Does family control affect corporate debt choices? An empirical analysis of Eurozone countries[†]

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Abstract

This paper investigates how family control influences financing decisions of corporations. First, we analyze whether family control moderates the relation between cash flow and debt. Additionally, we account for the possibility of deviations between families' voting and cash flow rights, and consider the role of second large shareholders in family firms' financing choices. The present study also disentangles whether adjustment speeds towards target debt depend on the family nature of corporations. We find that family control attenuates the negative relation between cash flow and debt; but only when there is no deviation between family ownership and control. These results support that certain family firms have easier access to debt financing. Regarding the role of second large shareholders, family second blockholders are associated with a stronger negative relation between cash flow and debt, in line with a collusion effect. Contrary to our expectations, non-family second blockholders lead to a stronger negative impact of internal funds on debt, consistent with a substitution effect between second blockholder's and debtholder's monitoring. Our findings confirm higher adjustment speeds towards target debt in family companies. Overall, our empirical evidence suggests that family control can benefit minority investors by facilitating a firm's access to debt financing.

Keywords: family control; capital structure; speed of adjustment; second blockholders; Euro zone.

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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 downturn, as evidenced in a supplement recently published in The Times newspaper in association with the Institute for Family Business (IFB) (Kanekrans, 2009). As noted in this report, the economic recovery that is now under way heavily depends on the performance of the family business sector in the current tough trading conditions. But the interest in family firms is not new and the big impact of family control in financial markets is emphasized in prior research carried out by Morgan Stanley that shows 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. In this respect, 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). And although family control of publicly listed corporations can entail potential costs for minority investors, an upside of family companies could be their more conservative approach when it comes to debt and financial risk policies (Hall, 2005).

It is indeed of great interest and relevance to analyze family businesses' behavior and the influence of family control on companies' financial decisions in light of a vast amount of literature that documents that family firms account for a large percentage of the corporate sector in most geographical regions, including the United States (Anderson and Reeb, 2003a; Villalonga and Amit, 2006), 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, there is nowadays a growing interest among scholars and practitioners in better understanding how the peculiarities of the family business model affect specific corporate policies (see, e.g., Anderson, Duru and Reeb, 2009; Villalonga and Amit, 2009; Caprio, Croci and del Giudice, 2011).

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 (Anderson and Reeb, 2003a; Maury, 2006; Villalonga and Amit, 2006; Miller, Le Breton-Miller, Lester and Cannella, 2007; Andres, 2008). Yet, despite the great attention paid by scholars to the capital structure policy of corporations since the early work by Modigliani and Miller (1958), few studies investigate whether family control, given its own peculiarities, affects this corporate financial decision.

Regarding the capital structure policy, since the earliest attempts to explain it, 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 provided for how companies determine their capital structures, most of them are based on the pecking order (Myers, 1984; Myers and Majluf, 1984) and tradeoff theories. Indeed, there is a controversy in the finance literature with respect to the superiority of one of these two theories in order to explain a firm's financing preferences (Shyam-Sunder and Myers, 1999; Chirinko and Singha, 2000; Leary and Roberts, 2010). However, it is not clear whether one is more valid than the other and, thus far, the empirical evidence supports some of the postulates of the pecking order as well as some propositions from the tradeoff theory (González and González, 2008). In addition to this debate, the effect of ownership structure on capital structure remains largely unexplored, as highlighted in recent literature (Margaritis and Psillaki, 2010).

Considering the importance of family firms around the world and their great influence in most economies, and taking into account that many questions remain unresolved as to how specific firm-level characteristics affect a firm's financing decisions, it is our main objective to investigate the impact of family control on corporate capital structure. Therefore, the present study covers several issues that continue to arouse scholars' and practitioners' interest in the finance and management fields, such as companies' ownership structure, the family business model and debt choices of corporations.

To achieve the ultimate objective of the paper, we 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. And, based on the tradeoff theory of capital structure, we also attempt to disentangle the differences between family and non-family firms in the adjustment speeds towards their target debt levels. We further 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 in a different way. The role of second blockholders in the debt decision-making processes is also considered in the analyses.

Our findings confirm a negative link between internal funds and the debt ratio, which is consistent with the pecking order theory. But this negative relation is weaker in the case of family firms. Our analyses also support that the weaker negative effect of cash flow on debt in family companies is mainly driven by family firms with no wedge between the voting and cash flow rights owned by the family; that is, those with better corporate governance structures. 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, in this case debtholders' and second blockholders' monitoring, substitute for each other in the role of hampering expropriation by the controlling family. With respect to firms' adjustment speeds towards their target capital structures, 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.

The present study 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. Specifically, the present paper explores the possibility that family control plays an important role in shaping this financial policy. Second, our results contribute to explaining the differences between family and non-family companies in terms of their financing choices, and to the ongoing debate over the benefits and costs of the family business model. Our third contribution is related to the interactions that exist between different aspects of family firms' ownership structures (such as the presence of a second blockholder), and their debt decisions, which provides additional insight as to whether specific internal control mechanisms complement or substitute for each other. And finally, our results regarding the impact of family control on companies' leverage can provide some hints as to why family firms perform differently compared to other corporations.

