and

$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \gamma_2 FD_{it} + \alpha_2 STD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it}$,

in which FD_{it} equals 1 for family firms, and zero otherwise; $WEDFD_{it}$ equals 1 for family firms in which there is a wedge between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $NEWDFD_{it}$ equals 1 for family firms in which there is no deviation between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $FSSPFD_{it}$ equals 1 for family firms with a family second blockholder, and zero otherwise; $NFSSPFD_{it}$ equals 1 for family firms with a non-family second blockholder, and zero otherwise; $NSSPFD_{it}$ equals 1 for family firms with no second large shareholder, and zero otherwise; and STD_{it} takes the value of 1 for firms ultimately controlled by the state, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's q, and REV_{it} denotes net sales. All of the variables are defined in Appendices IV.A and IV.B. In columns 1 and 2, the results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002), and the sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. In column 3, we use the 20% cutoff point of voting rights to identify family firms and state-controlled corporations. In column 4, we exclude from the sample family firms ultimately owned by unlisted companies to alleviate concerns about the likely misclassification of this type of family-controlled corporations, thus reducing the sample to 371 companies (3,237 observations). Nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) the *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\chi_2=0$, t_2 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\eta_2=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varpi_2=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\theta_2=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\vartheta_2=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$, and t_7 is the t-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\alpha_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2

under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	**(1)**	**(2)**	**(3)**	**(4)**
β_0 **Constant**	0.006* (0.000)	0.002* (0.000)	0.004* (0.001)	-0.002* (0.001)
β_1 DIV_{it-1}	0.235* (0.001)	0.238* (0.001)	0.239* (0.002)	0.238* (0.002)
β_2 NI_{it}	0.007* (0.001)	0.006* (0.000)	0.012* (0.001)	0.009* (0.000)
χ_2 $WEDFD_{it}NI_{it}$	0.003* (0.001)			
η_2 $NWEDFD_{it}NI_{it}$	0.022* (0.001)			
ϖ_2 $FSSPFD_{it}NI_{it}$		-0.013* (0.001)		
θ_2 $NFSSPFD_{it}NI_{it}$		0.018* (0.001)		
ϑ_2 $NSSPFD_{it}NI_{it}$		0.026* (0.001)		
γ_2 $FD_{it}NI_{it}$			0.011* (0.001)	0.021* (0.001)
α_2 $STD_{it}NI_{it}$	0.027* (0.001)	0.024* (0.001)	0.042* (0.002)	0.028* (0.001)
ω_1 $DEBT_{it}$	-0.012* (0.000)	-0.013* (0.000)	-0.012* (0.000)	-0.015* (0.000)
ω_2 I_{it}	-0.007* (0.000)	-0.007* (0.000)	-0.006* (0.000)	-0.010* (0.000)
ω_3 $SIZE_{it}$	-0.000* (0.000)	-0.000* (0.000)	-0.000* (0.000)	0.000 (0.000)
ω_4 Q_{it}	0.006* (0.000)	0.005* (0.000)	0.005* (0.000)	0.007* (0.000)
ω_5 REV_{it}	0.004* (0.000)	0.005* (0.000)	0.005* (0.000)	0.006* (0.000)
t_1	15.11			
t_2	38.26			
t_3		-9.82		
t_4		57.52		
t_5		44.76		
t_6			21.18	63.22
t_7	71.34	72.09	36.74	29.94
z_1	10699.93	20870.21	4890.51	10917.23
z_2	473.80	1225.55	199.16	2496.86
z_3	1026.12	2131.94	325.79	803.72
m_1	-2.53	-2.53	-2.53	-2.00
m_2	1.12	1.12	1.13	1.06
Hansen	551.34 (533)	576.93 (586)	501.58 (480)	356.78 (481)
N	4,841	4,841	4,841	2,866

Finally, we rerun the regression analyses presented in Table IV.10 (columns 1 and 2) while taking into account the difference in dividend behavior between state-controlled companies and all other firms. In Table IV.11 (column 3), we use the 20% threshold to differentiate between firms with and without an ultimate owner. We also eliminate from the sample family firms ultimately controlled by an unlisted corporation (column 4) to alleviate misclassification concerns. Overall, in both cases we corroborate that family control leads to higher dividends as compared to widely held companies, thus supporting the view that, except for state-controlled corporations, family businesses are associated with higher dividend payments as compared to non-family firms.

