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Does Family Control Shape Corporate Capital Structure? An Empirical Analysis of Eurozone Firms

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Abstract: This study investigates the relationship between family control and corporate capital structure considering the dynamic nature of the debt policy and the ownership structure of family firms. Our results show that the sensitivity of debt to fluctuations in cash flow is less pronounced in family firms and highlight that family control increases the speed of adjustment toward target debt. Four dimensions of the family business model explain these results: deviations of voting from cash flow rights, the presence of a second blockholder in the company, involvement of family members in management, and the generation in charge of the business. The weaker negative impact of cash flow on debt is driven by family firms with no control-enhancing mechanisms, companies with active family participation in management and family businesses that are still controlled by the first generation. By contrast, the more severe agency conflicts between owners and creditors in family firms with a second blockholder lead to more pronounced pecking order behaviour. Furthermore, the higher flexibility in corporate decision-making of family firms managed by the family and under the influence of the first generation explains why family companies are able to rebalance their capital structure faster.

Keywords: family control, capital structure, speed of adjustment, second blockholder, panel data, Eurozone

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1. INTRODUCTION

Given the prevalence of family firms around the world (La Porta et al., 1999; Claessens et al., 2000; and Faccio and Lang, 2002) and considering the peculiarities of the family business model,[1] there is nowadays growing interest in better understanding how family control affects specific corporate dimensions, including a firm's capital structure. Anecdotal evidence highlights the conservative approach of family firms when it comes to debt and financial risk policies (Hall, 2005; and Milne, 2010). However, to date there is no consensus among finance scholars on the debt preferences of family firms.

Family firms could be reluctant to use debt financing because of the constraints that creditors can impose on them (King and Santor, 2008) or because they can get funds from other related businesses (Masulis et al., 2011). The undiversified portfolios of family owners could also affect the capital structure of family firms due to the increased risk associated with leverage (Holmen et al., 2007). Despite these arguments, some studies conclude that family firms do not differ from their non-family counterparts in their levels of debt (Anderson and Reeb, 2003b). And more recent research supports higher debt levels in family firms due to family owners' control motivations and their concern over the dilution of family control (Croci et al., 2011; and Schmid, 2013). Therefore, whether and how family control shapes a firm's capital structure is an issue that requires further examination. It is important to better understand the arguments for the financing preferences of family firms due to the implications for firm performance of adopting an adequate capital structure (Marchica and Mura, 2010; and González, 2013).

In this context, our main objective is to investigate whether family firms differ from non-family firms in two important dimensions of the financing policy that receive no attention in previous family business studies: (i) the sensitivity of debt to fluctuations in cash flow, and (ii) the speed of adjustment toward target leverage. In so doing, we evaluate the severity of agency problems between family owners and debt providers. Going a step further, we analyse whether this type of agency conflict is aggravated in family firms with certain ownership structures and specific management styles. Therefore, the present study covers a number of issues that continue to arouse scholars' and practitioners' interest in the corporate finance and governance fields such as the family business model, corporate ownership structure and leverage decisions.

To explain how family control shapes a firm's financing choices, we take the pecking order theory as our starting point. We first examine whether the negative impact of cash flow on debt depends on family control. This approach enables us to shed new light on the severity of agency conflicts between shareholders and debtholders in family firms. Then, we analyse the differences between family and non-family firms in their speed of adjustment toward target capital structure. Any variation in the sensitivity of debt to cash flow and in the adjustment speed toward target debt across types of firms will be due to varying degrees of information asymmetries and agency problems. Finally, we study how the combination of family control with certain ownership structures and management types affects family firms' reliance on internally generated funds and their speed of adjustment. Specifically, we take into

1 See, among others, the works by Anderson and Reeb (2003a), Andres (2008) and Hillier and McColgan (2009) for a detailed discussion on the benefits and costs associated with family control.

consideration four important dimensions of the family business governance system: (i) deviations between voting and cash flow rights of family owners, (ii) the presence of second blockholders in family firms, (iii) whether family members hold managerial positions, and (iv) the family generation that controls the business. By accounting for these governance characteristics of family firms, we are able to disentangle whether the agency problem between owners and creditors, and the resulting negative effect of cash flow on debt, as well as the different adjustment speed toward target debt expected in family firms are mainly attributable to a subset of family companies.

Our findings confirm that the negative relationship between internal finance and leverage proposed by the pecking order theory is weaker in family firms. This result supports the argument that the long-term involvement and the large stake of the family in the business reduces asymmetric information and agency problems between owners and creditors in family firms. Regarding the speed of adjustment toward target debt, family firms rebalance their capital structure faster. The easier access to debt financing and the lower adjustment costs of family firms enable them to fill the gap between actual and target leverage at a higher speed. Subsequent analyses reveal that the sensitivity of debt to cash flow and the adjustment speed of family firms depend on specific important dimensions of their ownership structure and management.

In particular, the use of control-enhancing mechanisms which lead to deviations between the family's voting and cash flow rights results in more pronounced pecking order behaviour. Regarding the presence of a second blockholder in family firms, when two families control the business, the risk of collusion restricts the external funds that they can get. In addition, although the supervising role of non-family blockholders alleviates agency conflicts between the controlling family and minority investors in family firms, they aggravate the agency problem between owners and creditors. Consequently, family firms with a second blockholder experience a stronger negative effect of cash flow on debt compared to family firms with no second large shareholder.

Conversely, involvement of family members in the management of the company is a sign of the family's commitment to the business that mitigates the sensitivity of debt to fluctuations in cash flow. Active family management also enables more flexible decision-making processes and such flexibility helps family firms to rebalance their capital structures faster. Finally, our results suggest that the easier access to debt financing and the higher speed of adjustment toward target leverage of family firms are mainly driven by first generation family businesses. Thus, family firms that are still controlled by the founder are the ones that exhibit reduced agency conflicts with creditors and lower transaction costs when pursuing target debt.

The present study makes several contributions to the corporate finance and governance literature. First, we contribute to prior research that investigates the direct effect of family control on a firm's capital structure and attempts to disentangle whether family control and debt are positively or negatively related. This study adopts a new approach and, based on the pecking order theory, investigates the sensitivity of debt to fluctuations in internally generated funds differentiating between family and non-family firms. We conclude that information asymmetries between owners and creditors, and the resulting pecking order behaviour, are less pronounced in family firms. The weaker negative relationship between cash flow and debt in family firms confirms lower agency conflicts between large shareholders and debtholders in this type of corporation (Anderson et al., 2003). Our empirical evidence offers

an additional explanation for the positive impact of family control on leverage substantiated in previous studies (King and Santor, 2008; and Croci et al., 2011).

Second, we go a step further in the analysis of family firms' financing policies and examine how family control affects the speed of adjustment toward target debt. Despite the increasing interest in analysing which institutional conditions and country-level factors facilitate higher speed of adjustment (Antoniou et al., 2008; and Öztekin and Flannery, 2012), the corporate finance literature that considers the possibility that the adjustment speed also depends on firm-level characteristics is scarce. To the best of our knowledge, this is the first work that empirically tests whether lower agency conflicts between owners and creditors in family firms reduce their adjustment costs. The higher speed of adjustment that we find in family firms corroborates their easier access to debt financing and the close relationship between family owners and debt providers.

Third, we shed new light on the effect that combining family control with certain ownership structures and management styles has on family firms' capital structure. Previous finance literature highlights that separating voting from cash flow rights leads to increased agency conflicts between the family and minority investors (Claessens et al., 2002; and Villalonga and Amit, 2006). The presence of multiple blockholders inside the company is another governance mechanism that has implications for important business dimensions, including firm performance (Maury and Pajuste, 2005; and Laeven and Levine, 2008), the dividend policy (Pindado et al., 2012) and the cost of equity financing (Attig et al., 2008). Similarly, there is still controversy as to whether active involvement of family members in management reduces agency problems within the company and leads to improvements in performance (Barontini and Caprio, 2006; and Maury, 2006). The family generation that controls the business is another dimension of the family business governance system that is likely to affect management practices (Bloom and Van Reenen, 2007). We advance this strand of research by analysing whether the severity of agency conflicts between the controlling family and debt providers, as captured by the sensitivity of debt to cash flow, and whether the speed of adjustment toward target debt depend on excess family control, on the presence of other large investors in the company, on the type of management and on the generation that runs the business.

Finally, we use an estimation method, the generalised method of moments (GMM), that enables us to take into consideration the dynamic nature of the leverage policy while accounting for the main sources of endogeneity (Wintoki et al., 2012). The use of panel data in our analyses alleviates the risk of obtaining biased results due to the unobservable heterogeneity, which is particularly important in our study because there are several firm-level characteristics unobservable to the researcher, such as corporate culture and values (Chi, 2005), that remain constant over time and could affect the right-hand side variables in our debt models as well as leverage. We also consider the endogeneity problem that affects most of the explanatory variables in our empirical specifications using the system GMM. As Wintoki et al. (2012) explain, a noteworthy advantage of this method is that it relies on a set of internal instruments contained within the panel itself, eliminating the need for external instruments. Indeed, recent research confirms that the system GMM is the most adequate method to estimate capital structure models in the presence of endogeneity and when the coefficient of the lagged dependent variable is of interest, as occurs in our case (Faulkender et al., 2012; and Flannery and Hankins, 2013).

The remainder of the article is organised as follows. Section 2 reviews previous literature and empirical evidence on the leverage policy and its relationship with corporate 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 empirical specifications used to test our hypotheses. The data and estimation method are described in section 4. We discuss the descriptive analysis and regression results in section 5 and present several robustness tests in section 6. The final section highlights our main conclusions.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

(i) Effect of Family Control on Corporate Capital Structure

A number of theories provide alternative explanations for how companies establish their capital structure. Information asymmetries (Leland and Pyle, 1977; Myers, 1984; and Myers and Majluf, 1984) and agency arguments (Jensen and Meckling, 1976) underlie many of the explanations proposed for a firm's financing policy. In particular, Myers and Majluf (1984) propose that corporations follow a hierarchy when choosing their sources of funds because of information asymmetries between managers and potential investors. The model developed by these authors has led to the pecking order theory of capital structure. According to this theory, 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 difficulty of getting external sources of funds also depends on the severity of agency conflicts between different stakeholders, such as managers, outside shareholders and debtholders (Jensen and Meckling, 1976). Indeed, the coincidence between management and ownership might pave the way for new equity issues (Leland and Pyle, 1977).

Subsequent empirical research supports that the pecking order theory is particularly applicable to environments with weaker protection of property rights (González and González, 2008). Moreover, a firm's capital structure not only depends on the traditional factors considered in corporate finance research (Miguel and Pindado, 2001; and Frank and Goyal, 2009), but it may also be affected by governance mechanisms that reduces agency problems (Florackis and Ozkan, 2009; and Setia-Atmaja et al., 2009). 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 the company (Miguel et al., 2005; and D'Mello and Miranda, 2010). Therefore, a firm's ownership structure is likely to be an important determinant of corporate financing policies.

With respect to the different ownership structures that corporations have, the finance literature shows increasing interest in the family business model due to its peculiarities. In terms of agency relationships, concentrated ownership and the predominance of family control imply greater concern over conflicts of interests between dominant shareholders and minority outside investors (Burkart et al., 2003; and Andres et al., 2013), as opposed to the classical owner–manager agency problem. In this respect, a number of empirical studies investigate the differences between family and non-family firms in terms of firm performance (see, e.g., Anderson and Reeb, 2003a; Maury, 2006; Villalonga and Amit, 2006; and Andres, 2008). The value

attributed by the market to family firms captures the risk of expropriation of minority investors' wealth by the family, in addition to other characteristics associated with family control including family owners' long-term investment horizons and their reputation concerns (Chen et al., 2010; and Pindado et al., 2011). As a consequence, there is no consensus on whether family control is beneficial or detrimental to the organisation. We could obtain additional explanations for family firms' performance by turning our attention to their financing policies because financial flexibility ultimately affects firm value, as Marchica and Mura (2010) show.

