Family Control And The Value Of Cash Holdings

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ABSTRACT

The present study investigates the effects of family control on the value of corporate cash holdings. Using a large sample of French listed firms, the results show that the value of excess cash reserves is lower in family firms than in other firms, reflecting investors' concern about the potential misuse of cash by controlling families. We also find that the value of excess cash is lower when controlling families are involved in management and when they maintain a grip on control, indicating that investors do not expect the efficient use of cash in these firms. Our findings are consistent with the argument that the extent to which excess cash contributes to firm value is lower when dominant shareholders are likely to expropriate firm resources. Overall, family control seems to be a key determinant of cash valuation when ownership is concentrated.

Keywords: Corporate Governance; Family Firms; Cash Holdings; Firm Value

1. INTRODUCTION

The recent corporate finance literature documents that the extent to which cash holdings contribute to firm value, that is, the value of cash holdings, depends on the costs and benefits of hoarding cash. The seminal paper of Pinkowitz and Williamson (2004) suggests that the value that investors place on cash reflects their perception of the way cash is managed. The value of additional cash increases when investors are optimistic about the efficient use of liquid resources. Cash is, however, valued at a discount when it is likely to be misused. Faulkender and Wang (2006) argue that when firms have investment opportunities but face financial constraints, cash should be more valuable to investors since it lessens the need to raise costly external finance.

The present paper investigates the value of cash holdings in France, where a large proportion of listed firms are family firms. Boubaker et al. (2013) report that family firms represent 77.78% of non-financial French listed firms. Members of the controlling family are part of the top management team in large part of these firms (Faccio and Lang, 2002; Boubaker, 2007). This study revisits the agency implications of corporate cash holdings by examining the effect of family corporate control on the value of excess cash reserves. Jensen (1986) and Stulz (1990) suggest that cash exceeding the needs of the firm potentially raises important agency problems when it is not disbursed to shareholders because it gives insiders opportunities to extract private benefits. These problems are exacerbated in the absence of capital market scrutiny, increasing the likelihood of expropriation of liquid resources(Myers and Rajan, 1998).

The value that investors place in excessive amounts of cash depends on the quality of corporate governance. The role of family ownership and family involvement in corporate management in corporate governance is still unclear. On the one hand, the presence of controlling families could have a disciplinary role given their ability to monitor management and their long-term commitment to the firm (Anderson and Reeb, 2003; Bertrand and Schoar, 2006; Barontini and Caprio, 2006). [1] On the other hand, controlling families, as dominant

[1] "The [family] company is an inheritance to be protected and handed on. It is the outcome of the next and each generation's commitment to the last". Betts, Paul. "Family Companies Are Ready for the Worst." *Financial Times* (London), October 3, 2001.

shareholders, have incentives to engage in empire building and the extraction of private benefits, particularly when their ownership gives them almost full control of the firm.

Using a sample of 3,233 French listed firms over 1998–2007, we find that the value of excess cash in family firms is lower than half of that in other firms. When a family firm is managed by a member of the controlling family, the value of its excess cash is lower than one-third that in other firms. Additional analysis shows that cash valuation declines with the family's control rights. Taken together, our results indicate that controlling families contribute to increasing agency costs. These agency costs are more important when families hold substantial control rights or when they are involved in the firm's management, since they are better able to convert firm resources to their own benefits and thereby expropriate minority shareholders (La Porta et al., 1999; Villalonga and Amit, 2009).

The remainder of the paper is organized as follows. Section 2 presents the related literature and develops the hypotheses. Section 3 describes the sample and research design. Section 4 exposes summary statistics and correlations. Section 5 reports results of the multivariate analysis. Section 6 concludes the paper.

2. RELATED LITERATURE AND HYPOTHESES DEVELOPMENT

2.1 Agency Problems And Value Of Cash Holdings

There is vast evidence that corporate cash holdings are conducive to important agency problems. Harford (1999), for instance, show that cash-rich firms are less likely to pay dividends but more prone to engage in value-destroying acquisitions. In a cross-country study, Dittmar et al. (2003) find that cash levels are negatively related to the country's degree of investor protection. Harford et al. (2008) argue that, when corporate governance is weak, excess cash leads to inefficient investments and lower firm value.