The remainder of the paper is organized as follows. Section 2 reviews previous literature and empirical evidence on the financing policy and how it can be affected by a firm's ownership structure and presents our hypotheses. Section 3 explains the partial adjustment model of debt on which we base our regression analyses and details the specific empirical models used to test our hypotheses. Section 4 describes the data and estimation method, and Section 5 discusses the descriptive analysis and regression results. Finally, Section 6 highlights our main conclusions.

2. Literature review and hypotheses development

Since the seminal work by Modigliani and Miller (1958), numerous theoretical and empirical papers attempt to disentangle the determinants of a firm's capital structure. As a first step towards a better understanding of companies' financing decisions, it is necessary to review the predictions of traditional capital structure models, namely the tradeoff and pecking order theories. On the one hand, according to the tradeoff theory, debt financing entails a series of benefits and costs, and firms balance ones against the others when deciding their optimal capital structure. The tax and discipline benefits of debt are among the most widely accepted ones. However, debt is also associated with financial distress and bankruptcy, and it can create agency problems between shareholders and debtholders. Considering these advantages and disadvantages of debt, companies establish a target debt level and approach it over time. On the other hand, the pecking order theory (Myers, 1984; Myers and Majluf, 1984) proposes that corporations follow a hierarchy when choosing their sources of funds because of information asymmetries and signaling problems. Firms first finance their investments with internal funds, and only when these have been exhausted, do they turn to debt financing and, as a last resort, to new equity issues. The agency theory (Jensen and Meckling, 1976) also underlies many of the theoretical models of corporate capital structure.

Prior research focuses on some firm-level financial characteristics that are important in shaping companies' debt–equity choices (Frank and Goyal, 2009). Corporate ownership structure is also likely to be a relevant determinant of a firm's financing policy, in line with the agency theory explanations of capital structure. 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; 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 (Romano, Tanewski and Smyrnios, 2000). Hence, it seems reasonable to argue that a firm's ownership structure will significantly influence its financing decisions.

Regarding the different organizational forms companies can have, the differentiation between family and non-family control is particularly interesting because of the unique traits and peculiarities associated with family owners and the family business model. Moreover, the fact that family businesses enjoy a lower cost of debt financing (Anderson, Mansi and Reeb, 2003) supports the view that family control can be 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 when it comes to their capital structure policies. Moreover, theoretical explanations as to the effect of family ownership on leverage are ambiguous and the empirical evidence on the relation between family control and debt is not conclusive.

On the one hand, family companies are expected to use less debt in their financing mix for various reasons. First, family owners are likely to give more weight to the financial distress and bankruptcy risks of debt, two of the debt costs proposed by the tradeoff theory, due to their undiversified portfolios (Anderson and Reeb, 2003b; Margaritis and Psillaki, 2010). Controlling families invest a great part of their wealth in their companies, but even more important is the investment of family human capital in the business. As a consequence, family firms will have less debt in their financing mix due to the risk aversion of owner families (Gallo, Tàpies and Cappuyns, 2004). Second, from a corporate governance perspective debt can be seen as a monitoring device that disciplines managers and large shareholders. Thus, if family owners seek to enjoy the private benefits of control, they will try to avoid using 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, and imply that controlling families could be pursuing their own personal objectives at the expense of other firms' shareholders.

On the other hand, family firms might prefer debt financing as opposed to equity financing for control motivations (Romano, Tanewski and Smyrnios, 2000; López-Gracia and Sánchez-Andújar, 2007; King and Santor, 2008; Ellul, 2008; Croci, Doukas and Gonenc, 2011). By using more debt in their financing mix, owner families 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). Such a preference for debt over equity in family firms' case would be consistent with pecking order patterns. However, a positive link between family control and debt can also be interpreted in light of the 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 indicate that they are subject to the scrutiny of creditors, which will contribute to alleviating 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, it is not clear whether family control and leverage are positively or negatively related, and there are theoretical arguments to support either point of view. 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 compared to non-family corporations 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 these 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. Similarly, Ellul's (2008) main findings support the preference for debt by family-controlled corporations, in line with higher control motivations by owner families. Meanwhile, Wu, Chua and Chrisman (2007) reveal a negative relation between family involvement and equity financing among small- and medium-sized enterprises, thus supporting the view that keeping tight control of the business is of paramount importance for family owners.

In this scenario, we aim to shed some light on 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. The pecking order theory proposes a negative effect of cash flow on debt levels as a result of asymmetric information and agency problems. However, we expect this relation to be affected 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 documents that family control mitigates agency conflicts between shareholders and debtholders, which allows family businesses to have a lower cost of debt financing (Anderson, Mansi and Reeb, 2003). Family firms' long-term relationships with debt providers, such as banks and other financial institutions, is also likely to result in better conditions when asking them for funds. In addition, the higher earning and disclosure quality of family companies (see, e.g., 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.