IV.7. Conclusions

We analyze the effect of family control on firm debt and dividend policies in an effort to disentangle how the family business model affects these financial decisions. We address two specific topics. First, we focus on how family control and specific aspects of family firms' ownership structures shape companies' financing policies. Our analyses on the differences in financing choices between family and non-family companies is based on pecking order and trade-off theories of capital structure, which are given equal treatment in the literature. That is, based on prior research, we are motivated to take into account both capital structure theories to gain a more comprehensive view on the main determinants of companies' financing policies. Second, we examine the differences between family and non-family firms in relation to their dividend choices and examine whether these differences are moderated by certain specificities of the ownership structure of family businesses. To this end, we extend Lintner's (1956) model of dividends, which allows us to account for the dynamic nature of the dividend policy and consider previous agency explanations for firms' dividend preferences. By focusing on the interactions between family control and the debt and dividend decisions, we also provide empirical evidence on how these internal corporate governance mechanisms are related to one another in the context of the Euro zone, where family firms play a very important role. Based on our two main inquiries regarding the relations between cash flow and debt, and earnings and dividends, we summarize our two main results as follows.

First, we find that pecking order behavior is less pronounced in family companies and that the negative effect of internal cash flow on debt is weaker in the case of family firms. This result suggests that asymmetric information problems are less severe in these corporations, which enables family businesses easier access to external finance. In addition, this finding suggests that family firms have lower agency conflicts between shareholders and debtholders and, consequently, a lower cost of debt financing (Anderson, Mansi, and Reeb, 2003). However, only family firms with no deviation between the cash flow rights and voting rights of the controlling family exhibit a weaker negative relation between internal funds and debt. Such evidence indicates that family corporations that make use of control-enhancing mechanisms rely more heavily on internally generated funds, either because they seek to avoid the external monitoring and disciplining role of debt or because of their difficulties in securing external financing due to the potential for agency conflicts that is associated with their ownership structures. We then focus on corporations that are more likely to suffer from severe asymmetric information problems and confirm that the weaker negative effect of cash flow on the debt ratio in family companies is because family control alleviates these problems. Whereas family companies with higher information asymmetries do not follow the pecking order model as closely and exhibit a weaker negative relation between cash flow and debt, this negative relation is accentuated for their non-family counterparts.

Second, family companies appear to choose higher dividend ratios. By interpreting this results in light of the outcome model of dividends (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000; Chae, Kim, and Lee, 2009), we argue that families' large stake in the company allows them to force managers to distribute a higher fraction of the firm's earnings in the form of dividends, thus benefiting minority investors. Also, family firms alleviate concerns about the expropriation of minority shareholders in Eurozone countries by pursuing higher dividends payments (Faccio, Lang, and Young, 2001). In line with these interpretations of family companies' dividend preferences, we show that the higher dividends by family corporations are mainly driven by those with better corporate governance structures (i.e., firms in which owner families' voting rights do not exceed their cash flow rights). Our results also point to an efficient use of the dividend policy by family businesses because family firms that suffer from severe free cash flow problems distribute higher dividends than their non-family counterparts. Therefore, family firms' dividend policies are consistent with the free cash flow explanation of dividends (Jensen, 1986).

Interestingly, we also find that the interaction between multiple large shareholders in family companies influences the debt and dividend policies in these firms. On the one hand, and contrary to our expectations, the presence of non-family second blockholders in family corporations increases the negative effect of cash flow on debt. A likely explanation for this result is that the disciplining role of debt and the monitoring by non-family second blockholders substitute for one another in family firms. On the other hand, the stronger negative relation that we find between internal funds and debt levels in family businesses with a family second large shareholder indicates that when two families own a large stake in the company, they collude to appropriate the private benefits of control. As a consequence, this type of family firm prefers to avoid the disciplining role of debt and rely more heavily on internal funds, which leads to a more pronounced pecking order behavior. With respect to the distribution of dividends, non-family second blockholders induce family companies to adopt higher dividend payments, which is consistent with the monitoring role of this type of investor as well as with its preferences for dividends. Most non-family second large shareholders are widely held financial institutions (which, among others, include institutional investors). On the contrary, family second large shareholders lead to a reduction in family companies' dividend payments, which supports the view that controlling families pursue dividend polices that increase the cash flow at their disposal, which they use for their own best interest.