It is not clear *a priori* whether family control and debt are positively or negatively related and there are theoretical arguments in both directions. On the one hand, family owners may prefer internal finance to external debt due to their undiversified portfolios and the financial distress and bankruptcy risks of debt (Anderson and Reeb, 2003b; and Faccio et al., 2011). Restricting the use of debt also enables family firms to avoid the monitoring role of creditors, which could limit the ability of family owners to enjoy the private benefits of control (Volpin, 2002). On the other hand, family firms will be reluctant to use equity financing to avoid the dilution of family control. Therefore, whenever external finance is needed, debt will be the preferred option for family firms. Indeed, the IPO underpricing associated with family involvement in the company (Yu and Zheng, 2012) and family firms' use of debt as a substitute for independent directors (Setia-Atmaja et al., 2009) support a positive relationship between family control and leverage. In addition, 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; and Croci et al., 2011).

Despite the contradictory theoretical predictions, most empirical evidence supports a positive relationship between family control and debt in line with the control motivations of family owners. Consistent with the dilution of control explanation, King and Santor (2008) find that family firms with no control-enhancing mechanisms issue more debt. Croci et al. (2011) show that family firms are averse to equity financing and find that their preferred choice is debt, a non-control-diluting security. Control motivations and the financing advantages of pyramidal structures also seem to underlie the formation of family business groups around the world (Masulis et al., 2011). Consistent with the view that control considerations explain family firms' capital structures, in his recent work Schmid (2013) shows that whether the relationship between family control and debt is positive or negative depends on the level of creditor monitoring at the institutional level.

Overall, theoretical predictions on the relationship between family control and a firm's capital structure suggest that the pecking order theory is a particularly suitable model through which to understand family firms' financing behaviour. Moreover, previous studies point out that, whereas family control can increase the agency problem between large and minority investors (Claessens et al., 2002; and Villalonga and Amit, 2009), it mitigates agency conflicts between equity and debt providers. In particular, the preference of family firms for less risky investments (Croci et al., 2011; and Anderson et al., 2012) implies that they are less likely to use the funds provided by creditors for high-risk projects whose upside will be enjoyed by shareholders, but whose downside is borne by creditors. Moreover, families' concerns over the long-term survival of the business and their longer investment horizons help to build a close relationship between the family and debt providers, which also reduces the incentives of family owners to expropriate creditors (Schmid, 2013). Indeed, the alleviation of

agency problems between shareholders and debtholders in family firms explains their lower cost of debt financing (Anderson et al., 2003).

Interestingly, prior research that analyses the capital structure of family firms focuses on the direct impact of family control on debt based on agency considerations. Going a step further, we propose to combine asymmetric information and agency arguments to gain a more comprehensive picture of family firms' financing patterns and, more importantly, to empirically test whether family control indeed reduces the conflicts of interest between shareholders and debt providers. With this aim, we analyse whether the sensitivity of debt to fluctuations in cash flow differs across family and non-family firms. Specifically, the pecking order theory supports the idea that information asymmetries and conflicts of interest between internal and external stakeholders lead to a negative effect of internally generated funds on leverage. If debt holders perceive that family control helps align their interests with that of the corporation, such a negative relationship should be less pronounced in family firms. The long-term involvement of the family in the business enables any potential creditor to know in advance the family's management style, which reduces information asymmetries. The better corporate disclosure practices and the higher earnings quality of family firms (Wang, 2006; and Ali et al., 2007) support the view that information asymmetries between internal and external stakeholders should be lower in this type of company. The large stake of the family in the company is another signal for debt providers that the controlling family really believes in the success of the business. Moreover, in many cases family owners may offer their personal wealth as collateral, thus facilitating their access to debt financing and reducing their reliance on internal funds. Consequently, we propose our first hypothesis as follows:

H1: The negative effect of cash flow on debt is weaker in family firms than in non-family firms.

The adjustment speed toward target leverage is another important dimension of the capital structure decision that deserves careful consideration. Survey evidence shows that a significant proportion of corporations have some kind of target debt ratio (Graham and Harvey, 2001). Prior empirical research confirms the dynamic nature of capital structure and shows that companies have a target debt level that they approach gradually over time (see, e.g., Miguel and Pindado, 2001; and Flannery and Rangan, 2006). Subsequent studies go a step further and investigate whether the speed of adjustment depends on institutional characteristics that determine the costs and benefits of the adjustment. Antoniou et al. (2008) are among the first to analyse adjustment speed differences across countries. They find that French companies are the ones that adjust fastest, whereas German and Japanese firms adjust more slowly toward their target debt levels. To explain the variation in adjustment speeds across countries, Öztekin and Flannery (2012) pay special attention to a number of institutional, legal and financial dimensions that affect transaction costs associated with leverage adjustments. These authors conclude that a firm's capital structure reflects the environment in which it operates. In general, in capital markets with better institutions and more protective legal systems, firms can approach their target debt ratios faster.

A common underlying assumption in the works discussed above is that the speed of adjustment is the same for those companies that operate in a certain country

or institutional environment. Contrary to this assumption, one might expect that the costs of leverage adjustments will vary across firms within the same region. In this line of research, Faulkender et al. (2012) show that a firm's cash flow situation affects its speed of adjustment toward target debt. Despite the widely accepted view that governance dimensions such as corporate ownership structure are important determinants of asymmetric information problems and agency conflicts, which are likely to influence the costs of adjusting leverage, no previous research analyses whether the capital structure adjustment speed depends on who the owners of the corporation are.

In this context, the question that we aim to answer is whether family and non-family firms differ from each other in their adjustment speed toward target leverage. Family control is likely to influence how fast companies can rebalance their capital structure for various reasons. First, previous studies support lower information asymmetries in family firms (see, e.g., Ali et al., 2007) and find that family control leads to lower cost of debt financing (Anderson et al., 2003). These findings suggest lower adjustment costs and consequently faster speed of adjustment in family firms. Note that, consistent with the pecking order theory, information asymmetries will increase the wedge between internal and external financing costs and, as Öztekin and Flannery (2012) point out, costlier financing could hamper leverage adjustments. Second, financial constraints could also reduce the ability of firms to rebalance their capital structure (Faulkender et al., 2012; and Öztekin and Flannery, 2012). The lower investment–cash flow sensitivities in family firms (Pindado et al., 2011) point to lower financial constraints in these firms, which could allow them to rebalance their capital structure faster. And third, the close ties and long-term relationships of family firms with their creditors could enable them to increase or reduce their debt levels without incurring significant costs. Therefore, family firms will be able to approach their target debt level faster. Taking these arguments into account, we pose the following hypothesis:

H2: Family firms adjust their debt level toward their target capital structure faster than non-family firms.

(ii) The Capital Structure Decision and Dimensions of the Family Business Governance System

Although the peculiarities associated with the family business model (e.g., family owners' long-term horizons and risk aversion) might help align the interests of the controlling family with that of debt providers, this might not necessarily be the case in family firms where the family owns voting rights in excess of its cash flow rights. Family owners whose main concern is to enjoy the private benefits of control by means of wealth expropriation from the company may be reluctant to use debt to avoid the monitoring role of creditors. Supporting this argument, King and Santor (2008) find that family firms with dual-class shares prefer more expensive equity to cheaper debt to avoid any constraints that creditors might impose and because they are able to issue equity without diluting the family's control. These results suggest that the sensitivity of debt to cash flow, as a measure of agency problems between the controlling family and debt providers, will depend on whether the family's voting and cash flow rights are separated. Previous studies show that the use of control-enhancing mechanisms has

a negative impact on firm value (Claessens et al., 2002; and Lins, 2003) and that this valuation discount is even more pronounced in the case of family firms (Cronqvist and Nilsson, 2003; and Bennedsen and Nielsen, 2010). This effect is explained by the risk of expropriation of minority investors' wealth by the controlling family. However, there is no previous empirical evidence on how separating family ownership from control might affect the reliance of family firms on internal finance.

We anticipate that the weaker negative relationship between cash flow and debt that we expect to find in family firms will be attributable to those family firms with no separation between voting and cash flow rights. On the contrary, the negative effect of cash flow on debt will be stronger if owner families resort to control-enhancing mechanisms that lead to excess family control. There are at least two reasons that explain this line of reasoning. First, a large ownership stake of the family in the business is one of the mechanisms that help align the interests of the family and debt providers because it leads to less risk taking (Croci et al., 2011). Therefore, creditors will be less willing to provide funds to family firms and the sensitivity of debt to cash flow will increase if the family controls the firm while having a small stake in the company. Note that in this case family owners could have an incentive to take overly risky investment decisions because the costs they bear are limited to their holding in the business. Moreover, given that separating ownership from control has been associated with increased risk of expropriation of minority investors' wealth (Villalonga and Amit, 2006; and Bozec and Laurin, 2008), by the same token it can lead to wealth transfers from debt providers to the controlling family. As a consequence, family firms with deviations between voting and cash flow rights will find it more difficult to get external finance.

Second, certain control-enhancing mechanisms that lead to separation between ownership and control, such as pyramids, could be adopted for financing motives (Almeida and Wolfenzon, 2006; and Wang and Lin, 2013). In fact, the financing advantages of particular group structures explain the prevalence of family business groups around the world (Masulis et al., 2011). 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 finance. As a result, in this type of family firm the sensitivity of debt to cash flow will increase. Taking these arguments into consideration, we formulate the third hypothesis of the study as follows:

H3a: The negative effect of cash flow on debt is weaker in family firms with no separation between voting and cash flow rights compared to other family firms and non-family companies.

The use of control-enhancing mechanisms that lead to deviations between voting and cash flow rights could also have an effect on the speed at which family firms rebalance their capital structure. The more transparent ownership structures and lower risk of expropriation of family firms with no control-enhancing mechanisms (Villalonga and Amit, 2006) could lead to lower transaction costs and, in turn, to higher speed of adjustment toward target debt. Indeed, Lin et al. (2011) find that the separation of ownership from control has a positive effect on the cost of borrowing, and this positive effect is more pronounced in family firms. As a result, the adjustment speed could be lower when control-enhancing mechanisms are in place. However,

family businesses frequently adopt certain ownership structures, such as pyramids, for financing reasons and other potential benefits (Almeida and Wolfenzon, 2006; and Masulis et al., 2011). Therefore, family companies that belong to a business group, which consequently exhibit a separation between voting and cash flow rights, would be in a privileged position to rebalance their debt level faster. Within family business groups funds can be transferred between firms (Bae et al., 2008), thus enabling them to approach their target leverage at a higher speed. Given that there are theoretical arguments to propose that both family firms with and without control-enhancing mechanisms may adjust their capital structure faster, we formulate the following hypothesis:

H3b: Family firms adjust their debt level toward their target capital structure faster than non-family firms regardless of whether there is a separation between voting and cash flow rights.

In addition to deviations between family's voting and cash flow rights, recent research highlights the presence of multiple large shareholders as another corporate dimension that can influence the severity of agency problems (Laeven and Levine, 2008). La Porta et al. (1999) already suggested that in companies with concentrated ownership, as occurs in family firms, large shareholders might monitor each other. This monitoring role could mitigate the free-rider problem associated with ownership dispersion and in turn lead to less severe agency conflicts between large and minority investors. However, large shareholders could also cooperate to extract corporate resources from the corporation, as Laeven and Levine (2008) contend. The empirical evidence in Laeven and Levine's work shows that there is a negative relationship between the dispersion of cash-flow rights across large shareholders and corporate valuations.

In the particular case of family firms, most empirical research supports that having a second large shareholder in the company is beneficial to minority investors. Maury and Pajuste (2005) show that the contestability of the largest shareholder's power affects firm value positively and that this positive effect is stronger in family firms. Subsequent research by Jara-Bertin et al. (2008) corroborates this result using an international dataset. However, whether the presence of multiple large shareholders in family firms has an overall positive or negative effect on firm performance seems to depend on the type of the second blockholder (Maury and Pajuste, 2005; and Jara-Bertin et al., 2008).