Shareholders of firms with large cash balances may be concerned, in the presence of agency problems, about the misuse of cash, which may lower the value of cash, particularly when corporate governance is weak. Pinkowitz et al. (2006) consistently find that firms in countries with weak investor protection exhibit lower values of cash than their counterparts in countries with strong investor protection do. Dittmar and Mahrt-Smith (2007) establish that the value of an additional dollar of cash holdings in firms with poor governance is practically half that in firms with good governance. Masulis et al. (2009) claim that the divergence of insiders' control rights and cash flow rights adversely affects cash valuation. Similarly, Belkhir et al. (2014) document a negative effect of excess control rights on the value of cash holdings and provide evidence of the disciplinary role of independent boards and the separation of chief executive officer (CEO) and chairperson positions. Frésard and Salva (2010) point out that cash is more valuable in US cross-listed firms, where the risk of being expropriated by insiders is low. Haw et al. (2011) show that firms whose payouts are wholly comprised of share repurchases exhibit lower values of cash than do firms whose payouts are comprised exclusively of dividends, since dividends have a more effective corporate governance role. Tong (2011) examines diversification strategies and shows that, compared to investors of single-segment firms, those of diversified firms assign lower values to cash holdings because of the presence of important agency conflicts in conglomerate structures.

2.2 Hypotheses Development

2.2.1 Family Firms And The Value Of Excess Cash

Although family firms are widespread around the world, the governance role of controlling families remains controversial. The results of the empirical research examining the effect of family control on agency costs are mixed. A number of studies, including those of Anderson and Reeb (2003), Maury (2006) and Villalonga and Amit (2006), document that family control reduces agency problems, given that the controlling families are likely to be underdiversified and to have major financial interests in the firm. Moreover, controlling families predominately have a long-term commitment to the firm, such that they are willing to preserve reputational capital and thereby act

in ways that maximize shareholder value (Bertrand and Schoar, 2006).[2] The controlling families, as dominant shareholders, are also predisposed to effectively monitor management (Villalonga and Amit, 2009). Given these elements, family-controlled firms are more inclined to outperform their non-family counterparts.

To the extent that the presence of controlling families is associated with reduced agency problems, investors are expected to place a higher value on cash held by family firms than on that held by other firms. We therefore formulate the following hypothesis.

H_{1a}: The value of excess cash holdings is higher in family-controlled firms than in other firms.

Anderson and Reeb (2003) show that the performance of family firms is lower at high ownership levels. They explain their result as indicating family ownership is harmful for minority shareholders when control is highly concentrated. Holderness and Sheehan (1988) consistently find that family firms exhibit lower performance than dispersed ownership firms do. La Porta et al. (1999) advance that families with substantial control over firms are more inclined to adopt self-serving behavior and extract private benefits at the expense of outside investors. In support of this view, Faccio et al. (2001) claim that controlling families that are politically connected are deemed to expropriate minority shareholders, particularly in environments that favor the entrenchment of such families. Yeh and Woidtke (2005) show that controlling families are more prone to appoint board members who are affiliated with them, even if incompetent or underqualified, resulting in lower firm value.

To the extent that family firms exhibit a higher risk of minority shareholder expropriation, the availability of excess cash holdings is expected to increase investors' concerns about the discretionary use of these funds, lowering their value. One testable implication is that the presence of controlling families is associated with a lower valuation of excess cash. We hence advance the following hypothesis.

H_{1b}: The value of excess cash holdings is lower in family-controlled firms than in other firms.

2.2.2 Family involvement in management and the value of excess cash

A number of studies, including those of La Porta et al. (1999) and Claessens et al. (2000), provide evidence that the controlling owners of East Asian and Western European firms are active in their management. Anderson and Reeb (2003) argue that holding executive positions strengthens the influence of controlling owners over their firms. Jaggi et al. (2007) show that controlling families routinely appoint one of their members as chair of the board of directors to maintain authority over board interventions, which usually leads to agency problems. Kalcheva and Lins (2007) consistently show that investors downgrade the marginal value of an incremental dollar of cash from $0.76 to $0.39 when firms are managed by the largest shareholder, compared to their peers with professional managers. They explain that hiring professional managers is more advantageous in terms of objectivity and accountability to shareholders because these managers can deter the likely expropriation behavior of the controlling shareholders.

To the extent that the involvement of the controlling family in management is conducive to greater agency problems, investors will discount the value of excess cash in firms managed by controlling owners. This line of reasoning leads to the following hypothesis.

H_2: The value of excess cash holdings is lower when members of the controlling family are involved in management than when they are not.

[2] In his analysis of France's corporate history, Murphy (2005) shows, through the examples of Michelin, L'Oréal, and Peugeot, that many French families continue to hold large stakes in their business many decades since incorporation owing to reliance on self-financing rather than borrowing from the financial markets and the strong involvement in management of the founding family members and their heirs.

3. METHODOLOGY AND DATA

3.1 Sample Description And Data Sources

Our starting sample consists of all French listed firms that are available in the Worldscope database over 1998–2007. Consistent with previous studies, we eliminate financial firms (SIC code 6000-6999) and regulated utilities (SIC codes 4900–4999), since they are subject to special regulatory requirements. We also exclude firms for which ownership and financial data are missing. We are left with 4,486 firm–year observations. Following previous literature such as Drobetz et al. (2010) and Frésard and Salva (2010), we omit the 1,253 observations of firms having negative excess cash. Our final sample consists of 3,233 firm–year observations covering the period from 1998 to 2007. All of the financial variables used in the analysis are winsorized at the 1% and 99% levels to minimize the impact of outliers. Financial data are retrieved from the Worldscope database. Corporate governance data are manually collected from firms' annual reports that are available on the *Autorité des Marchés Financiers* website or on corporate websites.

