The effect of family control on the corporate dividend policy: An empirical analysis of the Euro zone[†]

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This version: January 10, 2011

Abstract

This paper investigates how family control affects the corporate dividend policy by considering possible deviations between ownership and control. We further account for the presence and identity of second large shareholders in family-controlled corporations. Overall, family firms pay out higher and more stable dividends to overcome agency problems with minority investors and to alleviate expropriation concerns. However, the higher dividend payments in these companies are mainly explained by the firms with no separation between the largest owner's voting and cash flow rights. We also find that non-family second blockholders perform a monitoring role and induce owner families to distribute a higher proportion of their earnings as dividends. These results suggest that a family firm's use of the dividend policy to alleviate minority shareholders' concerns over wealth expropriation is primarily attributable to those companies with better corporate governance structures.

Keywords: family control; corporate dividend policy; free cash flow conflicts; second blockholders; Euro zone.

JEL classification: G32; G35.

EFM classification: 110; 150; 170.

[†] This research was completed while Ignacio Requejo was a visiting scholar at the Centre for Corporate Governance at London Business School. He appreciates the facilities and hospitality received. We would like to thank Pablo de Andrés, Charlie Cai, Lorenzo Caprio, Ettore Croci, Robert Faff, Julian Franks, David Hillier, Kevin Keasey, and George Tanewski. We have benefited from the comments and suggestions of seminar participants at Leeds University Business School, the 2010 PhD Accounting and Finance Symposium in Prato, and the 2010 Family Business Symposium in Salamanca. We are also grateful to the Research Agency of the Spanish Government, DGI (Grant ECO2010-20741), and Regional Government of Castilla y Leon (Grant SA069A08) for financial support. Pindado and de la Torre acknowledge the financial support from the Education Ministry at the Regional Government of Castilla y Leon (Grant GR144), and Requejo appreciates the financial support from the Spanish Ministry of Education and Science. All errors are our own responsibility.

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1. Introduction

The current downturn in the economy has revived the importance of family businesses for the society as a whole because of the long-term horizons associated with this type of corporation compared to non-family companies (Kanekrans, 2009). Interestingly, prior research shows that a portfolio of European family-run companies delivered a significantly higher total shareholder return relative to the MSCI Europe Index between 2002 and 2006 (Ng, 2007), and some anecdotal evidence suggests that family firms may have a greater commitment to paying out dividends (Hall, 2005). However, the finance literature on whether family-controlled corporations use the dividend policy as a trust-generating mechanism and a device to alleviate minority shareholders' concerns over wealth expropriation is scarce, despite the widely accepted view that family control can lead to agency problems between the controlling family and minority shareholders under specific circumstances (Anderson and Reeb, 2003; Villalonga and Amit, 2006).

In this context, we attempt to answer two main research questions: (i) Do family firms use the dividend policy as a device to overcome agency problems with minority shareholders and to alleviate expropriation concerns, and (ii) do family firms' dividend decisions depend on their specific ownership structures (i.e., separations between family's voting and cash flow rights and the presence of second blockholders)? Therefore, our study covers two issues that continue to arouse scholars' and practitioners' interest in the corporate finance and governance fields, namely, the family business model and the dividend policy. The extension of our understanding of the effects of family control on specific corporate dimensions is important because family firms are widespread in developing countries as well as in some of the most developed economies of the world, and because they account for a large percentage of the corporate sector in most geographical regions (see, e.g., La Porta et al., 1999; Shim and Okamuro, 2011).[1] Moreover, despite the considerable effort to disentangle whether family companies outperform their non-family counterparts (see, e.g., Anderson and Reeb, 2003; Andres, 2008; Maury, 2006; Villalonga and Amit, 2006), the reasons for the performance difference are not clear and could be driven by differences in their financial policies.

[1] Family control is not restricted to certain institutional settings and is a common type of ownership structure in different regions, including the United States (Anderson and Reeb, 2003; Holderness, 2009; Villalonga and Amit, 2006), Western European countries (Faccio and Lang, 2002), and East Asia (Claessens et al., 2000).

Regarding corporate dividend choices, the dividend policy can serve as a trust-generating mechanism used by family firms mainly outside Anglo-Saxon countries, where the protection afforded to minority shareholders by the law is, in general, weaker. In such institutional environments, family companies can relinquish the private benefits of control by committing to distribute higher and more stable dividends relative to non-family firms. Indeed, dividend payments can be regarded as a costly signal in family firms' case because of the reluctance of large family owners to dilute family control.[2] That is, the cost of dividend payments in family firms arises because paying out dividends results in lower internal cash flow accumulation and a higher likelihood of needing to resort to external financing when additional funds are required. Moreover, the dividend policy is a more credible signal of owners' commitment not to expropriate minority investors and to give up the private benefits of control as opposed to other corporate governance mechanisms. For example, family firms' boards of directors are hardly independent from the controlling family, and family companies are generally isolated from external governance mechanisms, such as the market for corporate control, because of their concentrated ownership structures.

Since the seminal work by Miller and Modigliani (1961), few studies have investigated whether family control, given its own peculiarities, affects companies' dividend decisions.[3] However, how family firms differ from non-family firms in their dividend choices is an important issue. In fact, family companies are affected by conflicts of interest between the controlling owner and minority investors (Villalonga and Amit, 2006) and their use of the dividend policy is likely to reflect such agency problems. In addition, it is not clear whether different corporate governance mechanisms, which, among others, include family ownership and dividends, complement or substitute for each other to alleviate agency conflicts (see, e.g., Miguel et al., 2005; Noronha et al., 1996).

To answer our two research questions, we obtain a sample of publicly listed corporations that operate in nine Euro zone countries. We use panel data methodology—specifically, the generalized method of moments (GMM)—to estimate several specifications based on a partial adjustment model of dividends. We first investigate whether family firms pursue higher dividend payout ratios. Additionally, we study the differences in dividend smoothing behavior between family and non-family firms using a dynamic model of

[2] Consistent with this view, in a recent paper, Shim and Okamuro (2011) show that family firms have a more passive attitude toward mergers because they are afraid of losing control of the company, except when premerger family ownership is high enough.

[3] Among the papers that investigate this issue are the ones by Gugler (2003) and Setia-Atmaja et al. (2009), who focus on the Austrian and Australian economies, respectively.

dividends. This allows us to disentangle whether family companies prefer more stable dividend payments as a way to mitigate expropriation concerns. Our results indicate that the dividend policy is a commitment device widely used by family firms because of agency problems with minority shareholders. Specifically, we find higher and more stable dividend payments in family-controlled corporations. These results support family firms' commitment to future dividend distributions as a way to reduce agency conflicts between the controlling family and minority investors and as a way to relinquish the private benefits of control.

Then, we consider specific dimensions of family firms' ownership structure. In particular, we differentiate between family companies with separations between voting and cash flow rights as a result of the use of disproportional ownership structures and family firms in which family ownership and control totally coincide. Interestingly, the higher dividend payments of family firms are primarily attributable to those firms in which cash flow rights and votes are not separated. We also analyze the effects of second blockholders in family firms' dividend decisions. The empirical evidence suggests that second large shareholders significantly influence the dividend choices of family businesses. Second family blockholders appear to collude with the controlling family and prefer lower dividend payments, which would allow them to have more cash at their disposal and enjoy higher private benefits of control. By contrast, non-family second shareholders act as a force that induces family companies to disgorge cash as dividends. This result supports the role of non-family blockholders as effective monitors in family-controlled corporations.

Therefore, family firms with better corporate governance structures (i.e., those firms in which the family's voting rights do not exceed its cash flow rights and those firms in which the controlling family's decisions are monitored by a non-family second blockholder) are the firms that use the dividend policy as a way to alleviate expropriation concerns. Conversely, family firms with poorer corporate governance structures (i.e., those firms in which the family owns votes in excess of its cash flow rights and family firms with another family as a large shareholder) prefer to consume higher private benefits of control and distribute lower dividends.

This paper makes several contributions to the corporate finance and governance literature. First, we show that family firms in the Euro zone use the dividend policy to align the interests between the controlling family and minority shareholders. The payment of higher dividends by family firms relative to non-family firms serves as a commitment device not to expropriate minority investors. Additionally, supporting this interpretation of the use of the dividend policy in the case of family firms, family companies prefer more steady

dividends. Therefore, our results provide an explanation for the dividend puzzle, at least in relation to family corporations.

Second, we contribute to the corporate governance literature by showing that the higher dividends of family firms are mainly attributable to those companies in which cash flow rights and voting rights do not deviate from one another and those firms with a non-family second blockholder. Thus, our results indicate that an outcome model of dividends applies within the family business category in that, among this type of corporation, better governance results in higher dividend payments.