Thus far, the finance literature has mainly focused on how second blockholders can affect the agency problem between the dominant owner and minority investors. However, it is not so clear whether having a second large shareholder in the company will influence agency conflicts with debt providers and whether it will shape the capital structure of family firms. Considering previous family business research, the arguments for the role of second blockholders in family firms' capital structure may depend on the identity of the second large shareholder. On the one hand, the presence of two powerful families at the helm of the company is not a positive signal for debt providers. The risk of collusion that characterises family firms with another family large investor (Maury and Pajuste, 2005; and Pindado et al., 2011) will lead creditors to restrict the funds provided to them. Agency conflicts between the controlling owners and debt holders in this type of family firm will increase due to the risk that funds are diverted for private gains. On the other hand, the disciplinary role of non-family second

blockholders might not necessarily be in the best interest of creditors. Although family firms overall will try to avoid new equity issues due to the risk of control dilution (Croci et al., 2011), the lower cost of equity financing of family firms with a non-family second blockholder documented by Attig et al. (2008) could lead this type of firm to prefer equity to debt financing when external funds are needed. The preference for higher dividend payments of non-family second large shareholders in family firms (Pindado et al., 2012) could come into conflict with the use of debt financing, which implies the commitment of regular interest payments. The consequence is that family firms with a second blockholder, regardless of the identity of the shareholder, will exhibit more severe agency conflicts between owners and debt holders. For this reason, our next hypothesis proposes that:

H4a: The negative effect of cash flow on debt is stronger in family firms with a second blockholder compared to other family firms and non-family companies.

It may also be worthwhile to consider whether the adjustment speed toward target debt differs across family firms depending on the presence of a second blockholder in the company. On the one hand, the presence of a second blockhoder can serve as a counterbalance to the power accumulated by the controlling family (Attig et al., 2008; and Mishra, 2011). The monitoring role of second large shareholders can be a governance device that reduces agency conflicts and information asymmetries within the company, thus helping family firms with a second blockholder to enjoy faster speed of adjustment. On the other hand, second large shareholders can collude with the controlling family to expropriate the rest of stakeholders in the firm (Maury and Pajuste, 2005; and Pindado et al., 2012), such as creditors. If debt providers anticipate this risk of expropriation, transaction costs to adjust the debt level toward the target level will increase in family businesses with a second large shareholder. This line of reasoning suggests that family firms with no second blockholder should be the ones that exhibit a higher adjustment speed. Given that these arguments point in opposite directions, we pose the following hypothesis:

H4b: Family firms adjust their debt level toward their target capital structure faster than non-family firms regardless of whether they have a second blockholder.

The management style of family firms may also shape their debt decisions. In this respect, previous studies on the relationship between family control and performance conclude that the overall better performance of family firms as compared to their non-family counterparts is mainly driven by those family companies in which family members participate in the management of the company (Anderson and Reeb, 2003a; and Maury, 2006) or in which the family is represented in the board of directors (Barontini and Caprio, 2006; and Andres, 2008). Indeed, one could expect that the reduction of the classic owner–manager agency conflict is most pronounced in family firms where members of the controlling family hold management positions. Active family management can also be interpreted as a sign of the long-term commitment of the family to the company.

Regarding the effect of active family management on the sensitivity of debt to cash flow, the active participation of family members in managerial positions could help to align the interests of the family with that of creditors. Owning a significant proportion

of the firm and simultaneously occupying management positons implies that not only the family's wealth but also the job of family members depend on the evolution of the business. Consequently, family owners are likely to be more cautious when taking on risks. Such caution will alleviate agency conflicts between company owners and debt providers. The lower agency conflict of this type can in turn lead to better access to external financing and a lower cost of debt (Anderson et al., 2003), thereby facilitating lower dependence on internal cash flow in family firms under family management.

Additionally, asymmetric information problems between owners and creditors can be mitigated if the owners (in this case, the family) also belong to the management team. Active involvement of family members in corporate decision-making can promote more flexible and fluent communication between the firm and external providers of funds. Lower information asymmetries with creditors are important to obtain debt financing and mitigate the reliance on internally generated funds for new investment projects. In line with these arguments, we expect that:

H5a: The negative effect of cash flow on debt is weaker in family firms with active family management compared to other family firms and non-family companies.

The presence of family members in managerial positions can help family firms to enjoy faster and more flexible decision-making processes. Such higher flexibility will enable family businesses in which the family is involved in the management of the company to adjust faster toward their target capital structure. Moreover, the lower agency conflicts between owners and creditors (Anderson et al., 2003) and the less severe asymmetric information problems of family firms (Wang, 2006; and Ali et al., 2007) are likely to be especially beneficial in those companies in which the family signals its commitment to the business not only by keeping a significant stake but also by holding managerial responsibilities. Taking these arguments into account, we pose our next hypothesis as follows:

H5b: Family firms with active family management adjust their debt level toward their target capital structure faster than other family firms and non-family companies.

Family business research also highlights the importance of differentiating between family firms in the hands of the founder and second or later generation family firms (Barontini and Caprio, 2006; and Villalonga and Amit, 2006). Companies owned and controlled by members of the second or later generations have undergone one of the most controversial processes that family firms must face; that is, the succession process. 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 the daily operations of the business. Consistent with this view, several studies analyse 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 et al., 2007; and Cucculelli and Micucci, 2008). This worse performance in second and later generation family firms can be in part explained by nepotistic appointments, which can harm the family firm's credibility and reputation toward external stakeholders, including creditors.

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; and McVey and Draho, 2005). In their study on corporate disclosure practices of US corporations, Ali et al. (2007) further conclude 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. This result suggests that information asymmetries will be higher in family firms owned and controlled by second or later generations.

These arguments indicate that agency conflicts as well as asymmetric information problems between family owners and debt providers are likely to be more severe when the founder no longer manages the company. Accordingly, we propose that:

H6a: The negative effect of cash flow on debt is weaker in family firms in the hands of the founder generation compared to other family firms and non-family companies.

Managerial short-termism (Gonzalez and André, 2014) is likely to be less severe in family firms owned and managed by the founder. The longer investment horizons in this type of company may affect the speed at which family companies rebalance their capital structure. The concern for building a strong reputation (Chen et al., 2010) and of being a credible partner may also be more important in first generation family firms. In addition, the founder's intention for transferring the company to the next generation in the best possible financial state is a sign to debt providers of the firm's commitment to meet the obligations that derive from the debt contract. This line of reasoning supports the idea that family firms which are still in the first generation could enjoy lower transaction costs. Consequently, we formulate our final hypothesis as follows:

H6b: Family firms in the hands of the founder generation adjust their debt level toward their target capital structure faster than other family firms and non-family companies.

3. THE DEBT MODELS

To provide a comprehensive view on how family control shapes corporate financing policies, our starting point is a partial adjustment model of debt. This type of model is consistent with survey evidence that supports the contention that companies have a target debt ratio in mind when making capital structure decisions (Graham and Harvey, 2001). Therefore, firms rebalance their capital structure regularly to approach such targets, which highlights the need to account for the dynamic nature of the debt policy in our estimations. In addition, given that our main variable of interest is family control (i.e., an internal governance device), we are compelled to use a dynamic leverage model to take into consideration the dynamics of internal corporate governance and to avoid drawing biased conclusions (Wintoki et al., 2012).

(i) Baseline Partial Adjustment Model of Debt

In this section, we explain the derivation of the general model of debt, and the next section presents the extensions of the baseline leverage model that allow us to test our hypotheses. Following previous finance literature on capital structure (see, Miguel and Pindado, 2001; Ozkan, 2001; Flannery and Rangan, 2006; González and González, 2008; and Flannery and Hankins, 2013; among others), a firm's target debt, $DEBT^{*}_{it}$, is a function of several firm-level characteristics:

$$DEBT^{*}_{it} = \beta_0 + \beta_1 CF_{it} + \pi X_{it} + \varepsilon_{it}. \quad (1)$$

Among the firm-level factors that prior research identifies as important determinants of debt, we focus on internal funds, which we measure with a firm's cash flow, CF_{it}.[2] We pay special attention to the sensitivity of debt to cash flow to disentangle whether the negative impact of internally generated funds on debt levels proposed by the pecking order theory and widely supported by the capital structure literature (see, e.g., Flannery and Rangan, 2006; González and González, 2008; and Frank and Goyal, 2009) varies across firm categories. X_{it} is a vector of other firm characteristics that are likely to influence a firm's leverage. Specifically, X_{it} includes dividends, Tobin's *q*, sales growth, firm size, asset turnover and tangible assets. We also include a family variable as an explanatory factor of target leverage, which allows us to control for the direct effect of family control on debt. For a detailed definition of the financial variables that we include in the models, see Appendix A.

Due to transaction costs firms do not adjust to their target debt ratios automatically. On the contrary, they fill the gap between their actual and target debt level gradually over time, as captured in the following model:

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

where $DEBT_{it}$ stands for a firm's debt ratio and $0 < \alpha < 1$ measures how fast the typical company closes the gap between its target leverage and its level of debt at the beginning of the period. This is the commonly called firms' speed of adjustment toward target debt (see, e.g., Faulkender et al., 2012). After rearranging terms, we obtain:

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

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

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

which is equivalent to:

$$\mathrm{DEBT}_{it} = \delta_0 + \delta_1 \mathrm{DEBT}_{it-1} + \delta_2 \mathrm{CF}_{it} + \lambda X_{it} + \varepsilon_{it}, \quad (5)$$

2 Other studies capture the impact of internally generated funds on leverage with a variable labelled *profits* or *profitability* (see, e.g., Ozkan, 2001; González and González, 2008; Frank and Goyal, 2009).

where $\delta_1 = (1 - \alpha)$ allows us to compute the adjustment speed toward target debt. The main variables of interest are a firm's cash flow and lagged debt, which based on the pecking order theory and the dynamic nature of the debt policy are the main determinants of leverage.

(ii) Extensions of the Baseline Debt Model

First, to check the severity of information asymmetries and agency conflicts between owners and debt holders in family firms and test H1, we need to focus on how the sensitivity of debt to fluctuations in cash flow varies with family control. In addition, we should analyse the impact of lagged debt on current debt to disentangle whether the speed of adjustment toward target leverage differs across family and non-family firms, as H2 proposes. To test these two propositions empirically, we extend the partial adjustment model of debt as follows:

$$DEBT_{it} = \delta_0 + (\delta_1 + \gamma_1 FD_{it})\, DEBT_{it-1} + (\delta_2 + \gamma_2 FD_{it})\, CF_{it} + \lambda X_{it} + \varepsilon_{it}, \qquad (6)$$

in which FD_{it} is a dummy variable that equals 1 for family firms, and zero otherwise. Appendix B defines the dummy variables used to split the sample. Consistent with the pecking order theory, we expect a negative impact of cash flow on debt (i.e., $\hat{\delta}_2 < 0$), which would confirm that due to information asymmetries, companies prefer to finance their operations with internal cash flow before resorting to debt. But as posited in our first hypothesis, we expect this negative relationship to be weaker in family firms (i.e., $\hat{\gamma}_2 > 0$) to confirm that the agency problem between owners and debt holders is less severe in this type of company and that family firms are less reliant on internal finance. Note that in this specification the effect of cash flow on debt for non-family corporations is captured by δ_2, whereas for family firms it is measured by $(\delta_2 + \gamma_2)$. H1 proposes that $\hat{\delta}_2 < (\hat{\delta}_2 + \hat{\gamma}_2) < 0$. For both types of companies, family and non-family ones, we anticipate a negative relationship between cash flow and debt, but we expect to find lower sensitivity of debt to cash flow in family firms.