We advance previous research on the effect of corporate ownership structure on the capital structure and payout policies by proposing dynamic debt and dividend models. The use of this type of model is supported by the trade-off theory in the case of the financing policy, and a dynamic model of dividends is based on Lintner (1956). By extending these models and incorporating into them the role of family control, we shed light on how family firms differ from their non-family counterparts in the speed with which they adjust toward their target debt and dividend ratios. Consistent with the idea that family firms are able to rebalance their capital structures faster because of their easier access to debt and the long-term presence of the family in the company, we posit and find a higher speed of adjustment toward target debt levels in family businesses. However, our results indicate that family firms approach their target dividend ratios at a lower speed, which contradicts the view that family companies should be less likely to smooth dividends as a result of the lower agency conflicts and information asymmetries associated with this organizational form. The reason for this finding is that family companies also factor in the transaction costs of dividends when setting their payout policies (Rozeff, 1982), which lead them to approach their target dividend ratios over a longer time period. That is, family firms mitigate overinvestment concerns by paying out higher dividends, and they attempt to alleviate the risk of underinvestment by pursuing a more stable dividend policy and thus smooth dividends more.

The empirical evidence provided in this chapter offers additional explanations for the performance difference between family and non-family corporations reported in prior research (Maury, 2006; Barontini and Caprio, 2006; Andres, 2008) and confirmed in the second chapter of the dissertation. For instance, the higher adjustment speed of family companies toward their target capital structure could have a positive effect on their performance. Also, family firms' higher and more stable dividend payments could explain, to some extent, the higher market valuations of these companies.

Appendix IV.A

Definition of financial variables

IV.A.1. Debt ratio

$$DEBT_{it} = \frac{MVLTD_{it}}{BVSTD_{it} + MVLTD_{it} + MVE_{it}}, \tag{A1}$$

where $BVSTD_{it}$ is the book value of short-term debt and $MVLTD_{it}$ is the market value of long-term debt obtained from the following formula:

$$MVLTD_{it} = \left[\frac{1 + l_{it}}{1 + i_l}\right] BVLTD_{it}, \tag{A2}$$

where $BVLTD_{it}$ is the book value of the long-term debt, i_l is the rate of interest of the long-term debt reported in the OECD-*Main Economic Indicators*, and l_{it} is the average cost of long-term debt that is defined as:

$$l_{it} = \frac{IPLTD_{it}}{BVLTD_{it}}, \tag{A3}$$

where $IPLTD_{it}$ is the interest payable on the long-term debt, which has been obtained by distributing the interest payable between the short- and long-term debt depending on the interest rates. That is:

$$IPLTD_{it} = \frac{i_l BVLTD_{it}}{i_s BVSTD_{it} + i_l BVLTD_{it}} IP_{it}, \tag{A4}$$

where IP_{it} is the interest payable and i_s is the rate of interest of the short-term debt, also reported in the OECD-*Main Economic Indicators*.

IV.A.2. Cash flow

$$CF_{it} = (NP_{it} + BD_{it}) / K_{it}, \tag{A5}$$

where NP_{it} and BD_{it} denote the net profit and the book depreciation expense of the firm corresponding to year t, respectively.

IV.A.3. Dividends

$$DIV_{it} = CDIV_{it} / K_{it}, \tag{A6}$$

where $CDIV_{it}$ and K_{it} denote the total common dividends paid by the firm and the replacement value of total assets in year t, respectively. The replacement value of total assets is obtained as:

$$K_{it} = RF_{it} + (TA_{it} - BF_{it}), \tag{A7}$$

where RF_{it} is the replacement value of tangible fixed assets, TA_{it} the book value of total assets, and BF_{it} the book value of tangible fixed assets. The latter two have been obtained from the firm's balance sheet and the first one has been calculated according to the proposal by Perfect and Wiles (1994) as:

$$RF_{it} = RF_{it-1}\left[\frac{1+\phi_t}{1+\delta_{it}}\right] + I_{it}\,, \tag{A8}$$

for $t > t_0$ and $RF_{it_0} = BF_{it_0}$, where t_0 is the first year of the chosen period, in our case 1996. On the other hand, $\delta_{it} = BD_{it} / BF_{it}$ and $\phi_t = (GCGP_t - GCGP_{t-1}) / GCGP_{t-1}$, where BD_{it} is the book depreciation expense of the firm in year t and $GCGP_t$ is the growth of capital goods prices extracted from the OECD-*Main Economic Indicators*.

IV.A.4. Net income

$$NI_{it} = NIAPD_{it} / K_{it}\,, \tag{A9}$$

where $NIAPD_{it}$ stands for net income after preferred dividends of the firm corresponding to year t.

IV.A.5. Tobin's q

$$Q_{it} = (MVE_{it} + MVD_{it}) / K_{it}\,, \tag{A10}$$

where $MVD_{it} = MVLTD_{it} + BVSTD_{it}$ is the market value of debt. For an explanation of the $MVLTD_{it}$ and $BVSTD_{it}$ variables, see Appendix IV.A.1.