Third, the evidence we provide offers an additional explanation for the performance difference between family and non-family firms in Western Europe. Indeed, dividend decisions are among the factors that have been linked to companies' market value. Family firms' higher and more stable dividend payments could explain, to some extent, their higher valuations. In addition, the fact that family-controlled corporations with good governance are the firms that distribute higher dividends is consistent with the findings that family firms' better performance relative to non-family ones is mainly due to family companies with less incentive to expropriate minority investors.

Fourth, by using a panel data estimation method, we are able to mitigate serious econometrical problems inherent in any corporate governance study. In particular, the use a GMM estimator confers three main advantages on our paper. First, the panel data methodology permits us to consider the unobservable heterogeneity in the estimation of the models. Second, as happens in most corporate finance and governance research, endogeneity is an issue that must be taken into consideration, which we address by using the GMM in the regression analyses. Third, GMM allows us to capture the dynamic nature of the dividend policy.

Finally, given that prior research that investigates the relation between corporate ownership structure and the dividend policy has mainly focused on insider ownership and shareholdings by institutional investors, we go a step further by analyzing the effects of family control on the dividend decision. Moreover, as noted in recent research (Andres et al., 2009), little is known about dividend choices of continental European firms because most empirical evidence on corporate dividend decisions is based on UK and US data. Therefore, we fill this gap in the literature by providing empirical evidence for the Euro zone.

The remainder of the paper is organized as follows. Section 2 reviews previous literature and empirical evidence on the corporate dividend policy and how it can be affected by a firm's ownership structure and presents our hypotheses. Section 3 explains the partial

adjustment model of dividends on which we base our regression analyses and details the specific empirical models used to test our hypotheses. Section 4 describes the data and estimation method, and Section 5 discusses the descriptive analysis and regression results. Section 6 presents several robustness checks that enable us to test the reliability and validity of our findings. Finally, Section 7 highlights our main conclusions.

2. Literature review and hypotheses development

Based on the agency theory, some studies examine the main determinants of the corporate dividend policy and how a firm's ownership structure can affect companies' dividend payments. Prior research focuses on specific types of control, such as institutional holdings, insider ownership, control by corporations (see, e.g., Barclay et al., 2009; Farinha, 2003; Short et al., 2002), but the evidence is not conclusive. With respect to the particular case of family firms, it is not clear whether family control and dividends are positively or negatively related from a theoretical point of view.

On the one hand, family ownership and dividends can be seen as alternative control mechanisms aimed at alleviating agency conflicts inside the corporation. This relation implies that owner families, given their large stakes in the company, serve as efficient monitoring mechanisms and assure that managers do not waste internal funds on unprofitable projects. Therefore, the need to pay out dividends to reduce free cash flow agency conflicts (Jensen, 1986) should be lower in family firms. This line of reasoning is consistent with a substitution hypothesis between different corporate governance mechanisms. In fact, a substitution effect between corporate ownership structure and the payout policy has been supported from different perspectives. Moh'd et al. (1995) show that the number of shareholders is positively related to the payout ratio and insider ownership is negatively associated with dividends. Thus, when managers' and investors' interests are aligned via higher insider ownership, dividends are reduced to avoid excessive transaction costs. Farinha (2003) also confirms a positive link between ownership dispersion and dividend payments. With respect to specific types of owners, Gugler (2003) shows that state-controlled firms exhibit the highest dividends, whereas family firms have the lowest target payout ratios in Austria. He argues that state-controlled companies are forced to distribute higher dividends given the more severe agency problems in state-controlled businesses. Conversely, in the family firms, in which family control serves as an effective corporate governance mechanism, the need for dividends is reduced. In the same vein, Goergen et al.'s (2005) empirical evidence within

Germany suggests that banks mitigate information asymmetry and agency costs and thus reduce the need for dividends as a disciplining device.

On the other hand, dividends can be the outcome of better corporate governance systems. In this respect, internal governance mechanisms and the benefits that they entail in terms of preventing managers' expropriation mainly in companies with high free cash flows (Chae et al., 2009) can be the reason that triggers higher dividend payout ratios. In general, better corporate governance structures should be associated with higher dividend payments according to an outcome model of dividends. In line with this explanation for the corporate dividend policy, Michaely and Roberts (2006) propose that companies in which managers' and shareholders' interests are more closely aligned, which is the case for family firms, should pay higher dividends compared to corporations with higher ownership dispersion. An additional reason in favor of a positive link between family ownership and the dividend policy comes from the corporate governance literature, which suggests that internal control mechanisms might need to complement each other, especially in less protective institutional environments (Miguel et al., 2005).

Consistent with this second line of reasoning, some papers provide direct support for a positive relation between family control and dividends. More precisely, previous finance literature on the dividend policy of group-affiliated corporations in Europe suggests that Western European firms use dividends as a way to hinder minority shareholder expropriation (Faccio et al., 2001). Further, recent research that focuses on the Australian Stock Exchange confirms that family firms adopt higher dividend payout ratios (Setia-Atmaja et al., 2009). Considering these arguments and findings along with our focus on Euro zone countries, in which external control mechanisms play a less important role, we formulate the first hypothesis of the paper as follows:

Hypothesis 1. Family firms pay out a higher proportion of their earnings as dividends.

Another important aspect of the dividend policy is the stability of dividend payments. Since the pioneering work by Lintner (1956), previous dividend levels have been generally accepted as important determinants of current dividend payments. A widely accepted explanation for this view is that dividend increases might trigger a positive market reaction and affect positively firm value, whereas dividend cuts and omissions have a negative impact on market valuations and stock prices (Al-Yahyaee et al., 2010). Given the value that shareholders attribute to dividend payout ratios, companies usually pursue a stable dividend

policy, and they are reluctant to either reduce or omit dividends once they are dividend payers (Brav et al., 2005; Ferris et al., 2009).[4] In this respect, as opposed to share repurchases, dividends imply a stronger future commitment on the part of the company, and, as a result, most corporations—mainly publicly listed firms—smooth their dividend payments over time (Michaely and Roberts, 2006). Moreover, the effect of past dividends on current dividend levels allows us to determine the speed at which firms approach their target dividend ratios: namely, the stronger the positive relation between past and current dividends, the longer the company requires to achieve its target payout ratio.

Michaely and Roberts (2006) argue that companies with the least severe agency conflicts are the firms more likely to alter their dividend policy and thus are less likely to smooth dividends. This argument supports the view that smoothing is, in part, associated with agency problems. In this respect, firms in which the conflicts of interests between owners and managers are less severe, such as family firms, will opt for smoothing dividends to a lesser extent (Gugler, 2003). However, Gugler's results and conclusions are based on a sample of corporations that consists predominantly of unlisted firms. In unlisted family firms, agency problems between the controlling family and minority investors are likely to be less pronounced for two main reasons: because minority shareholders are less prevalent in unlisted companies and their role is less significant and because other shareholders in unlisted family firms, apart from the controlling family, are likely to have a close relationship with the owner family.

Meanwhile, listed family-controlled corporations are characterized by acute agency problems between the largest owner and minority shareholders due to their divergent interests. Indeed, the risk of minority investors' wealth expropriation is the most widely accepted potential cost attributed to family control. As suggested in previous research, the dividend policy can be used by family-controlled corporations to alleviate minority shareholders' concerns about expropriation (Setia-Atmaja et al., 2009). Taking into account that our sample consists of publicly listed corporations and that companies with different types of agency problems might have different preferences for stable dividends, we predict a stronger positive relation between past and current dividend levels in family firms than in non-family firms. Consequently, we formulate our second hypothesis as follows:

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

Hypothesis 2. Family firms, as compared to non-family firms, pay more stable dividends.

Given that dividend payments can be the outcome of a strong corporate governance system (see, e.g., Chae et al., 2009; La Porta et al., 2000), we expect that, among family firms, those with less scope for minority investor expropriation will pay out higher dividends. Indeed, some literature hints at the idea that those corporate governance structures more likely to create agency conflicts also lead to reductions in dividend payments. In this respect, Gugler and Yurtoglu (2003) find that when the largest shareholders' voting rights deviate from their cash flow rights, dividends are reduced.

Regarding family control, the benefits and costs related to the family business model suggest that family control will only benefit minority investors under certain circumstances. In particular, the use of control-enhancing mechanisms that allow controlling families to increase their control of the company above their ownership stakes can lead to financial policies that only benefit the family. In these cases, given that owner families' cash flow rights are lower than their control rights, they might prefer to increase the internal funds at their disposal to make decisions that enable them to enjoy the private benefits of control. Moreover, they are in a good position to act in their own best interest because of their higher control of the business.[5] As a consequence, it is likely that the advantages that accrue to the family business model are mainly restricted to those family-controlled corporations in which large shareholder's and minority investors' interests are better aligned, that is, those in which no control-enhancing mechanisms are in place and in which there is no deviation between the control and cash flow rights in the hands of the family.