Moreover, equation (6) represents an improvement on previous capital structure models because it enables us to consider that not all companies uniformly adjust their debt levels at the same speed. In particular, δ_1 measures the effect of past debt levels on current debt for non-family firms. This effect is captured by $(\delta_1 + \gamma_1)$ in the family firms' case. If family firms indeed exhibit a higher speed of adjustment, as we propose in our second hypothesis, 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 $(\hat{\delta}_1 + \hat{\gamma}_1)$ are used to compute the adjustment speed for non-family and family firms, respectively. The larger the value of these coefficients, the smaller the gap that companies fill between their target leverage and their level of debt at the beginning of the period. Specifically, $1 - (\hat{\delta}_1 + \hat{\gamma}_1)$ measures the speed of adjustment toward target debt for family firms and $1 - \hat{\delta}_1$ captures the adjustment speed for non-family firms.

To investigate whether family firms with no deviations between ownership and control explain family firms' weaker sensitivity of debt to cash flow, as formulated in H3a, and to disentangle whether family firms rebalance their capital structure faster than non-family firms regardless of the use of control-enhancing mechanisms, as proposed in H3b, we extend equation (6) as follows:

$$DEBT_{it} = \delta_0 + \left(\delta_1 + \chi_1 Wedge\,FD_{it} + \eta_1 Non\text{-}Wedge\,FD_{it}\right) DEBT_{it-1} + \left(\delta_2 + \chi_2 Wedge\,FD_{it} + \eta_2 Non\text{-}Wedge\,FD_{it}\right) CF_{it} + \lambda X_{it} + \varepsilon_{it}. \quad (7)$$

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 because both types of family firm are likely to differ from each other in their financing behaviour. *Wedge FD*$_{it}$ takes the value of 1 for family firms with separation between voting and cash flow rights, and zero otherwise. *Non-Wedge FD*$_{it}$ equals 1 for family companies with no wedge, and zero otherwise. In this empirical model, the impact of cash flow on debt for family firms depends on their ownership structure. For family companies in which the family controls a large proportion of corporate assets while owning a smaller stake in the company, the impact is measured by $(\delta_2 + \chi_2)$. The sum of coefficients $(\delta_2 + \eta_2)$ evaluates the sensitivity of debt to cash flow in family firms with no deviation between ownership and control. We expect $(\hat{\delta}_2 + \hat{\eta}_2) > (\hat{\delta}_2 + \hat{\chi}_2)$ to confirm H3a. Additionally, to corroborate H3b, we should find that $\hat{\chi}_1 < 0$ and $\hat{\eta}_1 < 0$, so that $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\chi}_1)$ and $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\eta}_1)$. If confirmed, such results would indicate that family firms exhibit higher speed of adjustment compared to non-family firms regardless of whether voting and cash flow rights are separated.

We develop a further extension of equation (6) to assess the role that second blockholders play in family firms' financing choices and test H4a and H4b:

$$DEBT_{it} = \delta_0 + (\delta_1 + \theta_1 Second\ Sh.\ FD_{it} + \vartheta_1 No\ Second\ Sh.\ FD_{it}) DEBT_{it-1} + (\delta_2 + \theta_2 Second\ Sh.\ FD_{it} + \vartheta_2 No\ Second\ Sh.\ FD_{it}) CF_{it} + \lambda X_{it} + \varepsilon_{it}. \quad (8)$$

In this model, family firms are classified in two different categories according to the presence (presence vs. absence) of a second large shareholder in the company. Specifically, the dummy variable *Second Sh. FD*$_{it}$ equals 1 for family firms with a second blockhoder, and zero otherwise. The dummy variable *No Second Sh. FD*$_{it}$ takes the value of 1 for family firms with no second large shareholder, and zero otherwise. As occurs in equation (6), δ_2 evaluates the impact of cash flow on debt for non-family corporations. For family firms with a second blockholder, this impact is measured by $(\delta_2 + \theta_2)$. The sum of coefficients $(\delta_2 + \vartheta_2)$ captures the sensitivity of debt to cash flow in the case of family firms with no second blockholder. We anticipate a stronger negative relationship between cash flow and debt in family firms with a second blockholder because the interests of second large shareholders are unlikely to coincide with the interests of debt providers, thus leading to more pronounced reliance on internal funding. Therefore, we expect that $(\hat{\delta}_2 + \hat{\vartheta}_2) > (\hat{\delta}_2 + \hat{\theta}_2)$, in line with H4a. Moreover, as posed in H4b, we should find that $\hat{\theta}_1 < 0$ and $\hat{\vartheta}_1 < 0$. These results would indicate that $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\theta}_1)$ and $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\vartheta}_1)$, thus suggesting that family firms adjust their debt level toward the target faster than non-family firms regardless of the presence of a second large shareholder in the company.

The next empirical model that we develop will enable us to test H5a and H5b. Specifically, we propose the following specification to investigate whether the weaker sensitivity of debt to cash flow and the higher speed of adjustment of family firms, compared to their non-family counterparts, are mainly driven by family firms in which family members occupy managerial positions:

$$DEBT_{it} = \delta_0 + (\delta_1 + \alpha_1 Manager\ FD_{it} + \beta_1 Strict\ Non\text{-}Manager FD_{it} + \zeta_1 Family\ Unlisted\ Dummy_{it}) DEBT_{it-1} + (\delta_2 + \alpha_2 Manager\ FD_{it} + \beta_2 Strict\ Non\text{-}Manager FD_{it} + \zeta_2 Family\ Unlisted\ Dummy_{it}) CF_{it} + \lambda X_{it} + \varepsilon_{it}. \quad (9)$$

As equation (9) shows, to check if active family management influences the effect that internal cash flow has on corporate leverage, we follow the strategy of Pindado et al. (2011). In particular, we build three family dummies that allow us to classify family firms in three different categories and define interaction terms between these dummy variables and cash flow. *Manager FD*$_{it}$ 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; the *Strict Non-Manager FD*$_{it}$ 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; and *Family Unlisted Dummy*$_{it}$ is a dummy variable that equals 1 if the family firm's ultimate owner is a family unlisted company, and zero otherwise. The δ_2 coefficient captures the effect of cash flow on debt for non-family corporations, as in equation (6). This effect is evaluated by $(\delta_2 + \alpha_2)$ for family firms with active family involvement in the company. Meanwhile, the sum of coefficients $(\delta_2 + \beta_2)$ measures the relationship between cash flow and debt for strict non-manager family firms.[3] We expect that $(\hat{\delta}_2 + \hat{\alpha}_2) > (\hat{\delta}_2 + \hat{\beta}_2)$ to confirm that family firms with active family management have lower sensitivity of debt to cash flow than family firms without family involvement in management and non-family companies, consistent with H5a. In addition, to find support for H5b, we expect that $\hat{\alpha}_1 < 0$ and $\hat{\beta}_1 > 0$, which would imply that $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\alpha}_1)$ and $(\hat{\delta}_1 + \hat{\beta}_1) > (\hat{\delta}_1 + \hat{\alpha}_1)$. If we confirm these expectations, we will be able to conclude that the higher speed of adjustment of family firms is mainly attributable to family companies in which family members participate in management.

To test the final hypotheses of the article (i.e., H6a and H6b), we develop a new specification that allows us to distinguish between first generation family firms and family firms already in the hands of second or subsequent generations. In particular, the empirical model that we propose is the following:

$$DEBT_{it} = \delta_0 + (\delta_1 + \mu_1 First\ Gen.\ FD_{it} + \pi_1 Succeeding\ Gen.FD_{it}) DEBT_{it-1} + (\delta_2 + \mu_2 First\ Gen.FD_{it} + \pi_2 Succeeding\ Gen.\ FD_{it}) CF_{it} + \lambda X_{it} + \varepsilon_{it}. \quad (10)$$

To analyse the generation effect on the sensitivity of debt to fluctuations in cash flow, we adopt the approach of Fiss and Zajac (2004). Specifically, we use the age of the company to distinguish between first generation and second or later generation family firms. As Fiss and Zajac propose, the cut-off point used to classify family businesses into these two categories is 30 years. The seminal work by Ward (1988) supports the use of this criterion to capture the generation effect. In this case, *First Gen. FD*$_{it}$ equals 1 for family firms in which the founder effect is still present, and zero otherwise. Consistent with our previous explanation and in line with prior family business literature (Ward,

3 We include corporations ultimately owned by a family unlisted company as a control group in the model considering the information provided in Faccio and Lang's (2002) dataset and following Pindado et al. (2011), but our theoretical propositions are not related to this family firm category.

1988; Fiss and Zajac, 2004; and Fernández and Nieto, 2005), we consider that the founder effect is still present in family firms that are less than 30 years old. *Succeeding Gen. FD*$_{it}$ 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.

As in previous empirical models, the impact of cash flow on debt for non-family firms is measured by δ_2. For first generation family firms, this impact is captured by $(\delta_2 + \mu_2)$. For the remaining family firms, the sum of coefficients $(\delta_2 + \pi_2)$ evaluates the sensitivity of debt to cash flow. To find support for H6a and confirm that first generation family firms are responsible for the weaker negative impact of cash flow on debt of family businesses, we expect that $(\hat{\delta}_2 + \hat{\mu}_2) > (\hat{\delta}_2 + \hat{\pi}_2)$. Furthermore, to corroborate that family firms which are still in the hands of the founder exhibit higher adjustment speed than other family firms and non-family corporations, as formulated in H6b, we expect that $\hat{\mu}_1 < 0$ and $\hat{\pi}_1 > 0$, thus corroborating that $\hat{\delta}_1 > (\hat{\delta}_1 + \hat{\mu}_1)$ and $(\hat{\delta}_1 + \hat{\pi}_1) > (\hat{\delta}_1 + \hat{\mu}_1)$.

4. DATA AND ESTIMATION METHOD

(i) Data

We need two different types of information to estimate the capital structure models developed. First, we require financial and stock data 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 allow us to test our hypotheses. We extract the financial and stock information necessary to compute the variables defined in Appendix A from the Worldscope database and obtain the data on the ownership structure of firms from the database developed by Faccio and Lang (2002). 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 Appendix A. We obtain this information from the *Main Economic Indicators* published by the Organisation for Economic Cooperation and Development. Additionally, we get the age of the company, which we need to check the generation effect, from the Amadeus database. This database is provided by Bureau van Dijk.[4]

From the Western European countries represented in Faccio and Lang's (2002) database, we focus on those that are part of the Eurozone (i.e., Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy and Portugal) for two main reasons. First, focusing only on the Eurozone increases homogeneity in terms of firm-level characteristics. As recently noted by Bris et al. (2009), Eurozone companies, relative to non-Eurozone companies, are larger, more leveraged, and have fewer fixed assets. Bris et al. (2009) also identify significant differences in terms of corporate valuation between companies that belong to the Eurozone and those that are not part of this area. By restricting our analyses to Eurozone corporations we avoid the risk that our results regarding different debt preferences are caused by differences in firm market value.

4 The final sample used to test the last two hypotheses of the article, which are the ones related to the generation effect, is slightly smaller as we do not obtain information on the age of all family firms represented in the initial sample.

Second, by including in the sample only Eurozone countries we can assure that the firms under study are subject to similar monetary policy measures, which depend on the European Central Bank and could affect a firm's capital structure. Indeed, Trichet (2010) notes that corporate financing in the Eurozone is provided to a large extent by banks whereas the financing structure in other economies, such as the UK and the US, is more market based. Moreover, as Franks et al. (2012) highlight, the legal system and the structure of financial markets determines the persistence of family control over time. And similar institutional characteristics influence the capital structure of firms (González and González, 2008). Therefore, our focus on the Eurozone assures that the differences in financing behaviour between family and non-family firms that we capture are driven by the specificities of family control and not by other factors associated with the environment that might simultaneously determine family control and debt policies.