For these reasons, we expect family control to reduce the asymmetric information and agency problems associated with the corporate financing policy, thus facilitating family firms' access to debt financing. If family control is an ownership structure that effectively mitigates agency conflicts between different firms' stakeholders (in this case, debtholders and

shareholders), they should be less constrained when getting external finance and they should be less dependent on internal sources of funds. As a consequence, the negative relation between debt and internal funds documented 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 corporations. Therefore, we propose our first hypothesis as follows:

H1. There is a weaker negative relation between internal cash flow and debt in family firms than in non-family ones.

In H1, we expect the negative relation between internal funds and debt to be weaker in the case of family companies. But we must take into consideration that even within the family firm group there are differences between each other (Chen and Nowland, 2010). And although family control can bring with it substantial potential benefits that lead to fewer agency conflicts inside the company and contribute to align the interests of certain firms' stakeholders, this ownership structure is not exempt from some agency problems (Villalonga and Amit, 2006; Wu, Chua and Chrisman, 2007). Specifically, when family members' voting rights exceed their cash flow rights, they are in a good position to make decisions that benefit themselves at the expense of the rest of shareholders. Therefore, the risk of expropriation of minority investors' wealth is higher in family firms that violate the one share–one vote rule.

The more pronounced agency problems in these family companies will present them with more difficulties when asking for debt financing because debt providers might anticipate the risk that the family misuses the funds. Furthermore, family firms with more scope for expropriating minority shareholders and in which family owners' main objective is to enjoy the private benefits of control will prefer to exhaust all internal funds available inside the corporation before turning to alternative sources of funds (such as debt and equity financing) in order to avoid the disciplining role of debt and equity markets. Moreover, in pyramidal structures and cross-holdings, which are some of the control-enhancing mechanisms that allow controlling families to own voting rights above their cash flow rights, it is likely that companies transfer funds between each other. And this allows them to obtain additional financing without resorting to external sources of funds. In general, this line of reasoning points to pecking order behavior and a stronger negative relation between internal cash flow and debt in family firms with deviations between ownership and control.

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 points out that 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 family's control. Ellul (2008) also shows that owner families that make use of control-enhancing mechanisms use less debt.

Therefore, we expect that the moderating role of family control in the cash flow–debt relation will depend on whether there is a wedge between the voting and cash flow rights in the hands of the controlling family. Family firms that are part of a pyramidal structure or a cross-holding might have access to internal funds from other companies of the group and rely more heavily on internal financing. 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 there is no wedge between the voting and cash flow rights owned by the family.

As highlighted above, although family ownership entails notable potential benefits in terms of lower agency conflicts, it can also trigger agency problems between the controlling family and outside minority shareholders. In this respect, an important feature of family firms' ownership structures is whether there are other large shareholders inside the corporation. La Porta, Lopez-de-Silanes and Shleifer (1999) suggest that in companies with concentrated ownership large shareholders might monitor each other. Prior research also documents the prevalence of complex ownership structures in which more than one shareholder owns a large stake in the company and shows that the dispersion of cash flow rights across multiple large shareholders influences corporate valuations (Laeven and Levine, 2008).

As regards family businesses, previous studies that focus on Western European countries and analyze how multiple large shareholders affect firm value in family firms show that second blockholders can be effective in monitoring 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, apart from the family, enjoy higher valuations due to the contestability of the largest shareholder's power. However, the identity of second blockholders can also affect family firms' corporate governance and economic outcomes. While non-family second large shareholders have an especial interest in monitoring the owner family to avoid being expropriated, family second blockholders might prefer to collude with the controlling family to enjoy the private benefits of control, thus endangering the creation of firm value in the long-term (Maury and Pajuste, 2005).

In light of this evidence, it is likely that the presence and identity of second blockholders in family companies play an important role in the financing policies of these corporations. A second large shareholder with an incentive to supervise the controlling family's decisions can

serve as a disciplining mechanism aimed at alleviating expropriation concerns and can be an important determinant of family firms' access to debt. In particular, family businesses in which there is a non-family second blockholder are likely to be better governed because of the monitoring interest of such second blockholders. 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. For these reasons, we formulate our third hypothesis as follows:

H3. Family firms with a non-family second blockholder exhibit a weaker negative relation between internal funds and debt as compared to other family firms and non-family companies.

Thus far, we have focused on how family control moderates the relation between internal cash flow and debt. Now, it is our objective to examine another important aspect of capital structure decisions of corporations, namely the speed at which companies adjust towards their target debt ratios. Overall, the finance literature analyzes how country-level factors affect the speed at which companies fill the gap between their actual and their target debt ratios. The empirical evidence provided indicates that companies that operate in countries with different degrees of economic and financial development adjust towards their target capital structures at a different speed as a result of the ease of access to different sources of funds (see, e.g., Antoniou, Guney and Paudyal, 2008). Specifically, in capital markets with better institutions and more protective legal systems, firms can reach their target debt ratios faster.

Interestingly, studies on how firm-level factors can influence the speed at which firms adjust towards 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 family control has an impact on the adjustment speed towards companies' target debt ratios. Overall, we expect that firms with better corporate governance and fewer agency problems are the ones that approach their target debt ratios at a higher speed.