Supporting this line of reasoning, Bennedsen and Nielsen (2010) report that family-owned firms have higher firm value in Western Europe, but they also show that enlarging the wedge between votes and cash flow rights is associated with a larger value discount in these companies. Meanwhile, King and Santor (2008) report that Canadian family firms with dual class shares, which are one of the mechanisms that lead to deviations between ownership and control, have lower market valuations. Taking into consideration that how family owners gain control of their company (i.e., whether votes exceed cash flow rights) can have important effects in their performance and policies, we propose the following hypothesis:

[5] As Laeven and Levine (2008) report, in the context of complex ownership structures with multiple large shareholders, the deviation of cash flow rights from voting rights provides controlling owners with the incentives (small cash-flow rights) and the ability (sufficient voting rights) to divert corporate resources for private gain.

Hypothesis 3. Family firms with no separations between voting and cash flow rights in the hands of the controlling family distribute a higher proportion of their earnings as dividends.

Another important governance dimension of family firms is the presence of a second large shareholder in the company. In fact, as pointed out in earlier finance literature, in firms with a high level of ownership concentration, the role of second blockholders can be vital (Laeven and Levine, 2008; La Porta et al., 1999). In the case of family firms, family second large shareholders are likely to collude with the controlling family to expropriate minority investors, thus hindering the payment of dividends. In this type of family business, powerful investors impose dividend policies inside the company that allow them to increase the cash flow at their disposal (Khan, 2006) and to enjoy the private benefits of control. By contrast, non-family second blockholders can serve as monitoring and disciplining mechanisms that force the owner family to disgorge excess cash.

Consistent with the proposition that second blockholders can play an important monitoring role in companies with concentrated ownership, Gugler and Yurtoglu (2003) find that firms with a controlling owner and a second large investor exhibit the highest payout ratios. Nevertheless, they do not account for the identity of either of the company's large shareholders, which, in light of prior research, is likely to be very important, mainly when differentiating between family and non-family firms (Maury and Pajuste, 2005). An additional reason for higher dividend payments in family firms with non-family second blockholders lies in the nature of these second large shareholders. Given that they are mainly widely held financial institutions (which, among others, include institutional investors), they could exhibit a preference for dividends as a way to lower the agency cost of free cash flow (Rubin and Smith, 2009).

As a consequence, we expect non-family second blockholders to effectively monitor the controlling family and to serve as corporate governance mechanisms that induce family firms to pay out higher dividends. Thus, we formulate the fourth hypothesis:

Hypothesis 4. Family firms with a non-family second blockholder distribute a higher proportion of their earnings as dividends.

Finally, we clarify whether family control is beneficial to outside investors in that family firms pay out higher dividends when the company has excess cash. Accordingly, we focus on corporations with more free cash flow because excess cash creates one of the main

agency conflicts that the dividend policy can, in turn, help alleviate (Jensen, 1986).[6] Consistent with the idea that family control is an efficient organizational form and that family firms pay out higher dividends to mitigate minority investors' concerns that the controlling family may invest internal funds in projects that do not create value in the long term (and that only benefit the controlling family), we formulate the following hypothesis:

Hypothesis 5. Family firms with more free cash flow problems pay out a higher proportion of their earnings as dividends in relation to their non-family counterparts.

3. The models

3.1. The general partial adjustment model of dividends

We develop several empirical specifications based on Lintner's (1956) model of dividends. It is noteworthy that previous studies that investigate companies' dividend decisions propose similar models (Andres et al., 2009; Fama and French, 2002; Gugler, 2003; among others). According to Lintner, a firm's target dividends, DIV_{it}^{*}, depend on the company's earnings. That is,

$$DIV_{it}^{*} = \tau NI_{it} + \phi X_{it} + \eta_i + d_t + c_i + \nu_{it}, \quad (1)$$

where NI_{it} is the net income, τ is the fraction of earnings that the firm decides to distribute in the form of dividends to shareholders, and X_{it} is a vector of control variables. This vector includes several firm-level characteristics that have been found to be important determinants of dividends in prior research, such as debt, investment, size, Tobin's *q*, and sales. The error term in Eq. (1), namely, $\varepsilon_{it} = \eta_i + d_t + c_i + \nu_{it}$, is split in four different components that play an important role in explaining corporate dividend decisions. The first component, η_i, is an individual or firm-specific effect that does not change over time but is unobservable to the researcher. In our setting, it is necessary to account for this unobservable firm heterogeneity because it captures corporate culture and management ethics (Chi, 2005), which could directly affect both the dependent as well as the explanatory variables in the empirical models that we estimate. The importance of considering this effect is further reinforced when comparing family to non-family businesses because each type of company has its own

[6] Another control device, apart from dividends, is debt, which also disciplines managers and contributes to reduce managerial value expropriation and overinvestment agency problems associated with free cash flow (D'Mello and Miranda, 2010; Wang, 2011).

specificity (McVey and Draho, 2005) that influences a firm's behavior. Therefore, to reduce the risk of obtaining biased results, we eliminate this individual effect by using the panel data methodology and taking first differences of the variables before estimating the models. This step also allows us to alleviate the omitted variable bias (Chi, 2005). The second component, d_t, measures the temporal or time-specific effect with the corresponding time dummy variables, so that we can control for the effect of macroeconomic variables on the dividend decision. We control for this effect because corporations decide whether to increase/initiate or reduce/omit dividend payments depending on the stage of the economic cycle. The third component, c_i, consists of country dummy variables, which we include to control for country-specific effects and institutional factors, such as the legal protection of minority shareholders, which are likely to be important predictors of dividend payout ratios (La Porta et al., 2000). Finally, the last component of the error term, v_{it}, is the random disturbance.

In line with Lintner (1956), companies approach their target dividends over time and not automatically; therefore,

$$DIV_{it} - DIV_{it-1} = \beta_0 + \lambda(DIV_{it}^{*} - DIV_{it-1}), \tag{2}$$

where $0 < \lambda < 1$ is the speed of adjustment to the target dividend. In fact, given the signal that dividend cuts and omissions send to the market, firms usually smooth their dividends, and past dividend levels are important predictors of current dividend payments. This relation can be seen in the following specification, which is equivalent to Eq. (2) after rearranging terms:

$$DIV_{it} = \beta_0 + (1-\lambda)DIV_{it-1} + \lambda DIV_{it}^{*}. \tag{3}$$

If we now replace Eq. (1) in this model, we obtain

$$DIV_{it} = \beta_0 + (1-\lambda)DIV_{it-1} + \lambda\tau NI_{it} + \lambda\phi X_{it} + \lambda\eta_i + \lambda d_t + \lambda c_i + \lambda\nu_{it}, \tag{4}$$

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

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + \beta_2 NI_{it} + \omega X_{it} + \eta_i' + d_t' + c_i' + \nu_{it}', \tag{5}$$

where $\beta_1 = 1-\lambda$ and $\beta_2 = \lambda\tau$.

3.2. Extensions of the dividend model

To investigate how family firms differ from non-family ones when it comes to the dividend policy, we extend Eq. (5) in the following ways. First, we test Hypothesis 1 and evaluate whether family firms distribute a higher fraction of their earnings as dividends by estimating the following model:

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \gamma_2 FD_{it}) NI_{it} + \omega X_{it} + \eta_i' + d_t' + c_i' + \nu_{it}', \quad (6)$$

in which DIV_{it} and NI_{it} stand for a firm's dividends and net income, respectively, and FD_{it} is a dummy variable that equals one for family firms, and zero otherwise.[7] In this model, the coefficients of interest are β_2 and γ_2. β_2 captures the effect of NI_{it} on dividend levels for non-family firms (given FD_{it} = 0), and the relation between NI_{it} and dividends in family firms' case is measured by $\beta_2 + \gamma_2$.[8] If family businesses distribute a higher fraction of their earnings in the form of dividends, consistent with Hypothesis 1, we should find a stronger positive relation between earnings and dividends in these companies, that is, $(\hat{\beta}_2 + \hat{\gamma}_2) > \hat{\beta}_2$.