3.2 Construction Of The Excess Cash Variable

According to Dittmar and Mahrt-Smith (2007), excess cash is "*cash reserves exceeding those needed for operations and investment*". Opler et al. (1999) develop an empirical model estimating the normal level of cash that a firm needs in its operating activities and for its investment opportunities. Their model includes a number of firm characteristics, including firm size, that gauge a firm's ability to obtain external finance; cash flow to proxy for financial constraints; net working capital, which is considered a substitute for liquid assets; and cash flow volatility, which indicates the extent of hedging needs. The model also includes investment opportunities, financial distress costs as proxied by research and development (R&D), leverage, capital expenditures, and dividends. Excess cash is obtained as the residual term of the following model

$$\begin{aligned} Ln(Cash/NA)_{i,t} = {} & \beta_0 + \beta_1 Ln(RealNA)_{i,t} + \beta_2 CashFlow/NA_{i,t} + \beta_3 NWC/NA_{i,t} \\ & + \beta_4 STD\ CF_i + \beta_5 MarketValue/NA_{i,t} + \beta_6 R\&D\text{-}to\text{-}sales_{i,t} \\ & + \beta_7 Leverage_{i,t} + \beta_8 CAPEX_{i,t}/NA_{i,t} + \beta_9 Dividummy_{i,t} \\ & + \beta_{10} Regulatedummy_{i,t} + Industrydum + \alpha_i + \varepsilon_{i,t}, \end{aligned} \quad \text{(Eq.1)}$$

where Ln(Cash/NA) is the natural logarithm of cash to net assets, Cash is cash and marketable securities, and NA is non-cash assets, measured as the book value of total assets minus cash and marketable securities. *Ln(RealNA)* is a proxy of firm size. It is computed as the natural logarithm of NA in 2007 euros, adjusted for inflation using the French consumer price index series. *CashFlow* is cash flow, computed as operating income minus interest and taxes. *NWC* is net working capital, computed as current assets minus current liabilities minus cash. *STD CF* is the industry average of the prior five-year standard deviation of cash flow to net assets, where industry is defined according to Campbell's (1996) classification. *MarketValue/NA is the market-to-book ratio*, where *MarketValue* is computed as the market value of equity plus total liabilities. *MarketValue* is instrumented by the three-year lagged sales growth. *R&D-to-sales* is research and development expenses deflated by *Sales*, where *Sales* is total sales. *Leverage* is total debt scaled by the book value of total assets; *CAPEX* is capital expenditure; *Dividummy* is a dummy variable that equals one when the firm pays dividends, and zero otherwise. *Regulatedummy* is a dummy variable that equals one when a firm belongs to a regulated industry (railroads (SIC code 4011), trucking (SIC codes 4210, 4213), airlines (SIC code 4512), and telecommunications (SIC codes 4812, 4813)), and zero otherwise. *Industrydum* denotes industry dummy variables, following Campbell's (1996) classification. α_i, refers to firm fixed effects. *i* and *t* are subscripts denoting firm and time, respectively. Model Eq.(1) is estimated as a pooled OLS regression with robust standard errors corrected for heteroskedasticity. The estimation results are provided in the Appendix.

3.3 Research Design

The value of excess cash reflects the extent to which cash exceeding a firm's needs affects investors' valuation of the firm. To estimate this effect, we modify the model of Fama and French (1998) suggesting that firm value depends on earnings, research and development (R&D) expenses, dividends and interest expenses, past and future changes in these variables, past and future changes in total assets, and future change in the firm's market

value. To gauge the contribution of cash holdings to the firm's value, we follow Pinkowitz et al. (2006) and subsequent related studies (Dittmar and Mart-Smith, 2007; Frésard and Salva, 2010; Drobetz et al. 2010) and decompose the variable on total assets into cash and non-cash components (i.e., excess cash and net assets). We then interact the variable on excess cash with corporate governance variables to obtain the following baseline model:

$$V_{i,t} = \beta_0 + \beta_1 EXCASH_{i,t} + \beta_2 GOV_{i,t} * EXCASH_{i,t} + \beta_3 GOV_{i,t} + \beta_4 EARN_{i,t} + \beta_5 \Delta EARN_{i,t} + \beta_6 \Delta EARN_{i,t+1} + \beta_7 \Delta NA_{i,t} + \beta_8 \Delta NA_{i,t+1} + \beta_9 INT_{i,t} + \beta_{10} \Delta INT_{i,t} + \beta_{11} \Delta INT_{i,t+1} + \beta_{12} R\&D_{i,t} + \beta_{13} \Delta R\&D_{i,t} + \beta_{14} \Delta R\&D_{i,t+1} + \beta_{15} DIV_{i,t} + \beta_{16} \Delta DIV_{i,t} + \beta_{17} \Delta DIV_{i,t+1} + \beta_{18} \Delta V_{i,t+1} + \alpha_{i,} + \mu_t + \varepsilon_{i,t}, \quad \text{(Eq. 2)}$$

where *V* is the market value of the firm. V is computed as the market value of equity plus the book value of total debt, divided by non-cash assets (NA). *EARN* is earnings before interest and extraordinary items (after depreciation and taxes) deflated by *NA*;[3] *R&D* is R&D expenses deflated by *NA*; *Dividends* is common dividends deflated by *NA*; ΔX_t is the change in variable *X* from year t-1 to year t, and ΔX_{t+1} is the change in variable *X* from year t to year t+1. *EXCASH* is excess cash holdings, computed as the residuals of model Eq. (1) predicting the normal level of cash holdings. *GOV* is the corporate governance variables that are: (1) *FAMILY* is a dichotomous variable that equals one if the ultimate controlling owner of the firm is a family, and zero otherwise. We use the procedure of Faccio and Lang (2002) to identify the ultimate owner of a firm. (2) *FAMILY_MANAG* is a dichotomous variable that equals one if the CEO, chairman, honorary chairman, or vice-chairman is a member of the controlling family, and zero otherwise. $\alpha_{i,}$ and μ_t refer to firm- and time- fixed effects, respectively. *i* and *t* are subscripts denoting firm and time, respectively.

The coefficient β_1 estimates the contribution of excess cash to firm value. The coefficient β_2 of the interaction term estimates the effect of the governance variable on the value of excess cash. A positive sign for this coefficient indicates that the corporate governance characteristic enhances the value of excess cash, whereas a negative sign indicates an adverse effect of the characteristic on cash valuation.

4. SUMMARY STATISTICS AND CORRELATIONS

Table 1 presents the main characteristics of the sample firms. Panel A reports key descriptive statistics of the variables used in the study. The evidence in Panel A shows that about 76% of the sample firms are family firms, consistent with prior studies in the French context (Faccio and Lang, 2002; Boubaker et al. 2013). The mean (median) value of the control rights of the controlling family is 51.10% (54.36%). Members of these families have executive positions in 72.02% (54.71%/75.97%) of family firms. Excess cash represents, on average, 2.27% of net assets. The median ratio of excess cash to net assets is 2.4%. Panel B presents the distribution of firms by industry. The results show that consumer durables and services are the most represented industries in our sample, with, respectively, 19.89% and 19.61% of the sample firms, while the petroleum industry is the least represented industry, with only 0.87% of sample firms.

Table 2 reports the pairwise correlation coefficients of the variables in the model of Fama and French (1998). The results show that excess cash is positively correlated with firm value. Earnings, R&D, dividends, and growth in net assets (except for levels of R&D and past change of dividends) also have positive correlations with firm value, whereas interests and change in firm value exhibit negative correlations. These findings are, overall, consistent with the predictions of Fama and French (1998). We compute the variance inflation factor to assess the severity of multicollinearity among independent variables. The corresponding values are weak and range between 1.28 and 3.70, suggesting that multicollinearity is not a serious issue in our study.

5. MULTIVARIATE ANALYSIS

This section provides the empirical analysis of the effect of family control on the value of excess cash. The results are reported in Table 3 (Panel A). In all columns, excess cash is computed as the residuals of the model of Opler et al. (1999), as detailed in the Appendix.

[3] See, e.g., Dittmar and Mahrt-Smith (2007).

5.1 The Normal Level Of Cash Holdings

The Appendix reports the results of estimating the normal level of cash using the model of Opler et al. (1999). Dittmar and Mahrt-Smith (2007) note that the market-to-book ratio included in this model implies an endogeneity problem, given that investment opportunities can, in turn, be determined by cash levels. We follow their methodology by using the three year-lagged sales growth as an instrument for the market-to-book ratio. The two first columns of the Appendix report the results of the first-stage estimation of a reduced form of the model of Opler et al. (1999). [4] We find that the instrument—three-year sales growth—has a strong positive effect on the market-to-book ratio. The two last columns of the Appendix report the results of the second-stage equation. The results show that the level of cash increases with the instrumented investment opportunities, cash flow, cash flow volatility, and R&D and it decreases with firm size, net working capital, leverage, and capital expenditure, consistent with Opler et al. (1999) and Dittmar and Mahrt-Smith (2007).