In the particular case of family firms, it is likely that they are able to rebalance their capital structures faster than non-family corporations, thus approaching their target debt ratios at a higher speed, because of the alleviation of agency conflicts in family businesses (Anderson, Mansi and Reeb, 2003; López-Gracia and Sánchez-Andújar, 2007). The lower information asymmetries in family businesses suggested in prior studies (Ali, Chen and Radhakrishnan, 2007) is an additional explanation in support for a higher adjustment speed in family-

controlled corporations. 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 towards their target debt ratios. Consequently, the following hypothesis is proposed:

H4. Companies' speed of adjustment towards their target capital structures is higher in family firms than in non-family ones.

3. The debt models

To examine the role of family control in companies' financing policies, we start with a general partial adjustment model of debt. The use of this type of model is supported by the tradeoff theory, which proposes that firms rebalance their capital structures over time to reach their target debt levels. By using a dynamic capital structure model and focusing on the relation between internal cash flow and debt (and the moderating role of family control in this relation), we combine both the tradeoff and the pecking order theories.

3.1. The general partial adjustment model of debt

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

$$DEBT_{it}^{*} = \beta_0 + \beta_1 CF_{it} + \varphi Y_{it} + \varepsilon_{it}. \quad (1)$$

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

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

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

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

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

And after replacing the target debt ratio with Eq. (1), in which debt is expressed as a function of other factors, we end up with the following specification:

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

which is equivalent to:

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

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

3.2. Extensions of the debt model estimated empirically

First, to empirically analyze whether there is a different effect of cash flow on debt under family control, as proposed in H1, we estimate this model:

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

in which $DEBT_{it}$ and CF_{it} stand for a firm's debt ratio and cash flow, respectively, and FD_{it} is a dummy variable that equals one for family firms, and zero otherwise.[1] 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. We expect a negative impact of internal funds on debt, i.e. $\hat{\delta}_2 < 0$, consistent with the pecking order theory. But 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 (since FD_{it} = 0), while for family firms it is measured by $(\delta_2 + \gamma_2)$. Consequently, H1 proposes that $\hat{\delta}_2 < (\hat{\delta}_2 + \hat{\gamma}_2) < 0$. For both sets of firms, family and non-family ones, we expect the influence of cash flow on the debt ratio to be negative, but we expect such impact to be weaker in family firms' case.

[1] For a detailed definition of the financial and dummy variables that we include in the models, see Appendices A and B.

To further investigate 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 H2, we extend Eq. (6) as follows:

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

Now, 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. The $WEDFD_{it}$ takes the value of one for family firm with such a wedge, and zero otherwise; whereas $NWEDFD_{it}$ equals one for family companies 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 $(\delta_2 + \chi_2)$ (since $NWEDFD_{it}$ = 0), while it is evaluated by $(\delta_2 + \eta_2)$ for family firms in which family's ownership and control totally coincide with each other (since $WEDFD_{it}$ = 0). We expect $(\hat{\delta}_2 + \hat{\eta}_2) > (\hat{\delta}_2 + \hat{\chi}_2)$ to find support for our second hypothesis.

To ascertain the role of second blockholders in family firms' financing choices and test H3, we propose Model (8):

$$\begin{aligned} DEBT_{it} = {} & \delta_0 + \delta_1 DEBT_{it-1} + (\delta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} \\ & + \vartheta_2 NSSPFD_{it})CF_{it} + \phi Y_{it} + \varepsilon_{it} \end{aligned}, \quad (8)$$

in which $FSSPFD_{it}$ equals one for family firms with a family second blockhoder, and zero otherwise; $NFSSPFD_{it}$ equals one for family firms with a non-family second blockholder present, and zero otherwise; and $NSSPFD_{it}$ takes the value of one for family firms with no second large shareholder, and zero otherwise. Eq. (8) is indeed an extension of Model (6) in which we divide the family firm sample according to the presence of a second large shareholder in the company and his/her category. As in models (6) and (7), δ_2 evaluates the impact of cash flow on debt for non-family corporations (since $FSSPFD_{it}$, $NFSSPFD_{it}$, 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 our third hypothesis, 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 H4, we pose that family and non-family corporations are likely to differ from each other in their adjustment speeds towards their target debt ratios. To test this proposition, we extend the partial adjustment model of debt as follows:

$$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it})DEBT_{it-1} + \delta_2 CF_{it} + \phi Y_{it} + \varepsilon_{it}. \quad (9)$$

In this specification, δ_1 is a measure of the effect of past debt levels on current ones for non-family companies (since FD_{it} = 0). This effect is captured by $(\delta_1 + \gamma_1)$ in the family firms' case. If family firms indeed exhibit a higher adjustment speed, as proposed in the last hypothesis of the paper, we should find that $\hat{\gamma}_1 < 0$ 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 for family firms is measured by $1-(\hat{\delta}_1 + \hat{\gamma}_1)$ and for non-family ones it is evaluated by $1-\hat{\delta}_1$.