To test our second hypothesis and analyze the possibility that family and non-family companies adjust toward their target dividends at a different speed, we focus on the relation between past and current dividend levels while differentiating between the family and non-family firm categories. To this end, we propose:

$$DIV_{it} = \beta_0 + (\beta_1 + \gamma_1 FD_{it}) DIV_{it-1} + \beta_2 NI_{it} + \omega X_{it} + \eta_i' + d_t' + c_i' + \nu_{it}'. \quad (7)$$

With Eq. (7), we can analyze the possibility that family and non-family companies adjust toward their target payout ratios at a different speed and determine whether family firms prefer more stable dividend payments. As can be noted, we now interact the family dummy with lagged dividends. Therefore, the influence of past dividend levels on current dividend levels is captured by β_1 in non-family firms (because FD_{it} = 0). This influence is measured by $(\beta_1 + \gamma_1)$ in the case of family companies. To confirm that the stability in dividend payments is higher in family firms, in line with Hypothesis 2, the coefficients in Eq. (7) should be related as follows: $(\hat{\beta}_1 + \hat{\gamma}_1) > \hat{\beta}_1$. Note that $1 - (\hat{\beta}_1 + \hat{\gamma}_1)$ and $1 - \hat{\beta}_1$ measure the speed at which family and non-family firms adjust their dividend policies, respectively.

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

[8] A summary of the coefficients of interest in each of the empirical specifications is provided in Appendix C.

As a result, the proposed inequality means that family firms' adjustment speed is expected to be lower than that of their non-family counterparts.

However, family companies with varying degrees of agency conflicts might adopt different dividend policies. In Hypothesis 3, we posit that the higher dividend payments by family firms are mainly driven by those family firms that are less likely to suffer from agency conflicts between the controlling family and minority shareholders. To test this proposition, we extend the model in Eq. (6) as detailed in the following specification:

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \chi_2 WEDFD_{it} + \eta_2 NWEDFD_{it}) NI_{it} + \omega X_{it} + \eta_i' + d_t' + c_i' + \nu_{it}'. \quad (8)$$

In Eq. (8), we differentiate between wedge and nonwedge family firms.[9] The impact of net income on dividends for non-family corporations is evaluated as before (given both $WEDFD_{it}$ and $NWEDFD_{it} = 0$). In wedge family firms, this impact is evaluated by $(\beta_2 + \chi_2)$ (because $NWEDFD_{it} = 0$), and in family businesses with no separation between ownership and control the relation between earnings and dividends is captured by $(\beta_2 + \eta_2)$ (because $WEDFD_{it} = 0$). We expect that $(\hat{\beta}_2 + \hat{\eta}_2) > (\hat{\beta}_2 + \hat{\chi}_2)$ to find support for our third hypothesis.

To examine whether second blockholders influence family firms' dividend decisions and test our fourth hypothesis, we extend Eq. (6) in the following way:

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} + \vartheta_2 NSSPFD_{it}) NI_{it} + \omega X_{it} + \eta_i' + d_t' + c_i' + \nu_{it}'. \quad (9)$$

Given that different types of second large shareholders in family companies are likely to differ from each other in their dividend preferences, we split the family firm sample in three categories: family companies with a family second blockholder, family companies with a non-family second blockholder, and family firms with no second large shareholder. The dummy variables included in Eq. (9) are defined as follows: $FSSPFD_{it}$ (family second shareholder present family dummy) equals one for family firms with a family second blockhoder, and zero otherwise; $NFSSPFD_{it}$ (non-family second shareholder present family dummy) equals one for family firms with a non-family second blockholder present, and zero otherwise; and $NSSPFD_{it}$ (no second shareholder present family dummy) takes the value of one for family firms with no second large shareholder, and zero otherwise. Consequently, β_2

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

captures the relation between earnings and dividends in non-family firms (given $FSSPFD_{it}$, $NFSSPFD_{it}$, and $NSSPFD_{it}$ = 0). The relation between these two variables is measured by $(\beta_2 + \vartheta_2)$ in the case of family firm with no second large shareholder. In family businesses with a family second blockholder, the effect of net income on dividend payments is evaluated by $(\beta_2 + \varpi_2)$, and in family firms with a non-family second blockholder, this effect is measured by $(\beta_2 + \theta_2)$. If non-family second blockholders—which are the type of blockholders that are more likely to perform an active monitoring and disciplining role inside family firms compared to family second large shareholders—do indeed force family firms to pay out higher dividends, as we propose in Hypothesis 4, we should find that $(\hat{\beta}_2 + \hat{\theta}_2) > \hat{\beta}_2$ and $(\hat{\beta}_2 + \hat{\theta}_2) > (\hat{\beta}_2 + \hat{\varpi}_2)$.

Finally, to test whether the higher dividend payments by family firms are an outcome of overall better governance in these companies and whether dividends constitute a way of hampering outside investor expropriation deriving from overinvesting excess cash flow, we focus on corporations with more severe free cash flow problems. Within this type of firms, we compare family and non-family businesses' behavior in terms of their dividend choices. In particular, we propose the following model to test Hypothesis 5:

$$\begin{aligned} DIV_{it} = {} & \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \mu_2 FCFFD_{it} + \psi_2 FCFNFD_{it}) NI_{it} \\ & + \omega X_{it} + \eta_i' + d_t' + c_i' + \nu_{it}', \end{aligned} \tag{10}$$

in which $FCFFD_{it}$ (free cash flow family dummy) takes the value of one for family firms more likely to have free cash flow agency conflicts, and zero otherwise; and $FCFNFD_{it}$ (free cash flow non-family dummy) equals one for non-family corporations with free cash flow problems, and zero otherwise. As a result, in this model, β_2 measures the influence of earnings on dividends for firms with less severe agency problems of free cash flow, either family or non-family (given both $FCFFD_{it}$ and $FCFNFD_{it}$ = 0). This influence is evaluated by $(\beta_2 + \mu_2)$ in family companies with free cash flow problems (since $FCFNFD_{it}$ = 0). For their non-family counterparts, the effect of net income on dividend levels is measured by $(\beta_2 + \psi_2)$ (given $FCFFD_{it}$ = 0). Thus, Hypothesis 5 posits that $(\hat{\beta}_2 + \hat{\mu}_2) > (\hat{\beta}_2 + \hat{\psi}_2)$.

To distinguish between companies with more and less free cash flow problems, we use the free cash flow measure proposed in Miguel and Pindado (2001). This measure is obtained by dividing a firm's internal cash flow by its investment opportunities, as captured by Tobin's *q*. Therefore, a high value of the free cash flow variable means that the company

has a large amount of internal funds relative to its investment opportunities, which indicates a high risk of overinvesting. With this free cash flow measure, FCF_{it}, we define a free cash flow dummy, $FCFD_{it}$. Specifically, the dummy takes the value of one for firms whose free cash flow exceeds the sample median, and zero otherwise. Then, we classify the companies for which the dummy equals one into family and non-family controlled and specify the $FCFFD_{it}$ and $FCFNFD_{it}$ dummies that enter the right-hand side of model (10), which we use to test Hypothesis 5.

4. Data and estimation method

4.1. Data

We need two different types of information to estimate the empirical models developed. First, we need 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 necessary to test our hypotheses. These data are obtained from two different sources. We extract the financial and stock information from Worldscope database, and we use the database developed by Faccio and Lang (2002) to obtain information on the ownership structure of companies. We also require some macroeconomic data (such as the growth of capital goods prices and the rates of interest of short- and long-term debt) to calculate the variables as detailed in the Appendices. We have obtained this information from the *Main Economic Indicators* published by the Organization for Economic Cooperation and Development.

From the Western European countries represented in Faccio and Lang's (2002) database, we focus on those that are part of the Euro zone (i.e., Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal). That is, our sample is comprised of firms from nine different countries, and all companies (except Irish firm) operate in continental Europe, where family firms represent a large percentage of the corporate sector. We then must merge the ownership data of Euro zone corporations with the financial information from Worldscope. Following previous studies on the dividend payout policy (see, e.g., Chae et al., 2009; Shao et al., 2010), we exclude from the final sample financial companies (i.e., SIC codes 6000–6999) and regulated utilities (i.e., SIC codes 4900–4999).

Although the data set from Faccio and Lang (2002) only provides ownership information for each company for one single year, this limitation is not important because we only use this information to build dummies. Moreover, as highlighted in previous studies (see, e.g., La Porta et al., 1999; Zhou, 2001), the ownership structure of corporations tends to

be relatively stable over time and typically changes slowly from year to year within a company.[10]

The availability of information needed to test the hypotheses proposed in Section 2 also restricts the time period of the investigation. In particular, our study period ranges from 1996 to 2006. Moreover, the estimation method that we use imposes an additional restriction to account for the unobservable heterogeneity and endogeneity problems; that is, we require information for at least four consecutive years per company to test for the absence of second-order serial correlation because our estimation method (GMM) is based on this assumption. As a consequence, the final sample is an unbalanced panel that is comprised of 645 companies (5,486 firm-year observations) for which we obtain all needed information for at least four consecutive years between 1996 and 2006. However, the models are estimated using fewer observations because of the dynamic nature of the dividend decision, which requires that we include in the right-hand side of the models the lag of the dependent variable.[11] The structure of the full and family firm samples per country 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 this percentage might initially seem large, it is quite reasonable when we consider that financial institutions and UK companies are excluded from the sample.[12] The main summary statistics (mean, standard deviation, minimum, median, and maximum) of the variables included in our models are shown in Table 2.