5.2 Family Control And The Value Of Excess Cash

5.2.1 Presence Of A Controlling Family

The first column in Table 3 (Panel A) reports the results of the effect of family firms on the value of excess cash. We first note a positive coefficient for *EXCASH* (0.2634) that is statistically significant at the 1% level, meaning that excess cash holdings contribute positively to firm value. The coefficient of the interaction term *EXCASH*FAMILY* (-0.1481) is negative at the 1% statistical level, indicating that the value of excess cash is significantly lower in family firms compared to that in other firms. Economically, the value of excess cash declines by more than half (56.22%) when firms are controlled by families than when they are not. [5] This indicates that investors seem to be concerned about the presence of cash exceeding a firm's needs when a family controls the firm, which is consistent with H_{1b}, suggesting that agency problems are likely to be more important in family firms.

Overall, the control variables are found to significantly affect firm value, in conformity with prior relevant studies such as Drobetz et al. (2010) and Haw et al. (2011). Thus, current levels of earnings and past and future changes of earnings and R&D expenses exhibit positive coefficients, suggesting that better profitability and more intensive R&D activities contribute to firm value. Level and future change of dividends similarly positively affect firm value, while the negative sign of past change of dividends is consistent with Pinkowitz et al. (2006). Current level and past and future changes of interest exhibit negative coefficients, meaning that greater interest expenses negatively affect firm value. Consistent with the findings of Fama and French (1998), the results show that future change in firm value—capturing unexpected effects of the omitted variables—exhibits a negative coefficient and that future change of net assets has a positive effect on firm value. The explanatory power of the model ranges from 13.62% to 25.42%, indicating the relevance of the variables used in explaining firm value.

5.2.2 Involvement Of The Controlling Family In Management

To investigate the extent to which the controlling family's involvement in management affects investors' valuation of excess cash, we estimate our baseline model Eq. (2) by using the variable *FAMILY_MANAG*, which is a dummy variable that equals one if at least one member of the controlling family is the CEO, chair, honorary chair, or vice-chair and zero otherwise. The estimation results are reported in Columns (2) and (3) of Table 3 (Panel A) for the full sample and the family firm sample, respectively. In Column (2), the coefficient of the interaction term *EXCASH * FAMILY_MANAG* is negative and statistically significant at the 1% level, indicating that investors are more likely to decrease the value of excess cash when members of the controlling family are involved in management, compared to when family firms are run by professional managers. For family firms, the value of excess cash is decreased by about 71.05%.[6]

[4] The reduced form of the Opler et al.'s (1999) model excludes the variables leverage, capital expenditures, dividends and regulated industries.
[5] 56.22%=[(0.2634 - 0.1481)-0.2634]/0.2634
[6] 71.05%=[(0.1907 – 0.1355)-0.1907)]/0.1907

Overall, our findings indicate that investors are more concerned about the use of cash that exceeds the firm's needs when the controlling family participates in management, resulting in a lower value of cash holdings.

5.3 Additional Analysis: The Effect Of The Family's Control Rights

Large shareholders are prone to mitigating the traditional agency problem caused by the separation of ownership and control (Jensen and Meckling, 1976). However, when large shareholders gain nearly full control of a firm, they are more willing to favor their own interests by consuming private benefits at the expense of minority shareholders (Grossman and Hart, 1988; Harris and Raviv, 1988). Greater control rights thus seem to be associated with increased agency costs.

We test this proposition by examining the implications of the control rights of controlling families on the contribution of excess cash to firm value. We introduce the variable *FAMILY_CONT*, measured as the percentage of control rights (both direct and indirect) held by the controlling family. We use the weakest link principle adopted by Faccio and Lang (2002), which measures the aggregate control rights of the ultimate owner as the sum of the weakest links along the different control chains.[7] The results from Columns 1 and 2 of Table 3 (Panel B) indicate that control rights held by controlling families negatively affect the value of excess cash. This suggests that the consumption of private benefits is more likely in the presence of greater control rights.

6. CONCLUSION

The free cash flow hypothesis suggests that self-interested insiders are inclined to use cash exceeding the firm's needs for private purposes (Jensen, 1986). Investors are hence concerned about the potential misuse of corporate cash holdings, leading to a lower value of this cash, particularly when corporate governance is weak.

The present study investigates how family control affects the value of excess cash holdings in French listed firms. We find that the value of excess cash declines by more than half when the controlling owner is a family compared to when it is not, suggesting the investors do not expect that cash will be managed efficiently in family firms. The results also indicate that the value of excess cash is nearly two-thirds lower in firms where the controlling family is involved in management than in other firms. An additional analysis shows that greater control rights in the hands of the controlling family are associated with a lower value of excess cash, suggesting severe agency problems associated with a strong family grip on control.