4. Data and estimation method

4.1. Data

We need two different types of information to estimate the empirical models developed. First, financial and stock data are needed to compute the dependent and explanatory variables of the models. Second, we need detailed information on companies' ownership structures to identify the family firms in the sample and to define the dummy variables that will allow us to test our hypotheses. We have extracted the financial and stock information from Worldscope database, while we have used the database developed by Faccio and Lang (2002) to get information on the ownership structure of companies. We also require some macroeconomic data (such as the growth of capital goods prices, and the rates of interest of short- and long-term debt) to calculate the variables as detailed in the Appendices. We have obtained this information from the OECD-*Main Economic Indicators*.

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). This means that our sample comprises firms from nine different countries and that all companies (except Irish firm) operate in continental Europe, where family firms represent a large percentage of the corporate sector. We then have to merge the ownership data of Eurozone corporations with the financial information from Worldscope. Following previous studies on the capital structure policy (see, e.g., Leary and

Roberts, 2010), we exclude from the final sample financial companies (i.e., SIC codes between 6000 and 6999) and regulated utilities (i.e., SIC codes between 4900 and 4999).

Although the data set from Faccio and Lang (2002) only provides ownership information for each company for one single year, this is not an important limitation because we only use these data to build dummy variables. Furthermore, 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.[2] 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. The reason for this choice is that these are the years for which Faccio and Lang (2002) provide ownership information.

The availability of information needed to test the hypotheses proposed in Section 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. As a consequence, the final sample is an unbalanced panel that comprises 645 companies (5,486 firm-year observations) for which we get 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 decision, which require that we include in the right-hand side of the models the lag of the dependent variable.[3] The structure of the sample by country and ownership structure is provided in Table 1. As can be noted, about 75% (482 / 645 ≈ 75%) of the companies included in the sample are family-controlled. Although it might seem a large percentage, it is quite reasonable if we consider that financial institutions and UK companies are excluded from the sample.[4]

[Insert Table 1 about here]

[2] Fan and Wong (2002) also merge ownership data from one single year (1996 information) with stock return and financial data from several years (1991-1995 data).

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

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

4.2. Estimation method

We use the panel data methodology in the estimation of the empirical models. The reason for using this estimation method lies in the importance of considering two significant problems that emerge when analyzing the relation between a firm's ownership structure and its financing decisions, namely the unobservable heterogeneity and endogeneity. First, we must account for the unobservable individual heterogeneity in our study because we are examining how family control affects companies' debt choices as opposed to other organizational forms. 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 and which could directly affect the explanatory as well as the dependent variables in our models. Indeed, every company, and especially family ones, 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). 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 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 debt. 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 corporate ownership structure. In the present paper, the endogeneity problem arises because it could be the case that controlling families, given their peculiarities and preferences, decide to invest in corporations that adopt specific debt policies, and not that family control affects capital structure 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 influences several of the variables that we include in the right-hand side of the empirical models (Pindado and de la Torre, 2006). Moreover, the need to control for endogeneity in the present paper is supported by the dynamic nature of the financial policy that we investigate, which require that we

include as an explanatory variable lagged debt levels. For these reasons, endogeneity can be a problem that has to be controlled for in our empirical specifications. Thus, to reduce 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. As Blundell and Bond (1998) suggest when deriving the system estimator used in this paper, 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 (expect for the lagged variables included in the right-hand side of the models, whose instruments are lags from t–2 to t–5), 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. 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. Third, we also obtain 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.

5. Results

5.1. Descriptive analysis

The main summary statistics (median, mean, standard deviation, minimum and maximum) of the variables included in our models are shown in Panel A of Table 2. In addition, as a preliminary analysis of the differences that exist between family and non-family corporations, we have carried out several difference of means tests for the variables that we then use in the regressions. We present the results of these univariate tests, which though not conclusive highlight some interesting features of the data, in Panel B of Table 2. Interestingly, we find that family firms have lower long-term debt ratios than their non-family counterparts (see the II-III t-statistic). This finding supports our proposition of a weaker negative relation between cash flow and debt in family firms than in non-family ones. As Whited (1992) points out, firms with the highest debt ratios (in our case, non-family companies) are the ones more likely to face binding 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 first 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; Gallo, Tàpies and Cappuyns, 2004; Croci, Doukas and Gonenc, 2011).

[Insert Table 2 about here]

Another interesting result from this panel is the significantly higher Tobin's *Q* of family firms. Since 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 (Anderson and Reeb, 2003a; Maury, 2006; Andres, 2008; Li and Srinivasan, 2011).

However, we must be very cautious when interpreting the results of our univariate analyses since we are not controlling for other factors previously identified as relevant predictors of the capital structure decision. Moreover, as highlighted in Panel B of Table 2, family and non-family firms differ from each other in several aspects and these differences could in turn explain their different behavior when it comes to the debt policy.