(Insert Table 1 about here)

(Insert Table 2 about here)

4.2. Estimation method

The characteristics of Eqs. (6) to (10) derived in Section 3.2, which enable us to test our hypotheses empirically, determine the choice of the estimation method. As discussed in this section, our empirical models include an individual effect that we must take into consideration, which leads us to use the panel data methodology in the estimation process so

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

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

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

that we can control for this unobservable firm-specific effect. We must also account for the unobservable heterogeneity in our study because the target dividend ratio depends on several unobservable firm-level characteristics as shown in Eq. (1) and also because this unobservable individual effect is an important determinant of dividend payments as can be seen in empirical models (6) to (10).[13]

Additionally, the use of a panel data estimation method allows us to consider a second problem that emerges when analyzing the relation between a firm's ownership structure and its dividend decisions, namely, endogeneity. This problem is common to most corporate governance studies and is even more severe in light of previous investigations that show that dividends impact on some of the explanatory variables included in the right-hand side of our empirical specifications (see, e.g., Miguel et al., 2005; Pindado and de la Torre, 2006). Thus, to mitigate this problem, we estimate the models by using an instrumental variable estimator, GMM, that allows us to control for problems of endogeneity by using the lags of the explanatory variables as instruments. As Blundell and Bond (1998) suggest, when deriving the system estimator used herein, we use all the right-hand side variables in the models lagged from t–1 to t–4 as instruments for the equations in differences (expect for the lagged variables included in the right-hand side of the models, whose instruments are lags from t–2 to t–5), and only one instrument for the equations in levels. Moreover, as shown in Eq. (3), our model captures the dynamic nature of the dividend payout policy and, consequently, we need a dynamic estimator such as the GMM.

Finally, we check for the potential misspecification of the models. First, we use the Hansen J statistic of overidentifying restrictions to test for the absence of correlation between the instruments and the error term and confirm that the instruments used are valid. Second, we use the m_2 statistic, developed by Arellano and Bond (1991), to test for the lack of second-order serial correlation in the first-difference residual and find that no problem exists 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.

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

5. Results

5.1. Descriptive analysis

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

As shown in Panel A of Table 3, dividend payout ratios are, on average, lower in family than in non-family companies but only at the 10% level of significance (see column (2)–(3) *t*-statistics). This result is not fully consistent with our hypotheses. However, given that family firms also differ from their non-family counterparts along several other dimensions, for which a univariate analysis does not control, we cannot rule out the possibility that the differences in dividend ratios are due to differences in other firm-level characteristics.

Turning now to Panel B of Table 3, we see that wedge and non-wedge family companies differ from each other. An interesting result in this second part of the table is the differences between the two family firm categories and non-family corporations in their dividend ratios. As can be noted (see columns (2)–(4) and (2)–(3) *t*-statistics), the lower dividend ratios by family firms found in Panel A are entirely driven by family-controlled firms in which minority shareholder expropriation is more likely (i.e., wedge family firms). This finding is in line with the proposition that better governed family firms are likely to pay out more dividends than those that make use of control-enhancing mechanisms. However, we must be very cautious when interpreting the results of our univariate analyses because, as noted previously, we do not control for other factors previously identified as relevant predictors of dividend decisions. Moreover, as highlighted in Table 3, family and non-family firms differ from each other in several aspects and these differences could, in turn, explain their different behavior when it comes to their dividend policies.

(Insert Table 3 about here)

5.2. Regression results

We now present the results obtained from the estimation of the empirical models explained in Section 3.2. In Table 4 (column 1), we report the estimated coefficients that allow us to test Hypothesis 1. As the results show, the positive effect of net income on dividends is stronger in family firms ($\hat{\delta}_2 + \hat{\gamma}_2 = 0.005 + 0.019 = 0.024$, statistically significant, see t_1) than in non-family firms ($\hat{\delta}_2 = 0.005$), which indicates that the former distribute a higher percentage of their earnings in the form of dividends.

In addition, the results presented in Table 4 (column 2), which enable us to test our second hypothesis, suggest a stronger positive relation between past and current dividend levels in family firms ($\hat{\beta}_1 + \hat{\gamma}_1 = 0.146 + 0.140 = 0.286$, statistically significant, see t_2) than in non-family firms ($\hat{\beta}_1 = 0.146$). Therefore, if we now compute a firm's speed of adjustment toward its target dividend ratio as explained in Section 3.2 for family and non-family firms,

$$SOA_{DIV}^{F} = 1 - (\hat{\beta}_1 + \hat{\gamma}_1) = 1 - (0.146 + 0.140) = 0.714 \text{ and} \tag{11}$$

$$SOA_{DIV}^{NF} = 1 - \hat{\beta}_1 = 0.854, \tag{12}$$

where superscripts *F* and *NF* denote family and non-family, respectively, we find that family firms' adjustment speed is lower. This result confirms that family-controlled corporations prefer more stable dividends and are more likely to smooth their dividend payments as compared to non-family corporations, thus lending support to Hypothesis 2.

(Insert Table 4 about here)

These results confirm our line of reasoning and contradict previous works that find a substitution effect between a firm's ownership structure and its dividend policy in relation to alleviating agency conflicts (Goergen et al., 2005; Moh'd et al., 1995). Our findings are also at odds with the empirical evidence provided by Gugler (2003) on the relation between family control and a company's payout ratio. In particular, Gugler concludes that family companies in Austria have the lowest target payout ratios and smooth their dividends to a lesser extent because the conflicts of interests between managers and controlling families are less severe than conflicts of interests experienced within other types of firms. Nevertheless, it

is important to consider that the sample of companies used in Gugler's study is mainly comprised of unlisted firms, and unlisted family companies are likely to differ significantly from listed family corporations. In particular, in unlisted family businesses, the classic agency problem between owners and managers is resolved because ownership is concentrated in the hands of the family; at the same time, agency conflicts between large and minority investors are less severe because in this type of family business other shareholders usually have a close relationship with the owner family. Notably, Hamelin (2010) highlights that corporate governance issues differ in small businesses and the specificity of small- and medium-sized enterprises' minority shareholders makes it difficult to extract private benefits at their expense, thus reducing the need for high dividend payments.

By contrast, in large listed family corporations, which are represented in our sample, the interests of the controlling family and those of minority investors are not as closely aligned (Villalonga and Amit, 2006). In these firms, dividends serve as a disciplining mechanism to hinder minority shareholder expropriation by the controlling family (Faccio et al., 2001; Setia-Atmaja et al., 2009). Moreover, the family firms within our sample—given their large size and long existence—are likely in the hands of several family generations, as opposed to founder-owned and -managed family businesses. In founder-owned and -managed firms, only the original founder or, at most, few family members are involved in the business. However, in older, larger family firms, as represented by the firms in our sample, several members of the controlling family commonly have an interest in the corporation, either by actively participating in the company management or simply by owning a stake in the firm. In these cases, a way to reward passive family members whose only link to the corporation are their shares is by paying out steady dividends. By distributing a higher proportion of their earnings as dividends, these family firms avoid the risk of disputes between active and passive family members. Moreover, by simultaneously adopting a dividend smoothing policy, family companies can alleviate transaction cost concerns and avoid the risk that the business runs out of liquidity and compromises the investment in future value-creating projects.

Our findings can also be explained in light of the outcome model of dividends (Chae et al., 2009; La Porta et al., 2000). In this sense, family control appears to act as an efficient corporate governance mechanism that triggers higher and more stable dividend payments to minimize agency problems between the owner family and minority shareholders, thus benefiting outside investors in the Euro zone. The empirical evidence that we provide is in line with Hu et al. (2007), who report that family ownership per se is positively associated

with the likelihood of paying dividends and the amount of dividend payments, thus supporting the agency model of dividends. The regression results of our first empirical model complement Setia-Atmaja et al.'s (2009) findings. Setia-Atmaja et al. conclude that family firms in Australia pay more dividends as a way to mitigate minority investors' concerns about wealth expropriation by the owner family. We show that family control is associated with higher dividend payments in the Euro zone, where minority shareholder protection afforded by the law is, in general, weaker than in an Anglo-Saxon setting, such as Australia.