We therefore merge the ownership data of Eurozone corporations with the financial information from Worldscope. Following previous studies on the capital structure policy (see, e.g., Florackis and Ozkan, 2009; and Faulkender et al., 2012), 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 ownership information that we obtain from Faccio and Lang (2002) refers to one time period, this does not restrict our analyses because we only use these data to classify companies in different categories according to their governance characteristics and not as explanatory variables in our empirical specifications. Moreover, as previous studies emphasise (see, e.g., La Porta et al., 1999; and 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.[5] A unique feature of Faccio and Lang's database is the identification of family-controlled corporations based on ultimate ownership information, which is the most common approach to define family firms in empirical research (Pindado and Requejo, 2015). The widespread use of this dataset in previous studies on corporate ownership structure (see, e.g., Attig et al., 2008; and Laeven and Levine, 2008) supports its reliability and suitability for our study.

The availability of information needed to test our hypotheses also restricts the time period of the investigation. Specifically, our study period ranges from 1996 to 2006 for two reasons. First, we take 1996 as the starting year in our sample because this year marks the first period of time for which Faccio and Lang (2002) provide information on the ownership structure of Western European companies.[6] Second, the final year in our sample is 2006 to avoid covering in our study the global financial turmoil that started in 2007 and that led to the financial crisis in 2008 (Trichet, 2010). The turbulence experienced by the world economy during the global financial crisis might have induced significant changes in both ownership structures and debt policies of firms making it difficult to disentangle the effect of family control on capital structure. By focusing on a relatively stable period of time, we can better investigate whether

5 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). Similarly, Attig et al. (2008) match ownership information from one year (data from one year between 1996 and 1999) with data from several years (1995–1997). Following a similar strategy, John et al. (2008) merge cross-country data for several periods (1992–2002 data) with ownership information recorded as of the end of the sample period.

6 Although Faccio and Lang (2002) only provide ownership information for each company for one year, the information does not come from the same year for all companies. Depending on the country in which the company is based, the data can come from 1996, 1997, 1998 or 1999.

family firms indeed exhibit different financing patterns as a consequence of reduced agency conflicts between owners and debt holders.

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 4 consecutive years per company to test for the absence of second-order serial correlation because our estimation method, the system GMM, is based on this assumption. As a consequence, the final sample is an unbalanced panel that comprises 645 companies (5486 firm-year observations) for which we get all needed information for at least four consecutive years between 1996 and 2006. The structure of the sample by country, ownership structure and year 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.[7]

The main summary statistics (mean, standard deviation, minimum, median and maximum) of the variables included in our models and the correlations between them are shown in Panels A and B of Table 2, respectively. Compared to other international cross-country studies, the average level of debt of the firms in our sample is slightly smaller and the debt ratio exhibits lower variability as captured by its standard deviation (see, e.g., González and González, 2008). On average, US corporations also have higher long-term debt ratios (Anderson and Reeb, 2003b). However, from such comparison we cannot conclude that these differences in corporate capital structure are significant. The different leverage ratios could be explained by many factors, such as the time period covered, the institutional context and, especially, differences across other firm-level characteristics. For instance, the European companies included in our sample have lower internally generated funds than their international (Antoniou et al., 2008; and González and González, 2008) and US (Anderson and Reeb, 2003b; and Flannery and Rangan, 2006) counterparts. Regarding correlations between variables, as Panel B shows, all explanatory variables, except sales growth, are strongly correlated with leverage. There are also significant correlations between some of the variables that we include in the right-hand side of our empirical specifications. To rule out any multicollinearity concerns, we compute variance inflation factors (VIF) of the regressors in our models. All regressors exhibit a VIF lower than 2, which indicates that multicollinearity will not bias our regression results.

(ii) 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. First, we must consider unobservable heterogeneity in our study because we are examining how family control shapes companies' financing decisions as opposed to other organisational 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 and are unobservable to the researcher. This firm specificity, which is closely linked to the company's culture

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

Table 1

Distribution of the Sample by Country, Ownership Structure and Year

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
Total	645	100.00	5,486	100.00

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	100.00	4,182	100.00	163	100.00	1,304	100.00

Panel C. Distribution of the Sample by Ownership Structure and Year

	Observations					
			Type of Firm			
	All		*Family*		*Non-family*	
Year	*n*	%	*n*	%	*n*	%
1996	427	7.78	346	8.27	81	6.21
1997	496	9.04	391	9.35	105	8.05
1998	517	9.42	409	9.78	108	8.28
1999	645	11.76	482	11.53	163	12.50
2000	594	10.83	444	10.62	150	11.50
2001	554	10.10	417	9.97	137	10.51
2002	507	9.24	382	9.13	125	9.59
2003	474	8.64	357	8.54	117	8.97
2004	441	8.04	330	7.89	111	8.51

(*Continued*)

Table 1
Continued

Panel C. Distribution of the Sample by Ownership Structure and Year

	Observations					
			Type of Firm			
	All		*Family*		*Non-family*	
Year	*n*	%	*n*	%	*n*	%
2005	424	7.73	319	7.63	105	8.05
2006	407	7.42	305	7.29	102	7.82
Total	5,486	100.00	4,182	100.00	1,304	100.00

Notes:
This table shows the number and percentage of firms and observations by country, ownership structure and year. Data come from merging Faccio and Lang's (2002) dataset with the Worldscope database. The full sample comprises companies for which stock and financial information is available for at least 4 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.

and management ethics (Chi, 2005), could directly affect the dependent as well as the explanatory variables in our models. An additional advantage of controlling for unobservable heterogeneity is the alleviation of the omitted variable bias (Chi, 2005; and Mura, 2007). Therefore, we control for the effect of 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 impact of macroeconomic variables on debt. It is important to account for this effect because the ability of firms to get debt financing will depend on the stage of the economic cycle. The third component, c_i, consists of country dummy variables included to control for country-specific effects. We must control for the influence of environmental conditions on leverage, as the empirical evidence obtained by González and González (2008) highlights. Finally, v_{it} is the random disturbance.

Second, we must account for the endogeneity problem, which is an issue of increasing concern in the finance field and common to most corporate finance and governance research (Wintoki et al., 2012). The endogeneity problem affects our research because family shareholders, given their peculiarities and preferences, could decide to retain links to only those corporations with particular debt policies. Therefore, causality could run in both directions and not only from family control to capital structure. In fact, previous works find that the level of debt has an effect on some variables included in the right-hand side of our empirical models (Miguel et al., 2005; Pindado and de la Torre, 2006; and Setia-Atmaja et al., 2009). The main challenge to address endogeneity concerns is to find valid instruments for the

Table 2

Summary Statistics for the Full Sample

Panel A. Summary Statistics

Variable	*Mean*	*Std. Dev.*	*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
$\Delta SALES_{it}$	0.075	0.291	−1.000	0.050	8.775
$SIZE_{it}$	13.176	1.915	7.077	12.982	19.109
$ASS.\ TURN_{it}$	1.006	0.562	0.000	0.923	5.504
$TANG_{it}$	0.251	0.150	0.000	0.226	0.917

Panel B. Correlation Matrix

		(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
$DEBT_{it}$	(1)	1.000							
CF_{it}	(2)	-0.219^{***}	1.000						
DIV_{it}	(3)	-0.245^{***}	0.337^{***}	1.000					
Q_{it}	(4)	-0.342^{***}	0.331^{***}	0.367^{***}	1.000				
$\Delta SALES_{it}$	(5)	0.005	0.133^{***}	-0.005	0.122^{***}	1.000			
$SIZE_{it}$	(6)	0.208^{***}	0.135^{***}	-0.018	-0.025^{*}	0.064^{***}	1.000		
$ASS.\ TURN_{it}$	(7)	-0.177^{***}	0.057^{***}	0.067^{***}	0.006	-0.005	-0.190^{***}	1.000	
$TANG_{it}$	(8)	0.296^{***}	-0.005	-0.044^{***}	-0.085^{***}	0.052^{***}	0.035^{***}	-0.190^{***}	1.000

Notes:

This table provides the means, standard deviations, minimums, medians and maximums of the variables used in the study as well as the Pearson correlations between them. The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's (2002) dataset and for which stock and financial data are available for at least 4 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. $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, DIV_{it} is the dividend ratio, Q_{it} stands for Tobin's *q*, $\Delta SALES_{it}$ denotes growth in sales, $SIZE_{it}$ is the firm's size, $ASS.\ TURN_{it}$ denotes asset turnover and $TANG_{it}$ is the proportion of tangible assets. These variables are defined in Appendix A.

endogenous regressors. As Wintoki et al. (2012) explain, one of the main advantages of the GMM estimator is that it relies on a set of internal instruments contained within the panel itself. This enables us to overcome the need to find natural experiments or external instruments, which in most cases is extremely complicated, if not impossible.

However, this estimation method does not address the endogeneity problem that affects the stand-alone family variable that enters the right-hand side of our empirical models because it is a firm-level characteristic that remains relatively stable over time. To assure that our GMM regression results with respect to the effect of the stand-alone family variable on debt are not driven by the endogeneity problem, we follow the approach first proposed by Pindado et al. (2011) and subsequently used by Pindado et al. (2012) and Schmid (2013). Specifically, we run first-stage logit regressions for each year of our sample to predict the probability of being family controlled and then include the predicted probability of family control from these regressions in the right-hand side of the debt models. In the first-stage logit regressions, the dependent variable is a family dummy that equals 1 for family firms, and zero otherwise; we use the explanatory variables suggested by Pindado et al. (2011).

In addition, as shown in our empirical specifications, another important issue that we need to take into consideration is the dynamic nature of the capital structure policy. Consequently, we need to use a dynamic panel data estimator that accounts for the endogeneity problem such as the system GMM. Flannery and Hankins (2013) examine the properties of seven alternative methods for estimating dynamic panel models and conclude that Blundell and Bond's (1998) system GMM estimator is the best option for higher levels of endogeneity and especially if the lagged dependent variable is of interest. Faulkender et al. (2012) also support the use of the system GMM in the estimation of our capital structure models. Therefore, we estimate our models using the system GMM. 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 (except for lagged leverage, whose instruments are lags from t–2 to t–5), and only one instrument, t, for the equations in levels (except for lagged leverage, whose instrument is t–1).

Given the estimation method chosen, we perform several tests to 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 and find that 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. There is no problem with second-order serial correlation in the models. Third, we 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

(i) Descriptive Analysis

As a preliminary analysis of the differences that exist between family and non-family firms, we conduct 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 Table 3. Interestingly, we find that family firms have lower long-term debt ratios than their non-family counterparts (see column (2)–(3) t-statistic). This finding supports our proposition of a weaker negative relationship 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. Indeed, one of the reasons why family businesses might find it easier to get additional debt financing is their more conservative capital structure policy and their higher risk aversion (Anderson and Reeb, 2003b; and Croci et al., 2011). Another interesting result from this table is the statistically significant higher Tobin's q of family firms. Since this variable has been used in previous studies on the ownership–value relationship as a measure of firm value, our result suggests that family businesses outperform non-family firms, thus confirming prior research (Anderson and Reeb, 2003a; Maury, 2006; and Andres,

Table 3
Firm-Level Characteristics by Ownership Structure

	All	*Family*	*Non-Family*	*t-statistic*
	(1)	*(2)*	*(3)*	*(2)–(3)*
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***
$\Delta SALES_{it}$	0.075	0.075	0.077	−0.232
$SIZE_{it}$	13.176	12.922	13.989	−18.078***
$ASS.\ TURN_{it}$	1.006	1.044	0.884	9.064***
$TANG_{it}$	0.251	0.241	0.282	−8.644***

Notes:
This table shows the difference of means tests between family and non-family firms in their financial characteristics. The sample comprises nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy and Portugal). $DEBT_{it}$ is the debt ratio, CF_{it} denotes cash flow, DIV_{it} is the dividend ratio, Q_{it} stands for Tobin's q, $\Delta SALES_{it}$ denotes growth in sales, $SIZE_{it}$ is the firm's size, $ASS.\ TURN_{it}$ denotes asset turnover and $TANG_{it}$ is the proportion of tangible assets. These variables are defined in Appendix A. The firms are classified either as family or non-family according to the family firm definition proposed by Faccio and Lang (2002).
***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

2008). Moreover, Table 3 shows that family and non-family firms differ from each other in several aspects and these differences could in turn explain their different behaviour when it comes to the financing decision. Therefore, we control for these business characteristics in the regression analyses.