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[7] Control chains are traced up by considering the variety of control-enhancing mechanisms that exist in France, namely, pyramid structures, non-voting shares, and double voting shares

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APPENDIX

Results Of Regressions Predicting The Normal Level Of Cash Holdings

This table reports the regression results for the level of cash holdings using the model of Opler et al. (1999). Dependent variable of the model of Opler et al. (1999) is the level of cash. It is measured as the natural logarithm of cash-to-net assets (*Ln(Cash/NA*)). *Cash* is cash and marketable securities. *NA* is non-cash assets. It is measured as the book value of total assets minus cash and marketable securities. The regressors include *Ln(realNA)* which proxies for firm size. It is the natural logarithm of the book value of total assets minus cash and marketable securities in 2007 euros, adjusted for inflation using the French consumer price index (CPI) series; *CashFlow/NA* is cash flow computed as operating income minus interest and taxes, deflated by *NA; NWC/NA* is net working capital computed as current assets minus current liabilities minus cash, deflated by *NA*; *STD CF* is standard deviation of cash flow computed as industry average of prior 5 year standard deviation of cash flow to net assets, where industry is defined according to Campbell's (1996) industry classification; *MarketValue/NA* is market-to-book ratio where *MarketValue* is market value computed as market value of equity plus total liabilities. *R&D-to-sales* is research and development expenses deflated by *Sales*, where *Sales* is total sales; *Leverage* is total debt scaled by book value of total assets; *CAPEX/NA* is capital expenditure, deflated by *NA*; *Dividummy* is a dummy that equals one when a firm pays dividends, and zero otherwise. *Regulatedummy* is a dummy that equals one when a firm belongs to a regulated industry, and zero otherwise. Model of Opler et al. (1999) is estimated as OLS regression with industry dummies and robust standard errors. It is estimated using an instrumental variable approach with three-year lagged sales growth (*Three-year Sales Growth)* as an instrument for *MarketValue/NA*. The results of the first stage of the instrumental variable model (*MarketValue/NA* as dependent variable) are reported in the right side of the table. All models include year dummies. [a], [b] and [c] denote two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively. The t-statistics are reported in parentheses next to the estimated coefficients.

Variable	First-Stage (1)		Variable	Model Of Opler et al.(1999) (2)	
Ln(realNA)	-1.2367	(-18.83)[a]	*Ln(realNA)*	-0.4070	(-13.04)[a]
CashFlow/ NA	1.7348	(8.99)[a]	*CashFlow/NA*	0.5091	(5.48)[a]
			NWC/NA	-0.1418	(-5.83)[a]
NWC/NA	-0.9608	(-18.73)[a]	*STD CF*	0.4539	(4.45)[a]
STD CF	0.6799	(3.45)[a]	*MarketValue/NA*	0.0006	(2.00)[b]
Three-year Sales Growth	0.0209	(29.33)[a]	*R&D-to-sales*	2.0833	(7.63)[a]
			Leverage	-0.1667	(-2.27)[b]
R&D-to-sales	1.8887	(3.07)[a]	*CAPEX/NA*	-1.0275	(-3.31)[a]
Intercept	16.7698	(21.02)[a]	*Dividummy*	0.0580	(1.57)
			Regulatedummy	-0.1089	(-0.14)
			Intercept	0.7010	(1.24)
Year dummies	Yes		Year dummies	Yes	
Industry dummies	No		Industry dummies	Yes	
Nb.observations	4,486		Nb.observations	4,486	
R-squared	64.25%		*R*-squared	18.24%	

Table 1. Summary statistics

This table provides summary statistics. Panel A presents descriptive statistics of the variable used. *FAMILY* is a dichotomous variable that equals one if the controlling shareholder is a family, and zero otherwise. *FAMILY_MANAG* is a dichotomous variable that equals one if the CEO, chairman, honorary chairman, or vice-chairman is a member of the controlling family. *FAMILY_CONT* is the percentage of control rights (both direct and indirect) held by the controlling family. *EXCASH* is excess cash holdings. It is the residual of the model of Opler et al. (1999) in Appendix. *V* is market value of the firm. It is computed as the market value of equity plus the book value of total debt divided by *NA*. *NA* is non-cash assets. It is measured as the book value of total assets minus cash and marketable securities. *EARN* is earnings before interest and extraordinary items (after depreciation and taxes) deflated by *NA*. *R&D* is research and development expense deflated by *NA*. *INT* is interest expense deflated by *NA*. *DIV* is common dividends deflated by *NA*. ΔX_t is the change in variable *X* from year t-1 to year t. ΔX_{t+1} is the change in variable *X* from year t to year t+1. Panel B reports the distribution of firms by industry. *N* is the number of observations.