IV.A.6. Sales growth

$$GREV_{it} = (REV_{it} - REV_{it-1}) / REV_{it-1}\,, \tag{A11}$$

where REV_{it} is the firm's net sales or revenues in the corresponding period of time.

IV.A.7. Size

$$SIZE_{it} = Ln(K_{it})\,, \tag{A12}$$

where K_{it} is the replacement value of total assets computed as explained in Appendix IV.A.3.

IV.A.8. Investment

$$I_{it} = (NF_{it} - NF_{it-1} + BD_{it}) / K_{it}\,, \tag{A13}$$

where NF_{it} denotes net fixed assets of the firm in year t and BD_{it} is the book depreciation expense of the firm corresponding to year t. This variable has been calculated according to the proposal by Lewellen and Badrinath (1997). The K_{it} denotes the replacement value of total assets, which is obtained as explained in Appendix IV.A.3.

IV.A.9. Sales

$$REV_{it} = REV_{it} / K_{it}\,, \tag{A14}$$

where REV_{it} is the firm's net sales or revenues in the corresponding period of time.

IV.A.10. Tangible assets

$$TANGK_{it} = NF_{it} / K_{it}, \tag{A15}$$

where NF_{it} denotes net fixed assets of the firm in year t.

IV.A.11. Intangible assets

$$INTANGK_{it} = IA_{it} / K_{it}, \tag{A16}$$

where IA_{it} stands for intangible assets of the firm in year t.

IV.A.12. Free cash flow

$$FCF_{it} = CF_{it} / Q_{it}, \tag{A17}$$

where CF_{it} denotes a firm's cash flow and Q_{it} is Tobin's q of the firm in year t. This variable has been computed as in Miguel and Pindado (2001).

Appendix IV.B

Definition of dummy variables

IV.B.1. Family dummy

The FD_{it} is a dummy variable that equals 1 for family firms, and zero otherwise.

IV.B.2. Wedge family dummy

The $WEDFD_{it}$ is a dummy variable that equals 1 for family firms in which there is a wedge between the voting and the cash flow rights owned by the controlling family, and zero otherwise.

IV.B.3. Non-wedge family dummy

The $NWEDFD_{it}$ is a dummy variable that equals 1 for family firms in which there is no deviation between the voting and the cash flow rights owned by the controlling family, and zero otherwise.

IV.B.4. Family second shareholders present family dummy

The $FSSPFD_{it}$ is a dummy variable that equals 1 for family firms with a family second blockholder, and zero otherwise.

IV.B.5. Non-family second shareholder present family dummy

The $NFSSPFD_{it}$ is a dummy variable that equals 1 for family firms with a non-family second blockholder, and zero otherwise.

IV.B.6. No second shareholder present family dummy

The $NSSPFD_{it}$ is a dummy variable that equals 1 for family firms with no second large shareholder, and zero otherwise.

IV.B.7. Information asymmetry family dummy

The $IAFD_{it}$ is a dummy variable that equals 1 for family firms with high information asymmetries (a high level of intangible and a low level of tangible assets, as captured by a factor constructed following Miguel and Pindado, 2001), and zero otherwise.

IV.B.8. Information asymmetry non-family dummy

The $IANFD_{it}$ is a dummy variable that equals 1 for non-family firms with high information asymmetries, and zero otherwise.

IV.B.9. Free cash flow family dummy

The $FCFFD_{it}$ is a dummy variable that equals 1 for family firms with high free cash flow problems (as captured by the free cash flow measure proposed in Miguel and Pindado, 2001), and zero otherwise.

IV.B.10. Free cash flow non-family dummy

The $FCFNFD_{it}$ is a dummy variable that equals 1 for non-family firms with high free cash flow problems, and zero otherwise.

IV.B.11. Miscellaneous dummy

The MSD_{it} is a dummy variable that equals 1 for corporations with a non-family ultimate owner at the 10% threshold (which we use to define family control), and zero otherwise.

IV.B.12. State dummy

The STD_{it} is a dummy variable that equals 1 for firms ultimately controlled by the state at the 10% cutoff point, and zero otherwise.

Appendix IV.C

Summary of coefficients of interest in the debt and dividend models

IV.C.1. Coefficients of interest in the debt models

This appendix presents a summary of the coefficients that capture the effect of cash flow on debt for each model and type of corporation; expect in Eq. (10), in which the coefficients evaluate the relation between past and current debt levels. The sums of coefficients in bold are those for which a linear restriction test is performed. The *t*-statistics of the corresponding linear restriction test are reported in the tables in which the regression results are shown.