(ii) Regression Results

The empirical evidence provided in Table 4 supports a positive direct effect of family control on a company's level of debt. Interestingly, this positive relationship remains even after controlling for the endogeneity problem of the family variable as previously explained. This result is consistent with the view that family firms prefer debt to equity as an external source of funds to avoid diluting the family's control of the business (King and Santor, 2008; and Croci et al., 2011). Turning now to the regression results that allow us to test our hypotheses, Table 4, column (1) presents the estimated coefficients of our first empirical model. In line with the pecking order theory, there is a negative effect of internal cash flow on the debt ratio. Information asymmetries between owners and creditors lead to external finance being more expensive than internally generated funds. As a consequence, firms prefer to use the cash flow available inside the company before resorting to debt. Consistent with our first hypothesis, we find that the negative relationship between cash flow and debt is weaker in family firms ($\hat{\delta}_2 + \hat{\gamma}_2 = -0.156 + 0.072 = -0.084$ is statistically significant, see t_1) than in non-family firms ($\hat{\delta}_2 = -0.156$). This result supports the idea that family firms enjoy easier access to debt financing because of the peculiarities of family control. The long-term perspective and the reputation cost concern of family owners help align their interests with the interests of creditors. The frequent use of its own personal wealth as collateral to get external finance represents a credible signal of the family's

Table 4

Effects of Family Control on Corporate Capital Structure

Dep. Var.: $DEBT_{it}$	*(1)*		*(2)*		*(3)*		*(4)*		*(5)*	
Hypothesis Tested	*H1 & H2*		*H3a & H3b*		*H4a & H4b*		*H5a & H5b*		*H6a & H6b*	
δ_0 *Constant*	-0.101^{***}	(0.006)	-0.094^{***}	(0.002)	-0.107^{***}	(0.002)	-0.116^{***}	(0.003)	-0.103^{***}	(0.003)
δ_1 $DEBT_{it-1}$	0.643^{***}	(0.003)	0.647^{***}	(0.001)	0.641^{***}	(0.001)	0.647^{***}	(0.002)	0.650^{***}	(0.003)
γ_1 $FD_{it}DEBT_{it-1}$	-0.042^{***}	(0.004)								
χ_1 *Wedge* $FD_{it}DEBT_{it-1}$			-0.074^{***}	(0.001)						
η_1 *Non-Wedge* $FD_{it}DEBT_{it-1}$			-0.018^{***}	(0.002)						
θ_1 *Second Sh.* $FD_{it}DEBT_{it-1}$					-0.018^{***}	(0.001)				
ϑ_1 *No Second Sh.* $FD_{it}DEBT_{it-1}$					-0.064^{***}	(0.002)				
α_1 *Manager* $FD_{it}DEBT_{it-1}$							-0.046^{***}	(0.002)		
β_1 *Strict Non-Manager* $FD_{it}DEBT_{it-1}$							0.067^{***}	(0.002)		
ζ_1 *Family Unlisted* $Dummy_{it}DEBT_{it-1}$							-0.072^{***}	(0.002)		
μ_1 *First Gen.* $FD_{it}DEBT_{it-1}$									-0.019^{***}	(0.004)
π_1 *Succeeding Gen.* $FD_{it}DEBT_{it-1}$									0.016^{***}	(0.003)
δ_2 CF_{it}	-0.156^{***}	(0.003)	-0.155^{***}	(0.001)	-0.165^{***}	(0.001)	-0.160^{***}	(0.001)	-0.168^{***}	(0.003)
γ_2 $FD_{it}CF_{it}$	0.072^{***}	(0.005)								
χ_2 *Wedge* $FD_{it}CF_{it}$			-0.012^{***}	(0.002)						
η_2 *Non-Wedge* $FD_{it}CF_{it}$			0.088^{***}	(0.002)						
θ_2 *Second Sh.* $FD_{it}CF_{it}$					-0.040^{***}	(0.002)				
ϑ_2 *No Second Sh.* $FD_{it}CF_{it}$					0.110^{***}	(0.002)				
α_2 *Manager* $FD_{it}CF_{it}$							0.077^{***}	(0.003)		
β_2 *Strict Non-Manager* $FD_{it}CF_{it}$							0.032^{***}	(0.002)		
ζ_2 *Family Unlisted* $Dummy_{it}CF_{it}$							-0.020^{***}	(0.003)		
μ_2 *First Gen.* $FD_{it}CF_{it}$									0.120^{***}	(0.007)
π_2 *Succeeding Gen.* $FD_{it}CF_{it}$									-0.028^{***}	(0.004)
λ_1 *FAM.* VAR_{it}	0.047^{***}	(0.003)	0.036^{***}	(0.001)	0.051^{***}	(0.001)	0.047^{***}	(0.002)	0.037^{***}	(0.002)
λ_2 DIV_{it}	-0.051^{***}	(0.007)	-0.080^{***}	(0.002)	-0.061^{***}	(0.003)	-0.075^{***}	(0.003)	-0.029^{***}	(0.007)
λ_3 Q_{it}	-0.016^{***}	(0.000)	-0.015^{***}	(0.000)	-0.016^{***}	(0.000)	-0.015^{***}	(0.000)	-0.015^{***}	(0.000)
λ_4 $\Delta SALES_{it}$	0.019^{***}	(0.000)	0.019^{***}	(0.000)	0.019^{***}	(0.000)	0.020^{***}	(0.000)	0.020^{***}	(0.000)
λ_5 $SIZE_{it}$	0.008^{***}	(0.000)	0.007^{***}	(0.000)	0.008^{***}	(0.000)	0.008^{***}	(0.000)	0.008^{***}	(0.000)
λ_6 *ASS. TURN*$_{it}$	-0.024^{***}	(0.001)	-0.018^{***}	(0.000)	-0.023^{***}	(0.000)	-0.013^{***}	(0.000)	-0.007^{***}	(0.001)
λ_7 $TANG_{it}$	0.118^{***}	(0.003)	0.126^{***}	(0.001)	0.114^{***}	(0.001)	0.114^{***}	(0.001)	0.098^{***}	(0.002)

(*Continued*)

Table 4
Continued

Dep. Var.: DEBT$_{it}$			*(1)*	*(2)*		*(3)*		*(4)*			*(5)*	
Hypothesis Tested			*H1 & H2*	*H3a & H3b*		*H4a & H4b*		*H5a & H5b*			*H6a & H6b*	
t_1			−18.06									
t_2			234.46									
t_3	t_4			−75.75	−36.79							
t_5	t_6			554.24	567.90							
t_7	t_8					−143.67	−30.14					
t_9	t_{10}					706.09	383.95					
t_{11}	t_{12}	t_{13}						−31.60	−54.57	−68.58		
t_{14}	t_{15}	t_{16}						358.87	386.04	291.81		
t_{17}	t_{18}										−10.14	−89.90
t_{19}	t_{20}										179.14	393.90
z_1			13,238.09 (11)	250,000 (13)		400,000 (13)		89,848.60 (15)			55,130.39 (13)	
z_2			703.55 (8)	13,507.07 (8)		3,281.26 (8)		7,794.13 (8)			2,143.34 (8)	
z_3			59.23 (8)	315.25 (8)		565.95 (8)		351.99 (8)			308.65 (8)	
m_1			−7.86	−7.92		−7.90		−7.85			−7.85	
m_2			1.55	1.61		1.54		1.59			1.36	
Hansen			584.61 (528)	628.69 (628)		632.36 (629)		631.38 (728)			484.27 (572)	
N			5,486	5,486		5,486		5,486			4,558	

Notes:
Generalised method of moments regression results of the partial adjustment models of debt. All of the variables are defined in Appendices A and B. The results are based on the 10% cut-off point definition of family firm proposed by Faccio and Lang (2002). The sample comprises nine Eurozone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy and Portugal). Heteroskedasticity consistent asymptotic standard errors are in parentheses. 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$_0$: $\delta_1+\gamma_1=0$, t_3 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\chi_2=0$, t_4 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\eta_2=0$, t_5 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\chi_1=0$, t_6 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\eta_1=0$, t_7 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\theta_2=0$, t_8 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\vartheta_2=0$, t_9 is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\theta_1=0$, t_{10} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\vartheta_1=0$, t_{11} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\alpha_2=0$, t_{12} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\beta_2=0$, t_{13} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\zeta_2=0$, t_{14} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\alpha_1=0$, t_{15} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\beta_1=0$, t_{16} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\zeta_1=0$, t_{17} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\mu_2=0$, t_{18} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_2+\pi_2=0$, t_{19} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\mu_1=0$, and t_{20} is the t-statistic for the linear restriction test under the null hypothesis H$_0$: $\delta_1+\pi_1=0$. 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. 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. 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. All regressions include time and country dummies, but the estimated coefficients on these variables are not reported in the table to save space.
***, ** and * indicate significance at the 1%, 5% and 10% level, respectively.

interest in not defaulting on their debt commitments. Therefore, agency conflicts between owners and debt providers are mitigated in family firms. Our findings are consistent with the existence of a link between corporate governance and the cost of borrowing, as Frantz and Instefjord (2013) propose with their theoretical model.

Another important issue in firms' financing policies which attracts increasing attention and reflects the ability of firms to increase or reduce their debt levels is the speed at which companies fill the gap between their actual and target debt levels. Supporting our second hypothesis, the estimated coefficients in Table 4, column (1) show that the positive effect of past debt levels on current debt is weaker in family firms ($\hat{\delta}_1 + \hat{\gamma}_1 = 0.643 - 0.042 = 0.601$ is statistically significant, see t_2) than in non-family firms ($\hat{\delta}_1 = 0.643$). Using these results, we can compute the speed of adjustment (SOA) toward target leverage for family and non-family firms separately as explained in section 3:

$$SOA_F = 1 - (\hat{\delta}_1 + \hat{\gamma}_1) = 1 - (0.643 - 0.042) = 0.399 \quad \text{and} \tag{11}$$

$$SOA_{NF} = 1 - \hat{\delta}_1 = 1 - 0.643 = 0.357. \tag{12}$$

Subscripts *F* and *NF* stand for family and non-family, respectively. These numbers show that family firms exhibit a higher adjustment speed than their non-family counterparts. Therefore, we conclude that the lower financial constraints and less severe information asymmetries in family firms reduce their adjustment costs. And this, in turn, means that family firms rebalance their capital structure faster.

Although our initial results point to reduced agency problems between owners and creditors and easier access to debt financing in family firms, the combination of family control with certain ownership structures could lead to opposite conclusions. As Table 4, column (2) shows, the weaker negative relationship between cash flow and debt in family firms is attributable to family firms in which there is no wedge between the cash flow and voting rights owned by the family ($\hat{\delta}_2 + \hat{\eta}_2 = -0.155 + 0.088 = -0.067$ is statistically significant, see t_4). By contrast, the impact of cash flow on debt levels is stronger in non-family companies ($\hat{\delta}_2 = -0.155$) and in family firms with separation between ownership and control ($\hat{\delta}_2 + \hat{\chi}_2 = -0.155 - 0.012 = -0.167$ is statistically significant, see t_3). These findings confirm H3a. The use of control-enhancing mechanisms increases the agency conflicts of the family with creditors and as a result only family firms that avoid their use are less reliant on internal cash flow. The financing advantage of pyramidal structures (Almeida and Wolfenzon, 2006; and Masulis et al., 2011), which facilitate access to internal sources of funds, also explains our results. The empirical evidence obtained provides an additional argument for the lower leverage of family firms with control-enhancing mechanisms in relation to family firms in which family ownership and control coincide (King and Santor, 2008).