5.2. Regression results

The estimated coefficients of our first empirical model are presented in Column 1 of Table 3. In line with the pecking order theory of capital structure (Myers, 1984; Myers and Majluf, 1984), there is a negative effect of internal cash flow on the debt ratio. This finding means that, as a consequence of external financing being more expensive than internally generated funds, companies prefer to use the cash flow available inside the corporation before resorting to debt. But, consistent with our first hypothesis, we find that such a negative relation between cash flow and debt is weaker in the family firms' case ($\hat{\delta}_2 + \hat{\gamma}_2 = -0.147 + 0.066 = -0.081$ is statistically significant, see t_1) than it is in the rest of corporations ($\hat{\delta}_2 = -0.147$). This finding is in line with the idea 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 will factor in whether firms are family-controlled or not when lending them money. Our findings support Anderson, Mansi and Reeb's (2003) results. These authors 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. Our empirical evidence also relates to

previous international evidence on the capital structure of corporations (González and González, 2008). 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 findings by showing that such behavior is partly alleviated by family control, which could be seen as a substitute for effective legal institutions.

[Insert Table 3 about here]

Although our previous findings point to easier access to debt financing by family firms, we must account for the fact that not all companies within the family business sector are similar, as indicated in recent research (Chen and Nowland, 2010). Indeed, as can be seen in the second column of Table 3, the weaker negative relation between cash flow and debt among family firms is mainly driven by those in which there is no wedge between the cash flow and voting rights owned by the 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 H2 and confirm that it is family control structures with less potential for agency conflicts the ones that reduce the negative link between cash flow and leverage, hence making debt more easily available. These results are, to a certain degree, in line with King and Santor (2008) and Ellul (2008), who document that family companies with control-enhancing mechanisms use less debt. Our findings can also be in part explained by the preference of this type of family firm to avoid creditors' monitoring.

Regarding the role of second large shareholders in family firms as a way to hamper minority investors' expropriation and hence reduce the conflicts of interests usually associated with family control, the results are provided in Column 3 of Table 3. 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_4) or a non-family second blockholder ($\hat{\delta}_2 + \hat{\theta}_2 = -0.148 - 0.157 = -0.305$ is statistically significant, see t_5). 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_6). 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 firm's stakeholders. As a result, these firms either have more difficulties to get debt financing or want to avoid the disciplining role of debt, and therefore follow pecking order patterns in their financing preferences, whereby they first resort to internally generated funds. On the other hand, a stronger negative impact of internally generated funds on debt levels in family firms where a non-family blockholder is also present contradicts H3. A likely explanation for our finding comes from previous corporate governance literature that shows that different monitoring mechanisms might substitute for each other (Wu, Chua and Chrisman, 2007). In our particular case, it seems that when there is a monitoring device 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 argument is indeed consistent with recent family business research that finds that there is an optimal level of monitoring for family-controlled companies, and that too much monitoring does not benefit family firms and can be detrimental to the wealth creation purpose of these businesses (Chen and Nowland, 2010).

Following the capital structure literature based on the tradeoff 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 H4, the estimated coefficients in Column 4 of Table 3 show that the positive effect of past debt levels on current ones is weaker in family firms ($\hat{\delta}_1 + \hat{\gamma}_1 = 0.624 - 0.026 = 0.598$ is statistically significant, see t_7) than in non-family firms ($\hat{\delta}_1 = 0.624$). If we now compute companies' speeds of adjustment towards their target capital structures as explained in Section 3.2:

$$SOA_{DEBT}^{F} = 1 - (\hat{\delta}_1 + \hat{\gamma}_1) = 1 - (0.624 - 0.026) = 0.402 \text{ and} \quad (10)$$

$$SOA_{DEBT}^{NF} = 1 - \hat{\delta}_1 = 1 - 0.624 = 0.376, \quad (11)$$

where superscripts *F* and *NF* stand for family and non-family, respectively, we see that family firms exhibit a higher adjustment speed as compared to their non-family counterparts. Therefore, we can argue that overall family control is a governance mechanism that facilitates access to debt financing. In light of these results, we can also conclude that, when it comes to the capital structure decision, family control translates not only in a weaker negative relation between cash flow and debt, but also in higher adjustment speeds.

6. Conclusions and discussion

In the present paper, we analyze the effect of family control on companies' debt policies in an effort to disentangle how the family business model affects this financial decision. With this aim, we focus on how family control and specific aspects of family firms' ownership structure shape companies' capital structure policies. Our analyses on the differences in financing choices between family and non-family companies is based on the propositions of the pecking order and tradeoff theories of capital structure. The consideration of both theories is particularly relevant because there is no consensus in the finance literature as to which of the two better explains firms' financing behavior and prior research suggests that we should take into account the propositions of different capital structure theories in order to gain a more comprehensive view on the main determinants of companies' financing policies. By focusing on the interactions between certain types of family control and firms' debt decisions, we also provide empirical evidence as to how these internal corporate governance mechanisms are related to one another in the context of the Euro zone.