Model	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**
Subsample					
Non-family firms	δ_2	δ_2		δ_2	δ_1
Information asymmetry non-FFs			$\boldsymbol{\delta_2+\psi_2}$		
Non-information asymmetry non-FFs			δ_2		
Family firms	$\boldsymbol{\delta_2+\gamma_2}$				$\boldsymbol{\delta_1+\gamma_1}$
Wedge family firms		$\boldsymbol{\delta_2+\chi_2}$			
Non-wedge family firms		$\boldsymbol{\delta_2+\eta_2}$			
Information asymmetry FFs			$\boldsymbol{\delta_2+\mu_2}$		
Non-information asymmetry FFs			δ_2		
Family second shareholder present				$\boldsymbol{\delta_2+\varpi_2}$	
Non-family second shareholder present				$\boldsymbol{\delta_2+\theta_2}$	
No second shareholder present				$\boldsymbol{\delta_2+\vartheta_2}$	

IV.C.2. Coefficients of interest in the dividend models

This appendix presents a summary of the coefficients that capture the effect of net income on dividends for each model and type of corporation; expect in Eq. (20), in which the coefficients evaluate the relation between past and current dividend levels. The sums of coefficients in bold are those for which a linear restriction test is performed. The *t*-statistics of the corresponding linear restriction test are reported in the tables in which the regression results are shown.

Model	**(16)**	**(17)**	**(18)**	**(19)**	**(20)**
Subsample					
Non-family firms	β_2	β_2		β_2	β_1
Free cash flow non-FFs			$\beta_2+\psi_2$		
Non-free cash flow non-FFs			β_2		
Family firms	$\boldsymbol{\beta_2+\gamma_2}$				$\boldsymbol{\beta_1+\gamma_1}$
Wedge family firms		$\boldsymbol{\beta_2+\chi_2}$			
Non-wedge family firms		$\boldsymbol{\beta_2+\eta_2}$			
Free cash flow FFs			$\boldsymbol{\beta_2+\mu_2}$		
Non-free cash flow FFs			β_2		
Family second shareholder present				$\boldsymbol{\beta_2+\varpi_2}$	
Non-family second shareholder present				$\boldsymbol{\beta_2+\theta_2}$	
No second shareholder present				$\boldsymbol{\beta_2+\vartheta_2}$	

Chapter V

Final Remarks

V.1. Conclusions

As highlighted in prior research, family firms are widespread all over the world and the family business model has been associated with certain unique characteristics. Further, family control of corporations has been related to potential benefits and costs for other firm stakeholders, and the society and the economy as a whole. Indeed, previous studies that investigate specific aspects of family ownership are not conclusive as to whether this type of ownership structure is beneficial or detrimental to the rest of the firm's shareholders. In this scenario, the present dissertation sheds some light on the performance difference between family and non-family companies in Western European countries, where family businesses represent a large percentage of the corporate sector. We also provide some possible explanations for this difference by analyzing how family-controlled corporations differ from their non-family counterparts in their main corporate financial policies, namely the investment, financing, and dividend decisions.

First of all, ownership concentration positively affects firm value consistent with the view that concentrated ownership structures alleviate free riding problems and contribute to aligning the interests of firms' owners and managers, thus leading to value creation. But interestingly, this positive relation between ownership concentration and corporate performance is stronger in family-controlled corporations. Moreover, this finding is robust to the consideration of general blockholder effects in the analyses, which implies that family control induces positive effects inside the company above and beyond the mere ownership concentration in the hands of a large shareholder. Nevertheless, the empirical evidence that we provide shows that the better performance of family firms is mainly attributable to those in which family members are actively involved in the management of the company by means of board representation and those that are still controlled by the first generation.

In addition to considering specific firm-level characteristics of family businesses when comparing family and non-family firms in terms of performance, we provide some hints as to whether the institutional environment in which companies operate influences the performance difference of family companies. In so doing, we are able to evaluate whether an internal corporate governance mechanism, such as family control, and an external one, such as the legal protection of minority shareholders afforded by the law, either complement or substitute for each other in the task of protecting minority investors' interests. And it is noteworthy that, according to our findings, family companies from less protective institutional settings are the ones that obtain better performance, which supports a substitution effect between family control and the legal system in which companies operate. Moreover, the relevance of this result lies in the fact that it is precisely in countries with weaker protection for minority shareholders where family firms are more prevalent.

Regarding the effect of family control on corporate performance, our study also concludes that the relation between ownership concentration and value is nonlinear regardless of a firm's ownership structure and that family businesses continue to exhibit superior performance under a quadratic empirical specification. Another interesting finding is that the impact of ownership concentration on performance for Western European family firms turns from positive to negative for a higher level of ownership concentration as compared to their US counterparts.