Although overall family firms pay out higher dividends, the estimated coefficients presented in Table 5 (columns 1 and 2) show that this finding is mainly due to certain family companies, as we posited in Hypotheses 3 and 4. Specifically, the results presented in Table 5 (column 1) show that family firms with no wedge between ownership and control ($\hat{\beta}_2 + \hat{\eta}_2 = 0.006 + 0.023 = 0.029$, statistically significant, see t_2) exhibit a stronger positive relation between net income and dividends than the rest of family firms ($\hat{\beta}_2 + \hat{\chi}_2 = 0.006 + 0.004 = 0.010$, statistically significant, see t_1) and non-family companies ($\hat{\beta}_2 = 0.006$). These coefficients corroborate Hypothesis 3 and indicate that when the controlling family's ownership and control do not deviate, the controlling family's interests are more closely aligned with those of the firm's other stakeholders (i.e., managers or minority shareholders), which results in higher dividend payments. This complementary role between effective family control and dividends is in line with Miguel et al. (2005), who conclude that in the Spanish corporate governance system internal control mechanisms are used in a complementary way, but only when managers' and owners' interests converge. These results also reinforce the suggestion that our findings on the relation between family control and dividend policy can be explained by the outcome model of dividends. In particular, our empirical evidence suggests that the positive relation between family control and dividend payments is primarily attributable to family corporations with better corporate governance structures.

(Insert Table 5 about here)

Additionally, in light of the regression results presented in Table 5 (column 2) the presence of second large shareholders and their identity in companies with concentrated ownership structures, such as family companies, proves to be very important in determining

their dividend policies. More precisely, the estimated coefficients in this column show that the presence of a non-family second large shareholder in family firms leads to a stronger positive impact of net income on dividends ($\hat{\beta}_2 + \hat{\theta}_2 = 0.006 + 0.021 = 0.027$, statistically significant, see t_4), whereas the opposite occurs in the case of family businesses with family second blockholders ($\hat{\beta}_2 + \hat{\varpi}_2 = 0.006 - 0.011 = -0.005$, statistically significant, see t_3). We also find that family companies with no second large shareholder distribute a higher proportion of their earnings as dividends ($\hat{\beta}_2 + \hat{\vartheta}_2 = 0.006 + 0.027 = 0.033$, statistically significant, see t_5) as compared to non-family corporations ($\hat{\beta}_2 = 0.006$). These results support Hypothesis 4 and suggest that second blockholders in family firms affect dividend choices significantly. Thus, we obtain empirical evidence consistent with prior research by Gugler and Yurtoglu (2003), who find that companies with a controlling owner and a second large investor have the highest payout ratios. Specifically, we conclude that non-family second blockholders in family firms are effective in monitoring the controlling family and family firm's dividend decision-making processes, whereas family second large shareholders appear to collude with the owner family to adopt policies that benefit themselves at the expense of minority investors and that allow them to enjoy the private benefits of control.

Having paid particular attention to the difference between family and non-family firms in terms of their dividend policies, we now focus on the subsample of corporations in which higher dividend payments are more desirable. Table 5 (column 3) reports the estimated coefficients of Eq. (10). Through these coefficients, we examine and find, consistent with our hypothesis, that family firms with severe free cash flow problems distribute higher dividends as compared to their non-family counterparts. Whereas family firms with a level of free cash flow above the sample median exhibit a stronger positive relation between net income and dividends ($\hat{\beta}_2 + \hat{\mu}_2 = 0.015 + 0.026 = 0.041$, statistically significant, see t_6), thus pointing to higher dividend payments, the same does not hold for non-family corporations with similar free cash flow problems ($\hat{\beta}_2 + \hat{\psi}_2 = \hat{\beta}_2 = 0.015$). Therefore, our results support Hypothesis 5 regarding higher dividend payments in the case of family firms.

According to this finding, we conclude that family companies with higher free cash flow problems concern themselves about the loss of reputation that might be attached to not paying out dividends to shareholders when the firm has few investment opportunities and high levels of internal cash flow. As a consequence, these family firms distribute higher dividends to prevent managers from investing in value-destroying projects and to alleviate

expropriation concerns of outside shareholders. This result contradicts Khan's (2006) proposition that cash flow accumulation by powerful investors can be associated with their desire to pursue nonvalue maximizing goals. In addition, it further supports our argument that family control—mainly when it does not exceed family ownership—can be understood as a governance mechanism that leads to higher dividend payments.

With respect to the control variables included in all models, we find a negative and significant effect of debt, investment, and size on dividends ($\hat{\omega}_1 < 0$, $\hat{\omega}_2 < 0$, and $\hat{\omega}_3 < 0$). On the contrary, Tobin's *q* and sales impact positively and significantly on dividends ($\hat{\omega}_4 > 0$ and $\hat{\omega}_5 > 0$). A negative relation between debt and dividends indicates that both are used as substitute monitoring mechanisms (Setia-Atmaja et al., 2009) and supports the idea that issuing more debt reduces net income and hence dividends (Wang, 2011). The negative effect of investment on dividends is consistent with previous studies (see, e.g., Jensen et al., 1992) and confirms the view that investment and dividends can be considered as alternative uses of funds. The negative association between dividends and size can be explained by the construction of the variables (see, e.g., Miguel et al., 2005).[14] Meanwhile, the positive and significant coefficient of Tobin's *q*, which is a measure of a firm's investment opportunities, is in line with the role of dividends as a signaling device. Finally, the positive association between sales and dividends suggests that companies with higher net sales or revenues pay more dividends.

6. Robustness checks

We conduct a series of robustness tests to check whether our main finding of higher dividend payments in family companies is robust to alternative specifications. First, in Table 6 (column 1), we present the results of estimating Eq. (6) now using Faccio and Lang's (2002) family firm definition that relies on a 20% threshold of control rights.[15] The estimated coefficients presented in the first column of Table 6 confirm that family control continues to be associated with higher dividend payout ratios even after using the more restrictive family firm definition.

[14] Note that an increase in size, as measured by the logarithm of the replacement value of total assets, means a decrease in the dividend variable, which is scaled by this replacement value.

[15] The percentage of family businesses decreases to 66.05% when we use the 20% cut-off point of control rights to identify the family firms in the sample.

(Insert Table 6 about here)

In our second robustness test, we consider the possibility of misclassifications when dividing the sample into family and non-family companies. Although we employ Faccio and Lang's (2002) ownership data to identify the family firms in the sample, the family firm definition proposed by these authors relies on the assumption that all corporations ultimately controlled by an unlisted company are family-controlled. According to previous studies, this assumption could be incorrect in some cases (Franks et al., 2010). Therefore, to mitigate concerns that our results are driven by possible misclassifications of family firms whose ultimate owner is an unlisted company, we drop from the sample this category of family businesses.[16] The results of estimating Eq. (6) using this smaller sample are in Table 6 (column 2) and corroborate that our main finding is not driven by family companies whose ultimate owner is an unlisted firm.

The purpose of these additional analyses is to check that our main result is not affected by the family firm definition adopted. In both cases we corroborate that family control leads to higher dividends as compared to non-family companies, thus supporting the view that family businesses see the dividend payout policy as a mechanism to mitigate expropriation concerns.

7. Conclusions

We analyze the effect of family control on firms' dividend decisions to disentangle how the family business model affects this particular financial policy in the context of the Euro zone, where family firms play a very important role. To this end, we use a dynamic model of dividends and consider previous agency explanations for firms' dividend preferences. We find that family firms in our sample have higher dividend payout ratios, which is consistent with the outcome model of dividends (Chae et al., 2009; La Porta et al., 2000). Consequently, we argue two points: First, a family's large stake in the company allow the family to force managers to distribute a higher fraction of the firm's earnings in the form of dividends, and, second, family firms alleviate concerns about minority shareholders' wealth expropriation in Euro zone countries by pursuing higher dividends payments. Going a step further, we use a dynamic dividend model to show that family-controlled corporations prefer more stable

[16] After excluding from the full sample family firms whose ultimate owner is a family unlisted company, we end up with a reduced sample of 371 companies (3,237 firm-year observations).

dividend payments and approach their target dividend ratios at a lower speed. This more stable dividend policy supports the view that family firms regard this corporate decision as a device to reduce their main agency problem (i.e., the conflict between the controlling family and minority shareholders).

In line with these interpretations of family firms' dividend preferences, we show that the higher dividends of family corporations are mainly driven by family firms with better corporate governance structures, that is, those family firms in which the owner families' voting rights do not exceed their cash flow rights. Further, we find that the interaction between multiple large shareholders in family companies influences dividend policies in these firms. Specifically, on the one hand, non-family second blockholders induce family companies to adopt higher dividend payments, which is consistent with the monitoring role of this type of investor. On the other hand, family second large shareholders lead to reductions in family firms' dividend payments. In this case, controlling owners and family second blockholders appear to collude to pursue dividend polices that increase the cash flow at their disposal, which they use for their own best interest.