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 supports that asymmetric information problems are less severe in these corporations, which enables family businesses easier access to external finance. An additional explanation for this finding is the lower agency conflicts between shareholders and debtholders in family corporations, and their lower cost of debt financing (Anderson, Mansi and Reeb, 2003). However, it is only family firms with no deviation between the cash flow rights and voting rights in the hands of the controlling family that experience 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 to get external finance due to the potential for agency conflicts that is associated with their ownership structures.

Interestingly, we also find that the interaction between multiple large shareholders in family companies influences debt 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 in order 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.

Finally, we also advance previous research on the effect of corporate ownership structure on the capital structure policy by proposing a dynamic debt model. By extending this model and incorporating into it the role of family control, we examine how family firms differ from their non-family counterparts when it comes to the adjustment speeds towards their target debt 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 find a higher speed of adjustment towards their target debt levels in family businesses.

The empirical evidence that we provide in the present paper contributes to explain the performance difference between family and non-family corporations documented in prior research (Maury, 2006; Andres, 2008). For instance, the higher adjustment speed of family companies towards their target capital structures and their less reliance on internal funds to finance investment projects could have a positive effect on their performance and facilitate the maximization of family firms' value in the long-term.

Our findings have important implications for family firms themselves as well as for policymakers. On the one hand, family owners must recognize that by refraining from using control devices that lead to deviations between cash flow and voting rights, they can attenuate potential conflicts of interests with debt providers and, as a consequence, enjoy easier access to debt financing. Suffering from less severe financial constraints, as occurs in family firms with no separation between ownership and control, can result in fewer investment inefficiencies and better corporate performance. On the other hand, other stakeholders involved in family businesses should be aware of the importance that different types of family control can have for corporate decision-making. Specifically, governments and regulators should facilitate the creation and development of family firms because this type of company can greatly contribute to economic growth and employment generation due to their access to external financing that can be used to invest in value-adding projects.

Despite the practical implications that can be derived from our research, we must be careful when generalising our results. In this respect, it is important to note that our findings are based on a sample of large publicly listed corporations that operate in Western Europe. The institutional environment that characterises European countries differs substantially from

other regions, such as the United States and East Asia. Moreover, small privately owned family businesses, as opposed to large long-established family corporations, might rely more heavily on internal funds and personal collateral to overcome financial restrictions (Yilmazer and Schrank, 2006; López-Gracia and Sánchez-Andújar, 2007).

Considering the limitations of our study we have just highlighted, several avenues for future research can be proposed. It could be interesting to examine whether our findings still hold in a more protective institutional setting, such as the United States. Maybe, in market-oriented systems, as is the case in most Anglo-Saxon countries, family owners are more inclined to issue shares in the equity market as a better alternative to debt financing because of the level of stock market development. Another issue related to financing decisions that could be relevant for the family business field, and particularly for small- and medium-sized enterprises, is to what extent intangible corporate dimensions, such as corporate culture and trust, influence family firms' dependence on internal funds and their access to debt financing.

Appendix A

A.1. Debt ratio

$DEBT_{it} = \frac{MVLTD_{it}}{BVSTD_{it} + MVLTD_{it} + MVE_{it}}$, where $BVSTD_{it}$ and MVE_{it} denote the book value of short term debt and the market value of equity, respectively; and $MVLTD_{it}$ is the market value of long term debt. The debt ratio has been calculated as in Miguel and Pindado (2001).

A.2. Cash flow

$CF_{it} = (NP_{it} + BD_{it}) / K_{it}$, where NP_{it} and BD_{it} denote the net profit and the book depreciation expense of the firm corresponding to year t, respectively.

A.3. Dividends

$DIV_{it} = CDIV_{it} / K_{it}$, 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: $K_{it} = RF_{it} + (TA_{it} - BF_{it})$, 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).

A.4. Tobin's Q

$Q_{it} = (MVE_{it} + MVD_{it}) / K_{it}$, where $MVD_{it} = MVLTD_{it} + BVSTD_{it}$ is the market value of debt.

A.5. Sales growth

$GREV_{it} = (REV_{it} - REV_{it-1}) / REV_{it-1}$, where REV_{it} is the firm's net sales or revenues in the corresponding period of time.

A.6. Size

$SIZE_{it} = Ln(K_{it})$, where K_{it} is the replacement value of total assets.

A.7. Sales

$REV_{it} = REV_{it} / K_{it}$, where REV_{it} is the firm's net sales or revenues in the corresponding period of time.

A.8. Tangible assets

$TANGK_{it} = NF_{it} / K_{it}$, where NF_{it} denotes net fixed assets of the firm in year t.

Appendix B

B.1. Family dummy

The FD_{it} is a dummy variable that equals one for family firms, and zero otherwise.

B.2. Wedge family dummy

The $WEDFD_{it}$ is a dummy variable that equals one 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.

B.3. Non-wedge family dummy

The $NWEDFD_{it}$ is a dummy variable that equals one 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.

B.4. Family second shareholders present family dummy

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

B.5. Non-family second shareholder present family dummy

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

B.6. 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.