Our initial results confirm that family firms adjust their debt level toward their target capital structure faster than non-family firms. The question that arises is whether such higher speed of adjustment is attributable to family firms with specific ownership structures. With respect to the separation of cash flow from voting rights, it seems that family-controlled corporations adjust faster than non-family firms toward target debt regardless of whether they use control-enhancing mechanisms. Consistent with H3b, the estimated coefficients in Table 4, column (2) show that the positive effect of past debt levels on current debt is weaker in wedge family firms ($\hat{\delta}_1 + \hat{\chi}_1 =$

$0.647 - 0.074 = 0.573$ is statistically significant, see t_5) and in non-wedge family firms ($\hat{\delta}_1 + \hat{\eta}_1 = 0.647 - 0.018 = 0.629$ is statistically significant, see t_6) than in non-family firms ($\hat{\delta}_1 = 0.647$).

A likely explanation for these findings is that family firms that adopt more transparent ownership structures and refrain from separating ownership and control are the ones more likely to enjoy less severe information asymmetries and lower cost of debt financing. This enables them to have lower transaction costs and rebalance their debt level faster. Additionally, the higher speed of adjustment of wedge family firms as compared to non-family firms could be explained by the use of some control-enhancing mechanisms, such as pyramidal structures, for financing reasons. Family firms that belong to a business group are able to adjust their current debt level to the target level by transferring funds among companies from the same group without incurring substantial transaction costs.

We also investigate how the presence of other large shareholders in family firms influences their capital structure. Specifically, we test whether the pecking order behaviour is more pronounced in family firms with a second blockholder. The estimated coefficients presented in Table 4, column (3) show that the negative effect of cash flow on the debt ratio is stronger in family firms with a second blockholder ($\hat{\delta}_2 + \hat{\theta}_2 = -0.165 - 0.040 = -0.205$ is statistically significant, see t_7). By contrast, this effect is weaker in family firms with no second large shareholder ($\hat{\delta}_2 + \hat{\vartheta}_2 = -0.165 + 0.110 = -0.055$ is statistically significant, see t_8).

Previous studies conclude that the presence of another family large shareholder in family firms increases agency conflicts with minority investors, whereas the risk of expropriation of minority shareholders' wealth is reduced in family firms with a non-family second blockholder (Maury and Pajuste, 2005; Jara-Bertin et al., 2008; and Pindado et al., 2012). However, focusing on the agency problem between owners and creditors, we find that this problem is aggravated in family firms with any type of second blockholder, thus lending support to H4a. On the one hand, the collusion effect that characterises family firms with a family second large shareholder explains their difficulties in getting debt financing because creditors anticipate the possibility that the funds are diverted for the private benefits of the controlling families. On the other hand, the protection of minority investors' interests by non-family second blockholders in family firms could come at the cost of debt holders, whose interests are unlikely to coincide with the interests of minority investors. The consequence is that, as expected, the only family firms that exhibit a weaker negative relationship between cash flow and debt are family firms with no second blockholder.

The empirical findings presented in Table 4, column (3) also indicate that family firms exhibit higher adjustment speed in relation to their non-family counterparts regardless of whether there is another shareholder with a large stake in the company, thus supporting H4b. Note that the positive relationship between current and lagged debt levels is weaker in family firms with a second blockholder ($\hat{\delta}_1 + \hat{\theta}_1 = 0.641 - 0.018 = 0.623$ is statistically significant, see t_9) and in family firms with no second blockholder ($\hat{\delta}_1 + \hat{\vartheta}_1 = 0.641 - 0.064 = 0.577$ is statistically significant, see t_{10}), as compared to non-family firms ($\hat{\delta}_1 = 0.641$).

In relation to how active family participation in the management of the company could affect the financing decision, the estimated coefficients presented in Table 4, column (4) support H5a. As can be seen in the table, the negative impact of cash

flow on debt is weaker when family members hold managerial positions ($\hat{\delta}_2 + \hat{\alpha}_2 = -0.160 + 0.077 = -0.083$ is statistically significant, see t_{11}) than when the family is not involved in managing the business ($\hat{\delta}_2 + \hat{\beta}_2 = -0.160 + 0.032 = -0.128$ is statistically significant, see t_{12}). These results suggest that information asymmetries are reduced and agency conflicts between family shareholders and creditors are alleviated to a greater extent when the family runs the firm. Active family management is indeed a sign of the long-term commitment of the family to the firm, which gives debt providers the assurance that the business is likely to succeed.

The results provided in Table 4, column (4) are also consistent with H5b. In light of these results, we can conclude that the higher speed of adjustment of family firms is mainly attributable to family companies with active participation of family members in managerial positions. Specifically, the estimated coefficients highlight that the positive effect of lagged debt on current debt is weaker in family firms actively managed by family members ($\hat{\delta}_1 + \hat{\alpha}_1 = 0.647 - 0.046 = 0.601$ is statistically significant, see t_{14}), whereas this effect is stronger when the family does not manage the business ($\hat{\delta}_1 + \hat{\beta}_1 = 0.647 + 0.067 = 0.714$ is statistically significant, see t_{15}). A likely explanation for this finding is that family firms in which family members participate in management are more flexible and can make corporate decisions faster. Such flexibility allows this family business type to rebalance its debt level at higher speed.

Finally, we also consider whether the family generation in charge of the business is a dimension of the family business model that shapes the capital structure decision. As regards the negative relationship between cash flow and debt, the results provided in Table 4, column (5) indicate that this relationship is weaker in first generation family firms ($\hat{\delta}_2 + \hat{\mu}_2 = -0.168 + 0.120 = -0.048$ is statistically significant, see t_{17}). By contrast, the negative impact of cash flow on debt is more pronounced in family firms which are already in the hands of second or subsequent generations ($\hat{\delta}_2 + \hat{\pi}_2 = -0.168 - 0.028 = -0.196$ is statistically significant, see t_{18}). In line with H6a, we conclude that the easier access to debt financing and the lower reliance on internal funds of family firms is driven by first generation family businesses. These findings support that view that family firms run by the founder not only enjoy lower agency conflicts between large and minority shareholders (Anderson and Reeb, 2003a; Barontini and Caprio, 2006; and Villalonga and Amit, 2006), but also exhibit fewer conflicts between family investors and creditors.

As the regression results presented in Table 4, column (5) show, the generation that controls the family business also affects the adjustment speed toward target debt. In particular, supporting H6b, family firms' higher speed of adjustment is attributable to first generation family firms. This conclusion is based on the finding that the positive relationship between current and lagged debt levels is weaker in family firms owned by the founder ($\hat{\delta}_1 + \hat{\mu}_1 = 0.650 - 0.019 = 0.631$ is statistically significant, see t_{19}), compared to the remaining family firms ($\hat{\delta}_1 + \hat{\pi}_1 = 0.650 + 0.016 = 0.666$ is statistically significant, see t_{20}) and to non-family corporations ($\hat{\delta}_1 = 0.650$). Therefore, the empirical evidence suggests that the founder generation contributes to reducing information asymmetries and agency problems with creditors, probably due to its longer-term horizons and its intention to avoid overly risky projects. This behaviour in turn reduces transaction costs and leads to higher speed of adjustment. In addition, faster decision-making when the founder accumulates more power enables first generation family firms to rebalance their debt level at higher speed.

The estimated coefficients on 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, growth in sales, firm size and tangibility have a positive effect on leverage. The positive influence of sales growth and size on debt levels is consistent with previous studies (King and Santor, 2008; Margaritis and Psillaki, 2010; and Croci et al., 2011) and confirms that firms with successful businesses and large corporations have easier access to debt. A positive correlation between tangible assets and debt confirms that collateral increases debt capacity and facilitates access to debt financing (Frank and Goyal, 2009; and Croci et al., 2011). On the other hand, we find that leverage is negatively related to dividends, Tobin's *q* and asset turnover. These results are in line with prior research (Setia-Atmaja et al., 2009; Marchica and Mura, 2010; and Schmid, 2013) and highlight that increases in dividend payments and in growth opportunities are associated with lower levels of debt. In line with Singh et al. (2003), we find a negative relationship between debt and the asset turnover ratio. Given that this ratio is an inverse measure of agency costs (Ang et al., 2000) and captures managerial efficiency in the use of corporate assets, our findings suggest that more efficient companies use less debt.

6. ROBUSTNESS CHECKS

Thus far, our analyses rely on the 10% cut-off point to define family control. Faccio and Lang (2002) also use the 20% threshold of control rights to identify family firms. Therefore, to check the sensitivity of our results to the threshold of voting rights used to differentiate between family and non-family firms, we estimate our baseline specification using the 20% cut-off point to classify firms into family and non-family. The results from these robustness tests confirm that the negative relationship between cash flow and debt is weaker in family firms. We also corroborate that family firms adjust faster toward target leverage when we use a more restrictive cut-off point to define the family dummy.[8]

In addition, we check whether the financing behaviour of family firms depends on the stake of the family in the company. In this respect, prior research shows that family control affects corporate performance differently depending on the level of equity holdings of the family in the company (Ben-Amar and André, 2006; and Pindado et al., 2014). Accordingly and taking into account Pindado et al.'s findings, we investigate whether absolute family control of the business is relevant in terms of the sensitivity of debt to fluctuations in cash flow and of the adjustment speed toward target debt. To capture absolute family control, we build *High Own.* FD_{it} that takes the value of 1 for family firms in which the family owns more than 50% of the cash flow rights, and zero otherwise. *Low Own.* FD_{it} equals 1 for the remaining family firms. Consistent with our first hypothesis, the negative impact of cash flow on debt is weaker in family firms than in non-family firms regardless of whether the family has absolute control. However, the speed of adjustment varies depending on the level of ownership concentration of family firms. In particular, when the family owns 50% or less of the cash flow rights, the firm approaches its target debt faster. A reason for this result could be that, in line with the empirical evidence provided by Pindado et al. (2014), creditors associate absolute

8 For the sake of brevity, the regression results from all robustness tests are not reported in the article, but they are available from the authors on request.

family control with higher risk of expropriation and entrenchment, which makes them more reluctant to provide funds and increases the adjustment costs of this type of family firm. Conversely, when family control is not so tight and the amount of wealth that the family has invested in the business is lower (i.e., in relatively low ownership family firms), concerns over the preservation of family control may be mitigated and family firms could adjust their capital structure faster.

Prior research on the performance difference between family and non-family firms (see, e.g., Andres, 2008) highlights the importance of accounting for the role of other blockholders when comparing family and non-family companies. Therefore, we analyse whether the role of family control in shaping a firm's capital structure still holds when we control for the influence of other large shareholders. We focus particularly on the role of the state given that state control is important for larger firms in certain Western European countries (Faccio and Lang, 2002). We follow a strategy similar to the approach proposed by Andres (2008) and subsequently used by Pindado et al. (2011). But in our case we reestimate our baseline specification controlling for the state effect. To control for this effect, we first include in the right hand-side of equation (6) an interaction term between cash flow and a state dummy variable (STD_{it}) that equals 1 for firms with the state as the ultimate owner at the 10% threshold (which we use to define family control), and zero otherwise. We also include as explanatory variable the interaction term between the state dummy and lagged debt.

In line with our first hypothesis, we confirm that family control reduces the sensitivity of debt to cash flow, whereas state-controlled corporations exhibit a stronger negative relationship between cash flow and debt. The more pronounced pecking order behaviour in this type of firm could be due to the access of state-owned companies to alternative sources of funds such as public subsidies and their lower reliance on financing directly from debt providers. In relation to the speed of adjustment toward target debt, although both family firms and state-controlled companies adjust faster toward target debt than the remaining firms, the size of the negative and statistically significant coefficient on the interaction between the family dummy and lagged debt points to higher adjustment speed in family firms. This result corroborates our initial findings.