Our study also points to an efficient use of the dividend policy by family businesses compared to other types of companies. Indeed, family firms that suffer from severe free cash flow problems distribute higher dividends compared to their non-family counterparts. Therefore, family firms' dividend policy is consistent with the free cash flow theory.

The findings we present have several important implications for corporate finance and governance. Our results indicate that investors can benefit from the presence of a controlling family in the companies in which they invest because this type of control leads to higher and more stable dividend payments. For policymakers, the finding that the higher dividends of family companies are primarily attributable to those firms with no wedge between the family's voting and cash flow rights suggests that governments and regulators should put in place the necessary measures to prohibit owner families engaging in control-enhancing mechanisms that lead to deviations between ownership and control. Finally, for family firms themselves, the empirical evidence that we provide encourages them to pay out dividends as a way to alleviate minority shareholder expropriation and also to reduce the potential for disputes between family members with different interests within the company. In so doing, controlling families can attract more investors to their firms and increase their shareholder base as well as act in the best interest of the long-term survival of the firm. Furthermore, owner families with large stakes in the same company must avoid colluding with each other because such behavior damages credibility and weakens the viability of the business.

Appendix A

A.1. Dividends

$$DIV_{it} = CDIV_{it} / K_{it}, \tag{A1}$$

where $CDIV_{it}$ and K_{it} denote the total common dividends paid by the firm and the replacement value of total assets in year *t*, respectively. The replacement value of total assets is obtained as

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

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

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

for $t > t_0$ and $RF_{it_0} = BF_{it_0}$, where t_0 is the first year of the chosen period (in our case, 1996). On the other hand, $\delta_{it} = BD_{it} / BF_{it}$ and $\phi_t = (GCGP_t - GCGP_{t-1}) / GCGP_{t-1}$, where BD_{it} is the book depreciation expense of the firm in year *t* and $GCGP_t$ is the growth of capital goods prices extracted from the Organization of Economic Cooperation and Development's *Main Economic Indicators*. Previous studies on the corporate dividend policy use similar dividend measures, namely, dividends scaled by total assets, as a dependent variable (see, e.g., Fama and French, 2002; Miguel et al., 2005; Shao et al., 2010).

A.2. Net income

$$NI_{it} = NIAPD_{it} / K_{it}, \tag{A4}$$

where $NIAPD_{it}$ stands for net income after preferred dividends of the firm corresponding to year *t*.

A.3. Debt ratio

$$DEBT_{it} = \frac{MVLTD_{it}}{BVSTD_{it} + MVLTD_{it} + MVE_{it}}, \tag{A5}$$

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

$$MVLTD_{it} = \left[\frac{1+l_{it}}{1+i_l}\right] BVLTD_{it}, \tag{A6}$$

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

$$l_{it} = \frac{IPLTD_{it}}{BVLTD_{it}}, \tag{A7}$$

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

$$IPLTD_{it} = \frac{i_l BVLTD_{it}}{i_s BVSTD_{it} + i_l BVLTD_{it}} IP_{it}, \tag{A8}$$

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

A.4. Investment

$$I_{it} = (NF_{it} - NF_{it-1} + BD_{it}) / K_{it}, \tag{A9}$$

where NF_{it} denotes net fixed assets of the firm in year t and BD_{it} is the book depreciation expense of the firm corresponding to year t. This variable is calculated following Lewellen and Badrinath (1997). The K_{it} denotes the replacement value of total assets, which is obtained as explained in Appendix A.1.

A.5. Size

$$SIZE_{it} = Ln(K_{it}), \tag{A10}$$

where K_{it} is the replacement value of total assets computed as explained in Appendix A.1.

A.6. Tobin's q

$$Q_{it} = (MVE_{it} + MVD_{it}) / K_{it}, \tag{A11}$$

where MVE_{it} is the market value of equity and $MVD_{it} = MVLTD_{it} + BVSTD_{it}$ is the market value of debt. For an explanation of the $MVLTD_{it}$ and $BVSTD_{it}$ variables, see Appendix A.3.

A.7. Sales

$$REV_{it} = REV_{it} / K_{it}, \tag{A12}$$

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

A.8. Cash flow

$$CF_{it} = (NP_{it} + BD_{it}) / K_{it}, \tag{A13}$$

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

A.9. Free cash flow

$$FCF_{it} = CF_{it} / Q_{it}, \tag{A14}$$

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

Appendix B

B.1. Family dummy

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

B.2. Wedge family dummy

The $WEDFD_{it}$ is a dummy variable that equals one for family firms in which there is a wedge between the voting and the cash flow rights owned by the controlling family, and zero otherwise.

B.3. Non-wedge family dummy

The $NWEDFD_{it}$ is a dummy variable that equals one for family firms in which there is no deviation between the voting and the cash flow rights owned by the controlling family, and zero otherwise.

B.4. Family second shareholder present family dummy

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

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

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

B.6. No second shareholder present family dummy

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

B.7. Free cash flow family dummy

The $FCFFD_{it}$ is a dummy variable that equals one for family firms with high free cash flow problems (as captured by the free cash flow measure proposed in Miguel and Pindado, 2001), and zero otherwise.

B.8. Free cash flow non-family dummy

The $FCFNFD_{it}$ is a dummy variable that equals one for non-family firms with high free cash flow problems, and zero otherwise.

Appendix C

C.1. Coefficients of interest in the dividend models

This appendix presents a summary of the coefficients that capture the effect of net income on dividends for each model and type of corporation; expect in Eq. (7), in which the coefficients evaluate the relation between past and current dividend levels. The sums of coefficients in bold are those for which a linear restriction test is performed. The *t*-statistics of the corresponding linear restriction test are reported in the tables in which the regression results are shown.

Model	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**
Subsample					
Non-family firms	β_2	β_1	β_2	β_2	
Free cash flow non-FFs					$\beta_2+\psi_2$
Non-free cash flow non-FFs					β_2
Family firms	$\boldsymbol{\beta_2+\gamma_2}$	$\boldsymbol{\beta_1+\gamma_1}$			
Wedge family firms			$\boldsymbol{\beta_2+\chi_2}$		
Non-wedge family firms			$\boldsymbol{\beta_2+\eta_2}$		
Free cash flow FFs					$\boldsymbol{\beta_2+\mu_2}$
Non-free cash flow FFs					β_2
Family second shareholder present				$\boldsymbol{\beta_2+\varpi_2}$	
Non-family second shareholder present				$\boldsymbol{\beta_2+\theta_2}$	
No second shareholder present				$\boldsymbol{\beta_2+\vartheta_2}$	

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Table 1

Distribution of the sample by country and ownership structure

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

Panel A: Distribution of the full sample by country

Country	No. firms	% firms	No. obs.	% obs.
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	5,486	100

Panel B: Distribution of the sample by ownership structure

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

Table 2

Summary statistics for the full sample

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

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

Table 3

Firm-level characteristics by ownership structure

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

Panel A: Family firms versus non-family firms

	All	Family	Non-family	*t*-statistic
	(1)	(2)	(3)	(2)–(3)
No. obs.	5,486	4,182	1,304	
DIV_{it}	0.013	0.013	0.014	-1.445***
NI_{it}	0.022	0.022	0.023	-0.542
$DEBT_{it}$	0.107	0.103	0.118	-4.160*
I_{it}	0.049	0.048	0.051	-1.296***
$SIZE_{it}$	13.176	12.922	13.989	-18.078*
Q_{it}	0.774	0.788	0.729	2.918*
REV_{it}	1.006	1.044	0.884	9.064*
CF_{it}	0.039	0.038	0.040	-1.083
FCF_{it}	0.048	0.044	0.062	-4.232*

Panel B: Wedge versus non-wedge family firms

	All	Wedge family	Non- wedge family	Non-family	*t*-statistic	*t*-statistic	*t*-statistic
	(1)	(2)	(3)	(4)	(2)–(4)	(3)–(4)	(2)–(3)
No. obs.	5,486	1,169	3,013	1,304			
DIV_{it}	0.013	0.012	0.013	0.014	-2.119**	-0.935	-1.409***
NI_{it}	0.022	0.025	0.021	0.023	0.749	-0.992	1.772**
$DEBT_{it}$	0.107	0.113	0.099	0.118	-1.064	-5.081*	3.558*
I_{it}	0.049	0.048	0.049	0.051	-1.207	-1.150	-0.361
$SIZE_{it}$	13.176	13.569	12.671	13.989	-5.302*	-21.660*	15.058*
Q_{it}	0.774	0.716	0.817	0.729	-0.622	4.009*	-4.428*
REV_{it}	1.006	0.956	1.078	0.884	3.566*	10.560*	-6.060*
CF_{it}	0.039	0.043	0.036	0.040	1.037	-1.796**	2.853*
FCF_{it}	0.048	0.057	0.039	0.062	-1.021	-5.140*	3.751*