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Tables

Table 1. Distribution of the sample by country and ownership structure

Type of firm	Family				Non-family				Total	
Country	**No. firms**	**% firms**	**No obs.**	**% obs.**	**No. firms**	**% firms**	**No obs.**	**% obs.**	**No. firms**	**No obs.**
Austria	16	3.32	106	2.53	14	8.59	110	8.44	30	216
Belgium	20	4.15	141	3.37	8	4.91	57	4.37	28	198
Germany	189	39.21	1,643	39.29	49	30.06	393	30.14	238	2,036
Spain	25	5.19	214	5.12	11	6.75	110	8.44	36	324
Finland	15	3.11	116	2.77	17	10.43	130	9.97	32	246
France	152	31.54	1,362	32.57	36	22.09	272	20.86	188	1,634
Ireland	6	1.24	45	1.08	14	8.59	106	8.13	20	151
Italy	45	9.34	443	10.59	8	4.91	67	5.14	53	510
Portugal	14	2.90	112	2.68	6	3.68	59	4.52	20	171
Total	**482**	**100**	**4,182**	**100**	**163**	**100**	**1,304**	**100**	**645**	**5,486**

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.

Table 2. Summary statistics and firm-level characteristics by ownership structure

Panel A: Summary statistics for the full sample

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
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
REV_{it}	1.006	0.562	0.000	0.923	5.504
$TANG_{it}$	0.251	0.150	0.000	0.226	0.917

Panel B: Family versus non-family firms

	All	Family	Non-family	*t*-statistic
	I	II	III	II-III
No. obs.	5,486	4,182	1,304	
$DEBT_{it}$	0.107	0.103	0.118	-4.160*
CF_{it}	0.039	0.038	0.040	-1.083
DIV_{it}	0.013	0.013	0.014	-1.445***
Q_{it}	0.774	0.788	0.729	2.918*
$GREV_{it}$	0.075	0.075	0.077	-0.232
$SIZE_{it}$	13.176	12.922	13.989	-18.078*
REV_{it}	1.006	1.044	0.884	9.064*
$TANG_{it}$	0.251	0.241	0.282	-8.644*

The $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, DIV_{it} is the dividend ratio, Q_{it} stands for Tobin's Q, $GREV_{it}$ denotes sales growth, $SIZE_{it}$ is the firm's size, REV_{it} denotes net sales and $TANG_{it}$ is the proportion of tangible assets. The firms are classified either as family or non-family according to the family firm definition proposed by Faccio and Lang (2002). The *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively.

Table 3. Family control and debt

Dep. var.: $DEBT_{it}$	(1)	(2)	(3)	(4)
δ_0 Constant	-0.042* (0.006)	-0.046* (0.004)	-0.048* (0.004)	-0.051* (0.006)
δ_1 $DEBT_{it-1}$	0.599* (0.004)	0.604* (0.002)	0.600* (0.002)	0.624* (0.005)
γ_1 $FD_{it}DEBT_{it-1}$				-0.026* (0.006)
δ_2 CF_{it}	-0.147* (0.005)	-0.145* (0.004)	-0.148* (0.003)	-0.110* (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)		
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* (0.001)	-0.016* (0.001)	-0.017* (0.000)	-0.015* (0.001)
ϕ_2 $TANG_{it}$	0.124* (0.005)	0.124* (0.003)	0.119* (0.002)	0.130* (0.005)
ϕ_3 REV_{it}	-0.024* (0.001)	-0.021* (0.001)	-0.024* (0.001)	-0.024* (0.001)
ϕ_4 $GREV_{it}$	0.019* (0.000)	0.020* (0.000)	0.019* (0.000)	0.019* (0.001)
ϕ_5 DIV_{it}	-0.047* (0.009)	-0.061* (0.007)	-0.062* (0.004)	-0.019*** (0.010)
ϕ_6 $SIZE_{it}$	0.006* (0.000)	0.006* (0.000)	0.007* (0.000)	0.007* (0.000)
t_1	-14.45			
t_2		-28.25		
t_3		-12.33		
t_4			-42.47	
t_5			-70.84	
t_6			-13.49	
t_7				154.67
z_1	6429.27 (9)	15424.55 (10)	31061.32 (11)	6362.87 (9)
z_2	225.68 (8)	533.31 (8)	1031.84 (8)	211.32 (8)
z_3	36.87 (8)	53.20 (8)	190.92 (8)	29.79 (8)
m_1	-7.82	-7.82	-7.86	-7.88
m_2	1.52	1.62	1.51	1.55
Hansen	545.79 (481)	577.28 (533)	605.65 (586)	539.74 (475)

The regressions are performed by using the sample described in Table 1. The FD_{it} equals one for family firms, and zero otherwise; $WEDFD_{it}$ equals one 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 one 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 one for family firms with a family second blockholder, and zero otherwise; $NFSSPFD_{it}$ equals one for family firms with a non-family second blockholder, and zero otherwise; and $NSSPFD_{it}$ equals one for family firms with no second large shareholder, and zero otherwise. The remaining variables are defined in Table 2. 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: $\delta_2+\varpi_2=0$, t_5 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\theta_2=0$, t_6 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\delta_2+\vartheta_2=0$, and t_7 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.