After showing that family companies perform differently from non-family ones, in the following chapters of the dissertation we go on to investigate whether the difference in performance between both firm categories is explained by differences in their financial policies—i.e., the investment, financing, and dividend decisions—, at least to a certain degree.

With respect to the corporate investment decision, we focus on the sensitivities of investment to internal cash flow, which is a subject that has aroused and continues to arouse scholars' interest in the finance field, and analyze whether family and non-family corporations that operate in Eurozone countries differ from each other in this particular issue. Our main conclusion in relation to the investment policy is that overall family businesses enjoy lower investment–cash flow sensitivities. Given that such sensitivities are due to either information or incentive problems, we interpret this conclusion as a positive aspect of family firms. Specifically, our findings suggest that family control helps to alleviate underinvestment and overinvestment problems, thus allowing family companies to reach a level of investment closer to the optimum. This interpretation supports the idea that family firms are in a better position to maximize shareholder value through their investment decisions, which helps explain the better performance of this type of company that we document in this dissertation.

Although we find that in general family firms have a weaker positive relation between investment spending and internally generated funds, our subsequent empirical evidence points out that this finding is mainly due to family firms where the scope for expropriating minority investors' wealth is lower. That is, when family-controlled corporations use control-enhancing mechanisms that allow families to have voting rights in excess of their cash flow rights, the sensitivity of investment to cash flow is not reduced. This result implies that only certain types of family control lead to effective monitoring of managers' decisions whereas in other cases ownership concentration in the hands of families is associated with expropriating behavior. Therefore, it seems that the nonlinearities between family ownership concentration and firm value found in our study also arise when the moderating role of family control is incorporated in the investment–cash flow relation. Also consistent with the need for active family participation in the company management in order to achieve better performance, we find that family members must hold top management positions to mitigate investment–cash flow sensitivities.

Another aspect of family firms' ownership structures that we consider when examining how family control affects the sensitivity of investment with respect to cash flow is whether or not there are other large shareholders in the company as well as their identity. Interestingly, while non-family second blockholders help reduce the investment–cash flow sensitivity in family firms, the presence of a second large family investor in these companies increases the sensitivity. We thus confirm that non-family large shareholders effectively monitor owner families' investment decisions. By contrast, second family blockholders prefer to collude with the controlling family to expropriate minority investors and enjoy the private benefits of control.

As a final step in the analysis of the moderating role of family control in the investment–cash flow sensitivity, we take into consideration the source of the sensitivity by proposing innovative proxy measures for financial constraints deriving from information asymmetries and for the agency conflicts of free cash flow. It should be noted that these are the two main explanations for the positive and strong relation between investment spending and internal funds identified in previous finance literature. Overall, our findings suggest that family control is an internal corporate governance mechanism that contributes to reducing both the financial constraints and the incentive problems associated with investment decision-making processes, at least to some extent.

In addition to examining whether family control affects companies' investment–cash flow sensitivities, in the present dissertation we also investigate the possibility that family control shapes a firm's capital structure and dividend preferences. By investigating how family and non-family firms differ from each other in these specific corporate financial decisions, we provide additional explanations for the performance difference between both firm categories. Our analyses of the influence of family control on the debt and dividend policies also add to that stream of the finance literature that deals with the interactions between different corporate governance mechanisms.

In relation to the capital structure decision, the empirical evidence provided indicates that the negative impact of internal funds on debt levels is weaker in the case of family-controlled corporations, which suggests that the pecking order behavior is less pronounced in family companies. Overall, this finding supports the proposition that family businesses enjoy easier access to debt financing because asymmetric information problems are less severe in this type of company and because family control helps resolve agency conflicts between shareholders and debtholders. In line with this explanation for the weaker negative effect of cash flow on leverage in family firms, this result is entirely driven by family businesses with no wedge between the cash flow rights and voting rights in the hands of the owner family. That is, family companies with more potential for expropriating minority investors' wealth and which are more likely to suffer from agency conflicts do not enjoy easier access to debt financing. Our evidence also points out that family companies in which controlling families own voting rights in excess of their cash flow rights prefer to rely more heavily on internally generated funds to avoid the external monitoring and disciplining role of debt.

In an effort to ascertain whether our finding of a weaker negative relation between internal funds and the debt ratio in family businesses can be explained by lower information asymmetries in these companies, we focus on corporations more likely to suffer from severe asymmetric information problems and compare family and non-family firms within this subsample of companies. Our analyses reveal that family firms with higher information asymmetries do not follow pecking order financing patterns so closely and exhibit a weaker negative relation between cash flow and debt while this negative relation is more pronounced in the case of their non-family counterparts. This finding supports our line of reasoning for the moderating role of family control in the relation between cash flow and debt, and is consistent with our results regarding the differences between family and non-family corporations as regards their investment–cash flow sensitivities.