Table 4

Effects of family control on the dividend payout policy

GMM regression results from:

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

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

in which FD_{it} equals one for family firms, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's *q*, and REV_{it} denotes net sales. All of the variables are defined in Appendices A and B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Euro zone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$ and t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_1+\gamma_1=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the overidentifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	(1)	(2)
β_0 Constant	0.004* (0.001)	0.004* (0.001)
β_1 DIV_{it-1}	0.231* (0.002)	0.146* (0.001)
γ_1 $FD_{it}DIV_{it-1}$		0.140* (0.003)
β_2 NI_{it}	0.005* (0.001)	0.021* (0.001)
γ_2 $FD_{it}NI_{it}$	0.019* (0.002)	
ω_1 $DEBT_{it}$	-0.010* (0.001)	-0.012* (0.001)
ω_2 I_{it}	-0.006* (0.000)	-0.007* (0.000)
ω_3 $SIZE_{it}$	-0.000* (0.000)	-0.000** (0.000)
ω_4 Q_{it}	0.005* (0.000)	0.005* (0.000)
ω_5 REV_{it}	0.005* (0.000)	0.002* (0.000)
t_1	20.98	
t_2		114.81
z_1	3340.56 (8)	5948.22 (8)
z_2	99.09 (9)	124.41 (9)
z_3	242.47 (8)	279.56 (8)
m_1	-2.53	-2.71
m_2	1.13	1.17
Hansen	480.92 (427)	476.89 (421)

Table 5

Effects of family control on the dividend payout policy accounting for family firms' ownership structure and free cash flow agency problems

GMM regression results from

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

$$DIV_{it} = \beta_0 + \beta_1 DIV_{it-1} + (\beta_2 + \varpi_2 FSSPFD_{it} + \theta_2 NFSSPFD_{it} + \vartheta_2 NSSPFD_{it}) NI_{it} + \omega X_{it} + \varepsilon_{it} \text{ and}$$

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

in which $WEDFD_{it}$ equals one for family firms in which there is a wedge between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $NEWDFD_{it}$ equals one for family firms in which there is no deviation between the voting and the cash flow rights owned by the controlling family, and zero otherwise; $FSSPFD_{it}$ equals one for family firms with a family second blockholder, and zero otherwise; $NFSSPFD_{it}$ equals one for family firms with a non-family second blockholder, and zero otherwise; $NSSPFD_{it}$ equals one for family firms with no second large shareholder, and zero otherwise; $FCFFD_{it}$ equals one for family firms with high free cash flow problems (as captured by the free cash flow measure proposed in Miguel and Pindado, 2001), and zero otherwise; and $FCFNFD_{it}$ equals one for non-family firms with high free cash flow problems, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's *q*, and REV_{it} denotes net sales. All of the variables are defined in Appendices A and B. The results are based on the 10% cutoff point definition of family firm proposed by Faccio and Lang (2002). The sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. Nine Euro zone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\chi_2=0$, t_2 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\eta_2=0$, t_3 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\varpi_2=0$, t_4 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\theta_2=0$, t_5 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\vartheta_2=0$, and t_6 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\mu_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the over-identifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	(1)	(2)	(3)
β_0 Constant	0.006* (0.001)	0.002* (0.001)	0.009* (0.001)
β_1 DIV_{it-1}	0.231* (0.001)	0.235* (0.001)	0.247* (0.001)
β_2 NI_{it}	0.006* (0.001)	0.006* (0.001)	0.015* (0.001)
χ_2 $WEDFD_{it}NI_{it}$	0.004* (0.001)		
η_2 $NWEDFD_{it}NI_{it}$	0.023* (0.001)		
ϖ_2 $FSSPFD_{it}NI_{it}$		-0.011* (0.001)	
θ_2 $NFSSPFD_{it}NI_{it}$		0.021* (0.001)	
ϑ_2 $NSSPFD_{it}NI_{it}$		0.027* (0.001)	
μ_2 $FCFFD_{it}NI_{it}$			0.026* (0.001)
ψ_2 $FCFNFD_{it}NI_{it}$			-0.001 (0.002)
ω_1 $DEBT_{it}$	-0.011* (0.000)	-0.013* (0.000)	-0.008* (0.000)
ω_2 I_{it}	-0.006* (0.000)	-0.007* (0.000)	-0.006* (0.000)
ω_3 $SIZE_{it}$	-0.000* (0.000)	-0.000* (0.000)	-0.001* (0.000)
ω_4 Q_{it}	0.006* (0.000)	0.006* (0.000)	0.006* (0.000)
ω_5 REV_{it}	0.004* (0.000)	0.005* (0.000)	0.003* (0.000)

Table 5

Effects of family control on the dividend payout policy accounting for family firms' ownership structure and free cash flow agency problems (*continued*)

Dep. var.: DIV_{it}	(1)	(2)	(3)
t_1	12.76		
t_2	31.09		
t_3		-6.76	
t_4		41.07	
t_5		36.02	
t_6			30.40
z_1	6801.92 (9)	10258.03 (10)	5109.81 (9)
z_2	202.87 (9)	472.88 (9)	229.27 (9)
z_3	442.80 (8)	1125.26 (8)	337.15 (8)
m_1	-2.53	-2.54	-2.54
m_2	1.13	1.13	1.14
Hansen	524.11 (480)	551.28 (533)	528.03 (480)

Table 6

Effects of family control on the dividend payout policy: 20% threshold family firm definition and reduced sample

GMM regression results from:

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

in which FD_{it} equals one for family firms, and zero otherwise. The DIV_{it} is the dividend ratio, NI_{it} denotes net income, $DEBT_{it}$ is the debt ratio, I_{it} stands for investment, $SIZE_{it}$ is the firm's size, Q_{it} stands for Tobin's *q*, and REV_{it} denotes net sales. All of the variables are defined in Appendices A and B. In Column 1, the results are based on the 20% cutoff point definition of family firm proposed by Faccio and Lang (2002), and the sample comprises 645 listed companies (5,486 observations) that are present in Faccio and Lang's data set and for which stock and financial data are available for at least four consecutive years between 1996 and 2006 in the Worldscope database. In Column 2, we exclude from the sample family firms ultimately owned by unlisted companies to alleviate concerns about the likely misclassification of this type of family-controlled corporations, thus reducing the sample to 371 companies (3,237 observations). Nine Euro zone countries (Austria, Belgium, Germany, Spain, Finland, France, Ireland, Italy, and Portugal) are represented in the sample. The rest of the information needed to read this table is: (i) heteroskedasticity consistent asymptotic standard error is in parentheses; (ii) *, **, and *** indicate significance at the 1%, 5%, and 10% level, respectively; (iii) t_1 is the *t*-statistic for the linear restriction test under the null hypothesis H_0: $\beta_2+\gamma_2=0$; (iv) z_1 is a Wald test of the joint significance of the reported coefficients, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; z_2 is a Wald test of the joint significance of the time dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; and z_3 is a Wald test of the joint significance of the country dummies, asymptotically distributed as χ^2 under the null of no relation, and the degrees of freedom are in parentheses; (v) m_i is a serial correlation test of order i using residuals in first differences, asymptotically distributed as N(0,1) under the null of no serial correlation; and (vi) Hansen is a test of the overidentifying restrictions, asymptotically distributed as χ^2 under the null of no correlation between the instruments and the error term, and the degrees of freedom are in parentheses.

Dep. var.: DIV_{it}	(1)	(2)
β_0 Constant	0.002 (0.001)	-0.002* (0.001)
β_1 DIV_{it-1}	0.236* (0.002)	0.234* (0.002)
β_2 NI_{it}	0.011* (0.001)	0.008* (0.000)
γ_2 $FD_{it}NI_{it}$	0.012* (0.002)	0.022* (0.001)
ω_1 $DEBT_{it}$	-0.011* (0.001)	-0.015* (0.000)
ω_2 I_{it}	-0.006* (0.000)	-0.010* (0.000)
ω_3 $SIZE_{it}$	-0.000** (0.000)	0.000*** (0.000)
ω_4 Q_{it}	0.005* (0.000)	0.007* (0.000)
ω_5 REV_{it}	0.005* (0.000)	0.007* (0.000)
t_1	17.67	70.68
z_1	3063.90	21195.26
z_2	91.83	1953.62
z_3	190.73	1126.11
m_1	-2.53	-2.00
m_2	1.13	1.06
Hansen	471.80 (427)	349.94 (428)