Another concern that we need to address is the assumption that the ownership structure of firms remains constant over the time period covered in the study. Note that this assumption is driven by the specificities of the Faccio and Lang (2002) dataset and that prior research supports that corporate ownership structure can be regarded as relatively stable over time (see, e.g., Fan and Wong, 2002; Attig et al., 2008; and John et al., 2008). Although we rely on the database developed by Faccio and Lang (2002) because it is the only one that provides the information we need to test our hypotheses in an international context, we now take two steps to relax the assumption of relative stability of corporate ownership structures.

First, we merge Faccio and Lang's dataset with the information on firms' shareholders available in Amadeus. From the subsample of companies that are covered in both databases, we drop those firm-year observations for which according to Amadeus there is a change in the type of the largest shareholder. This may be a sign of change in the control of the business. Second, given that the ownership data of Faccio and Lang (2002) refers to one year between 1996 and 1999 and taking into account that we need panel data to use our estimation method, we restrict our analyses to the initial years of the sample period (i.e., the time period 1996–2001). These two steps allow us to keep

in the sample only those firm-year observations in which the assumption of ownership structure stability is more likely to hold. The regression results obtained when we use this reduced sample confirm our initial conclusions. That is, family firms exhibit less pronounced pecking order patterns and higher speed of adjustment toward target debt than their non-family counterparts.

Our final robustness tests consist of controlling for external shocks that occurred during the time period included in the study and that could affect a firm's level of debt. In this respect, it is worth noting that we do not cover in the study the recent global financial crisis because this event might have had a significant impact on the capital structure of firms that is beyond managers' control. Nevertheless, the time period that we cover (i.e., the years from 1996 to 2006) is not exempt from important events that might have affected the financing patterns of firms. We control for these effects by including time dummies in all our regressions.

However, the access to either cheap equity financing or cheap debt financing due to the liquidity available in the system during some time spans of the sample might have led to significant M&A activity, with the corresponding consequences for the capital structure of companies. In particular, the years 1996–2000 were a period of cheap equity that led to the Internet market bubble and the years 2004–2006 were characterised by cheap debt, which led to the recent financial crisis.[9] To rule out the possibility that these phenomena drive our results, we first define a merger dummy variable that equals 1 for the time periods 1996–2000 and 2004–2006, and zero for the years 2001–2003. Next, we reestimate an extended version of our baseline specification that includes in its right-hand side not only the stand-alone effect of the merger dummy, but also the interaction effects between this dummy and the two explanatory variables of interest (i.e., lagged debt and cash flow). Our main findings continue to hold when we control for these time effects.

Another event that might have induced changes in the balance sheet of firms, and hence in their capital structures, is the adoption of International Financial Reporting Standards (IFRS) by European corporations in 2005. To account for this effect, we estimate our main empirical model after including in its right-hand side an IFRS dummy variable that equals 1 for the post-IFRS years in the sample (i.e., 2005 and 2006), and zero otherwise, as well as the interaction terms of this IFRS dummy with lagged debt and cash flow. Our regression results remain unchanged when we control for this effect. Family firms still exhibit a weaker negative relationship between internal cash flow and debt, and they approach their target debt level faster than non-family firms.

An alternative strategy that we can use to check that our main conclusions are not affected by the events mentioned above is to estimate our baseline empirical model for the different time periods that define the merger and IFRS dummies. Unfortunately, we cannot estimate our capital structure model for the exact same sub-periods identified with the dummy variables because, to be able to use our estimation method in the regression analyses, we require that the resulting sub-samples span at least 4 consecutive years. Nevertheless, we can split the time period covered in the article in two sub-periods and check whether our main conclusions hold over time. Specifically, we reestimate our empirical model for the sub-periods 1996–2001

9 We are very grateful to an anonymous reviewer for pointing out to us the events that characterise these time periods.

and 2002–2006. The first interval of years broadly coincides with the dot-com bubble and the time previous to the passage of resolution that required EU public firms to prepare consolidated financial statements on the basis of IFRS (André et al., 2015). In the second time interval, capital markets were relatively more stable and European institutions had already approved the adoption of IFRS. Indeed, the dividing year (i.e., 2002) marks the first clear commitment to IFRS adoption in Europe (Armstrong et al., 2010), which may have induced public companies to start following these international accounting standards even before mandatory adoption in 2005. The regression results obtained for the two time intervals corroborate our initial findings and are in line with the main hypotheses of the article. Therefore, our conclusions are applicable to the different sub-periods covered in the sample.

7. CONCLUSIONS

In this study, we analyse how family control shapes corporate capital structure. Unlike prior research that examines the direct effect of family control on leverage, we investigate whether the sensitivity of debt to fluctuations in cash flow is alleviated in family firms due to less severe agency conflicts between owners and creditors in this type of company. Going a step further, we consider the possibility that the long-term relationship between family owners and creditors affects family firms' speed of adjustment toward target debt. Therefore, we are the first to account for the dynamic nature of leverage when examining the financing policies of family firms. In addition, we analyse how four important dimensions of the family business governance system shape the capital structure decision of family firms. These dimensions are the use of control-enhancing mechanisms, the presence of a second blockholder in the firm, whether family members hold managerial positions, and the generation in charge of the business.

We find that the negative effect of internal cash flow on debt predicted by the pecking order theory is weaker in family firms, thus supporting the contention that these companies experience less pronounced agency problems between owners and debt providers. The long-term involvement of the family in the company reduces information asymmetries with creditors, which explains the lower sensitivity of debt to cash flow in family firms. Other specificities of family control that could align the interests of family owners and debt holders are the large stake of the family in the business and the use of its personal wealth as collateral. These characteristics of the family business model explain the lower propensity to excessive risk-taking in family firms and family owners' interests in honouring their debt commitments.

We also advance previous research on a firm's speed of adjustment toward target leverage. Thus far, the finance literature has mainly focused on how the institutional environment conditions the ability of firms to rebalance their capital structure. Our approach is new because we consider that the adjustment speed also depends on governance dimensions at the firm level. In particular, we show that family firms adjust their capital structure faster than non-family firms. Therefore, we conclude that adjustment costs are lower in family firms due to their close ties with creditors.

However, our empirical evidence highlights that the weaker negative effect of cash flow on debt that we find in family firms only applies to family companies with no deviations between voting and cash flow rights. As a consequence, the use of

control-enhancing mechanisms increases agency problems between the family and debt providers. The presence of multiple large shareholders in family firms also influences their financing policy. Prior research documents that the presence of another family large shareholder in family firms leads to wealth expropriation from minority investors, whereas the monitoring role of non-family second blockholders helps protect minority investors' interests. In this respect, we find that the presence of a second blockholder in family firms leads to stronger negative impact of cash flow on debt, thus suggesting more severe agency problems between owners and debt providers.

By contrast, the higher risk aversion expected in family firms with active family management and the longer investment horizons of first generation family businesses help to align the interests of shareholders and creditors. As a consequence, family firms with these characteristics enjoy weaker sensitivity of debt to fluctuations in cash flow. Furthermore, family firms' higher speed of adjustment toward target debt is mainly driven by companies in which the family participates in management and by family businesses that are still in the first generation. The results obtained support the view that these family firms enjoy higher flexibility in corporate decision-making and hence are able to rebalance their capital structure faster.

Our findings have important implications in several respects. Regarding the on-going debate in the corporate finance and governance literature on the benefits and costs of family control, our empirical evidence helps explain the different performance of family firms documented in previous studies. Family firms' lower reliance on internal finance and their higher adjustment speed toward target leverage could facilitate the investment in value-adding projects that help to maximise firm value in the long term. However, excess family control increases the sensitivity of debt to cash flow. Consequently, family firms should take into account that deviations of voting from cash flow rights will restrict their access to debt financing, making them more reliant on internal sources of funds. With respect to the dynamic nature of capital structure, our results highlight the need to continue investigating how governance mechanisms at the firm level, and not only institutional conditions external to the company, influence the ability of firms to approach their target debt level faster.

APPENDIX A

Definition of Financial Variables Used in the Analyses

A1. Debt Ratio

We compute the debt ratio as $DEBT_{it} = MVLTD_{it} / (MVE_{it} + MVD_{it})$ where MVE_{it} is the market value of equity and $MVD_{it} = MVLTD_{it} + BVSTD_{it}$ is the market value of debt; $MVLTD_{it}$ and $BVSTD_{it}$ stand for the market value of long-term debt, calculated as in Pindado et al. (2011), and the book value of short-term debt, respectively.

A2. Cash Flow

Cash flow is calculated as $CF_{it} = (NP_{it} + BD_{it}) / K_{it}$, where NP_{it} and BD_{it} denote the net profit and the book depreciation expense of the firm corresponding to year t, respectively. K_{it} denotes the replacement value of total assets, which 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).

A3. Dividends

Dividends are calculated as $DIV_{it} = CDIV_{it} / K_{it}$ where $CDIV_{it}$ and K_{it} denote the total common dividends paid by the firm (extracted from the company's funds flow statement) and the replacement value of total assets in year t, respectively.

A4. Tobin's q

Tobin's q is computed as $Q_{it} = (MVE_{it} + MVD_{it}) / K_{it}$.

A5. Sales Growth

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

A6. Size

Firm size is calculated as the natural logarithm of the replacement value of total assets.

A7. Asset Turnover

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

A8. Tangible Assets

Tangible assets are $TANG_{it} = TF_{it} / K_{it}$, where TF_{it} denotes net tangible fixed assets of the firm in year t.

APPENDIX B

Definition of Dummy Variables Used in the Analyses

B1. Family Dummy

FD_{it} is a dummy variable that equals 1 if the firm has an ultimate owner at the 10% (alternatively 20%) threshold that is a family, an individual or an unlisted company, and zero otherwise. This family firm definition is based on previous studies (see, e.g., Faccio and Lang, 2002; Maury, 2006; and Laeven and Levine, 2008).

B2. Wedge Family Dummy

Wedge FD$_{it}$ 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.

B3. Non-Wedge Family Dummy

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

B4. Second Shareholder Family Dummy

Second Sh. FD$_{it}$ is a dummy variable that equals 1 for family firms with a second blockholder, and zero otherwise.

B5. No Second Shareholder Family Dummy

No Second Sh. FD$_{it}$ is a dummy variable that equals 1 for family firms with no second large shareholder, and zero otherwise.

B6. Manager Family Dummy

Manager FD$_{it}$ 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.

B7. Strict Non-Manager Family Dummy

Strict Non-Manager FD$_{it}$ 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.

B8. Family Unlisted Dummy

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

B9. First Generation Family Dummy

First Gen. FD$_{it}$ 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; and Fernández and Nieto, 2005), we consider that the founder effect is still present in family firms that are less than 30 years old.

B10. Succeeding Generation Family Dummy

Succeeding Gen. FD$_{it}$ 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.

B11. High Ownership Family Dummy

High Own. FD$_{it}$ is a dummy variable that equals 1 for family firms in which the family owns more than 50% of the company's cash flow rights, and zero otherwise.

B12. Low Ownership Family Dummy

Low Own. FD$_{it}$ is a dummy variable that equals 1 for family firms in which the family owns 50% or less of the company's cash flow rights, and zero otherwise.

B13. State Dummy

STD$_{it}$ is a dummy variable that equals 1 for firms in which the state is the ultimate owner at the 10% threshold, and zero otherwise.

B14. Merger Dummy

Merger Dummy$_{it}$ is a dummy variable that equals 1 for the time periods 1996–2000 and 2004–2006, and zero for the years 2001–2003.

B15. IFRS Dummy

IFRS Dummy$_{it}$ is a dummy variable that equals 1 for the post-IFRS years in the sample (i.e., 2005 and 2006), and zero otherwise.

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