Family businesses are also different from non-family ones in their dividend preferences. In general, we find that family firms choose higher dividend payout ratios. In light of the "outcome model" of dividends, whereby better legal institutions are associated with higher dividend payments, we can argue that the presence of a large family owner in Eurozone companies forces managers to disgorge cash in the form of dividends, which helps to reduce agency conflicts inside the business and in turn benefits minority shareholders. The adoption of higher dividend payments in family companies is also a way of alleviating concerns about minority investors' expropriation in these firms. Further supporting the view that the outcome model of dividends can explain the differences between family and non-family firms in their dividend behavior, we show that family firms' higher dividends are primarily attributable to those with better ownership structures; namely, those in which there is no deviation between family ownership and control.

We also examine whether the distribution of higher dividends by family corporations is an efficient financial decision by paying special attention to those firms with a higher likelihood of suffering from free cash flow agency conflicts. It is companies with higher levels of cash flow in relation to their investment opportunities that should reward their investors by paying out more dividends. In this respect, we confirm that family companies with more severe agency conflicts of free cash flow pay out higher dividends, but the same is not true in the case of their non-family counterparts. Overall, family firms' dividend decisions appear to be consistent with the free cash flow explanation of the dividend payout policy.

An additional finding of the present piece of research is that second large shareholders influence family firms' debt and dividend policies significantly. On the one hand, we find that family firms with a non-family second blockholder exhibit a stronger negative relation between cash flow and debt, which contradicts our expectations. This result suggests that the disciplining role of debt and monitoring activities by non-family second blockholders substitute for one another in family companies, and that too much monitoring is not always beneficial for family firms. On the contrary, the stronger effect of internal funds on leverage in family firms with a second large family investor is explained by the collusion of both controlling families in order to expropriate minority investors and enjoy the private benefits of control. As a result, this type of family firm prefers to avoid the disciplining role of debt and relies more heavily on internal funds, which leads them to follow pecking order financing patterns more closely. On the other hand, in relation to the dividend payout policy, the empirical evidence provided indicates that non-family second blockholders induce family firms to distribute a higher proportion of their earnings as dividends. This result supports the monitoring role of this type of investor when it comes to the corporate dividend decision. By contrast, when there are two families as the largest shareholders in the company, dividend payments are reduced. Such a finding is in line with the view that controlling families in this case adopt dividend policies that allow them to increase the level of cash flow at their disposal, which they can use to benefit themselves.

The final issue that we investigate is how family control affects companies' speed of adjustment toward their target debt and dividend ratios. First, family firms appear to approach their target debt levels at a higher speed and are able to rebalance their capital structures faster, which indicates that family control indeed contributes to resolving the asymmetric information problems that arise in firms' financing decisions. Second, contrary to the view that family companies should be less likely to smooth dividends because of the lower agency conflicts and information asymmetries associated with this type of ownership structure, our empirical evidence points out that family businesses approach their target dividend payout ratios more slowly. A likely explanation for this result is that family firms alleviate overinvestment concerns by distributing a higher proportion of their earnings in the form of dividends, and at the same time they attempt to mitigate the risk of underinvestment by adopting a more stable policy and smoothing dividends more.

V.2. Contributions

A noteworthy contribution of the present dissertation is that all empirical results are obtained applying the panel data methodology. By using this methodology, we are able to account for two serious econometrical problems that arise when investigating the effect of a firm's ownership structure on corporate performance and companies' financial decisions; namely, the unobservable heterogeneity and the potential endogeneity of the regressors. On the one hand, the unobservable heterogeneity has to be controlled for in all our models because we are comparing family firms to non-family ones. And every company, and especially family-controlled ones, has its own specificity that gives rise to a particular behavior closely linked to the company's culture, which in family firms is instilled by the controlling family and manifests itself in corporate decision-making processes. On the other hand, to control for the possible endogeneity of our explanatory variables we use the generalized method of moments (GMM) in the estimation of the models. The importance of taking into consideration the endogeneity problem is inherent to any corporate governance study and is further reinforced in our case because it is not clear whether family control affects a firm's performance and financial decisions, or whether on the contrary owner families decide to invest in companies with higher market valuations and certain investment, debt, and dividend policies.