Panel A. Descriptive Statistics

Variable	Mean	25th Percentile	Median	75th Percentile	Standard Deviation
FAMILY	0.7597	1.000	1.000	1.000	0.4219
FAMILY_MANAG	0.5471	0.000	1.000	1.000	0.4978
FAMILY_CONT	0.5110	0.2937	0.5436	0.7171	0.2605
$EXCASH_t$	0.0277	-0.2891	0.0240	0.0500	0.2340
V_t	1.8705	1.0740	1.3713	1.8977	1.5123
$EARN_t$	0.0132	0.0062	0.0345	0.0654	0.1919
$\Delta EARN_t$	0.0105	-0.0112	0.0063	0.0245	0.2294
$\Delta EARN_{t+1}$	0.0130	-0.0168	0.0053	0.0257	0.2325
ΔNA_t	0.0467	-0.0357	0.0526	0.1584	0.2939
ΔNA_{t+1}	0.1621	-0.0413	0.0486	0.1702	0.0112
$R\&D_t$	0.0184	0.000	0.000	0.0030	0.0657
$\Delta R\&D_t$	0.0028	0.000	0.000	0.000	0.0455
$\Delta R\&D_{t+1}$	0.0024	0.000	0.000	0.000	0.0537
INT_t	0.0148	0.0057	0.0118	0.0193	0.0226
ΔINT_t	-0.0007	-0.0020	0.0022	0.0032	0.1002
ΔINT_{t+1}	0.0020	-0.0019	0.0002	0.0035	0.0549
DIV	0.0143	0.000	0.0073	0.0165	0.0620
ΔDIV_t	0.0015	0.000	0.000	0.0025	0.0747
ΔDIV_{t+1}	0.0021	0.000	0.000	0.0028	0.0772
ΔV_{t+1}	0.1267	-0.1848	0.0332	0.2672	0.5071

Panel B. Distribution Of Firms By Industry

Industry	Two-Digit SIC Codes	N	%
1 Petroleum	13, 29	28	0.87
2 Consumer durables	25, 30, 36, 37, 50, 55, 57	643	19.89
3 Basic industry	10, 12, 14, 24, 26, 28, 33	371	11.48
4 Food and tobacco	1, 2, 9, 20, 21, 54	222	6.87
5 Construction	15, 16, 17, 32, 52	164	5.07
6 Capital goods	34, 35, 38	359	11.10
7 Transportation	40, 41, 42, 44, 45, 47	117	3.62
8 Utilities	46, 48	145	4.48
9 Textiles and trade	22, 23, 31, 51, 53, 56, 59	349	10.79
10 Services	72, 73, 75, 76, 80, 82, 87, 89	634	19.61
11 Leisure	27, 58, 70, 78, 79	201	6.22
Total		3,233	100

Table 2. Correlations

This table presents the coefficients of correlation between the various financial variables. *EXCASH* is excess cash holdings. It is the residual of the model of Opler et al. (1999) in Appendix. *V* is market value of the firm. It is computed as the market value of equity plus the book value of total debt divided by *NA*. *NA* is non-cash assets. It is measured as the book value of total assets minus cash and marketable securities. *EARN* is earnings before interest and extraordinary items (after depreciation and taxes) deflated by *NA*. *R&D* is research and development expense deflated by *NA*. *INT* is interest expense deflated by *NA*. *DIV* is common dividends deflated by *NA*. ΔX_t is the change in variable *X* from year t-1 to year t. ΔX_{t+1} is the change in variable *X* from year t to year t+1. [a], [b], and [c] indicate two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