It should also be highlighted that the models on which we base our analyses of the differences between family and non-family corporations as regards their financial policies are strongly supported by previous finance literature and account for the dynamic nature of the corporate decisions that we examine. In particular, the moderating role of family control in the investment–cash flow sensitivity is investigated by using Fazzari, Hubbard, and Petersen's (1988) investment model. Meanwhile, to analyze the influence of family control on the capital structure decision we derive a partial adjustment model of debt following the trade-off theory of capital structure and in this model we focus on the relation between cash flow and leverage in line with the propositions of the pecking order theory of Myers (1984), and Myers and Majluf (1984). To analyze the differences between family and non-family firms when it comes to their dividend payout policies, we develop several empirical specifications in which we account for the dynamic nature of dividend decisions, as Lintner (1956) suggests.

In addition, with this research we contribute to the family business literature by investigating family firms' behavior from a different angle. That is, we investigate family companies' performance and financial policies from a corporate finance and corporate governance perspective. Moreover, the use of different databases to obtain information on firms' financial statements and ownership structures is an important contribution of the present piece of work. Indeed, the results that we present are robust to a battery of tests, and the main findings of the document as well as their explanations are consistent with one another regardless of the database used to extract corporate ownership information and of the family firm definition adopted in the analyses.

V.3. Implications

The main findings presented in this document have important implications for family firms themselves as well as for policymakers and other stakeholders. On the one hand, governments and regulators should lay the necessary foundations to facilitate the creation and development of family businesses because this type of company, due to their own peculiarities, can play a very important role in promoting a country's economic growth. Indeed, family businesses account for a high percentage of the gross domestic product and the private sector workforce all over the world. Further, they are likely to contribute greatly to the development of the economy and society as a whole in the long-term because of their extended investment horizons and their close links with local communities. However, equally relevant is that policymakers adopt and enforce tough measures aimed at preventing minority investors' wealth expropriation by family owners.

On the other hand, as regards the implications for family firms, the empirical evidence provided in this dissertation highlights the importance of active family participation in the company management in order to increase firm value and to reduce the financial constraints that arise in the investment decision-making process. In this sense, by fostering and reinforcing the family business culture among managers, employees, and the rest of internal stakeholders, controlling families can facilitate the establishment of relationships based on trust inside the corporation, which can constitute a source of competitive advantage. Additionally, family firms must also be aware of the many challenges that they will face during their lifetime. Specifically, family businesses must plan succession decisions in advance to avoid risking the survival of the company. And owner families should also take into consideration that their relationships with other shareholders that own a large stake in their companies can significantly affect their debt and dividend decisions, which will in turn be reflected in the market value of the firm.

V.4. Thesis

In short, we can conclude that family firms outperform their non-family counterparts in Western Europe and this superiority in corporate performance is mainly driven by family businesses with family representation on the board of directors and first generation family firms. These results are explained by the potential benefits associated with the family business model, such as the long-term horizons and the reputation concerns of owner families, as well as the better knowledge of the company on the part of controlling families. The convergence of managers' and investors' interests also explains the better performance of family companies in the sense that ownership concentration in the hands of the family helps to reduce the costs derived from manager–owner agency conflicts. However, our subsequent analyses reveal that the peculiarities attached to family control also influence family firm behavior when it comes to important corporate financial policies, such as the investment, financing, and dividend decisions. And the differences between family and non-family firms with respect to these financial policies help explain why family-controlled corporations exhibit higher market valuations.

Specifically, the longer investment horizons of family businesses that result from the fact that owner families contemplate their companies as an asset to bequeath to succeeding generations allow them to have lower investment–cash flow sensitivities. Indeed, the extended investment horizons of owner families provide them with more room to maneuver in the investment decision-making process. And this allows family firms to invest more efficiently and reach a level of investment closer to the one that maximizes their market value. We also find that the lower agency conflicts between debtholders and shareholders in family corporations enable this type of company to have easier access to debt financing, which could have a positive effect on corporate performance. The final explanation for the better performance of family firms that we provide in the present piece of research relates to the differences in dividend policies between family and non-family corporations. In particular, the higher and more stable dividend payments of family businesses along with the value that investors attribute to dividends contribute to clarifying the superior performance of family firms. In this respect, the different behavior between family and non-family corporations when it comes to the dividend policy can be explained by the reputation cost concerns of family businesses.

To summarize, in light of the empirical evidence provided throughout this document, we can formulate the **thesis** proved in the present piece of research as follows: *"Family firms outperform their non-family counterparts in Western Europe, and this performance difference can be explained by the moderating role of family control in the investment, financing, and dividend decisions, which depends on family firms' characteristics and other ownership patterns".*

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