Variable	V_t	$EXCASH_t$	$EARN_T$	$\Delta EARN_T$	$\Delta EARN_{T+1}$	ΔNA_t	ΔNA_{t+1}	RD_t	ΔRD_t	ΔRD_{t+1}	DIV	ΔDIV_T	ΔDIV_{T+1}	INT_T	ΔINT_T	ΔINT_{T+1}	ΔVT_{+1}
V_t	1																
$EXCASH_t$	0.245[a]	1															
$EARN_t$	0.253[a]	0.035[b]	1														
$\Delta EARN_t$	0.133[a]	0.120[a]	0.0013	1													
$\Delta EARN_{t+1}$	0.129[a]	-0.091[a]	-0.44[a]	-0.18[a]	1												
ΔNA_t	0.073[a]	-0.1275	0.5992	-0.750	-0.1150[c]	1											
ΔNA_{t+1}	0.118[a]	0.0577[a]	-0.024[b]	0.6108[b]	0.1705[b]	-0.003	1										
$R\&D_t$	0.288[a]	0.050[b]	-0.021	-0.002	0.0028	0.0014	-0.000	1									
$\Delta R\&D_t$	0.130[a]	0.0084	-0.007	-0.004	-0.010	0.0028[b]	0.0007	0.446[a]	1								
$\Delta R\&D_{t+1}$	0.191[a]	0.0498	0.0034	0.0019	-0.007	0.0034	0.0010[c]	0.0927[b]	-0.01[a]	1							
DIV_t	0.184[a]	0.048[a]	0.0291	-0.005	-0.004	-0.004	0.0337[c]	0.0135[b]	-0.001	-0.004	1						
ΔDIV_t	-0.080 [c]	-0.0057	0.0041	-0.001	0.0008	-0.024	0.0035[b]	0.0078	-0.003	0.0005	0.6379	1					
ΔDIV_{t+1}	0.026	0.0662	0.0097	0.0001	0.0006	0.000	0.273[a]	0.0062	0.002[b]	.0006	-0.590	-0.482	1				
INT_t	-0.042[b]	-0.0328	0.367[a]	0.140[a]	-0.09[a]	0.0112	0.0001	-0.006	-0.004	0.0022[c]	-0.005	-0.001	0.000	1			
ΔINT_t	-0.041[a]	-0.062[a]	0.410[a]	0.070[a]	-0.18[a]	0.011[b]	0.003[c]	-0.003	-0.003	0.001[c]	-0.002	-0.001	0.000	0.96[b]	1		
ΔINT_{t+1}	-0.050[a]	0.1235	-0.386	0.0271	0.1264[c]	0.0136[b]	-0.003[b]	0.0035	0.0010	0.001 [b]	0.0047	0.0008	0.000	-0.978[c]	-0.976[b]	1	
ΔV_{t+1}	-0.859[a]	0.0663	-0.008	0.2730	0.1012 [c]	-0.050	0.994[b]	0.0219	-0.016	-0.009	-0.005	-0.007	0.0001	0.0337	0.342[c]	-0.001	1

Table 3. Family Control The Value Of Excess Cash

This table reports results of fixed effect regressions of family involvement in control and management on the value of excess cash. Panel A reports main findings. Panel B reports additional analysis. Dependent variable is the market value of the firm, denoted as V_t. It is computed as the market value of equity plus the book value of total debt divided by *NA*. *NA* is non-cash assets. It is measured as the book value of total assets minus cash and marketable securities. *EARN* is earnings before interest and extraordinary items (after depreciation and taxes) deflated by *NA*. *R&D* is research and development expense deflated by *NA*. *INT* is interest expense deflated by *NA*. *DIV* is common dividends deflated by *NA*. ΔX_t is the change in variable *X* from year t-1 to year t. ΔX_{t+1} is the change in variable *X* from year t to year t+1. *FAMILY* is a dichotomous variable that equals one if the controlling shareholder is a family, and zero otherwise. *FAMILY_MANAG* is a dichotomous variable that equals one if the CEO, chairman, honorary chairman, or vice-chairman is a member of the controlling family. *FAMILY_CONT* is the percentage of control rights (both direct and indirect) held by the controlling family. The t-statistics are reported in parentheses below to the estimated coefficients. [a], [b] and [c] denote two-tailed statistical significance at the 1%, 5%, and 10% levels, respectively.

	Panel A. Main Analysis			**Panel B. Additional Analysis**	
Variable	**Full Sample (1)**	**Full Sample (2)**	**Family Firms (3)**	**Full Sample (1)**	**Family Firms (2)**
$EXCASH_t$	0.2634 (6.27)[a]	0.1548 (3.90)[a]	0.1907 (3.38)[a]	0.2405 (2.78)[a]	0.3063 (2.10)[b]
FAMILY	-0.2912 (-3.92)[a]				
$EXCASH_t$*FAMILY	-0.1481 (-2.99)[a]				
FAMILY_MANAG		-0.1049 (-1.32)	-0.0285 (-0.30)		
$EXCASH_t$* FAMILY_MANAG		-0.1023 (-2.11)[b]	-0.1355 (-2.16)[b]		
FAMILY_CONT				0.2982 (1.18)	0.3549 (0.81)
$EXCASH_t$* FAMILY_CONT				-0.2939 (-2.02)[b]	-0.5991 (-1.97)[b]
$EARN_t$	2.3374 (10.90)[a]	1.4498 (11.29)[a]	2.3895 (13.14)[a]	3.9356 (10.31)[a]	4.3001 (12.00)[a]
$\Delta EARN_t$	0.0090 (0.09)	0.0601 (0.87)	-0.1545 (-2.06)[b]	0.4174 (3.63)[a]	0.2259 (1.67)[c]
$\Delta EARN_{t+1}$	1.3878 (9.17)[a]	1.0217 (11.40)[a]	1.7309 (12.28)[a]	2.1563 (10.55)[a]	3.8686 (12.99)[a]
ΔNA_t	0.1102 (1.82)[c]	0.2425 (4.28)[a]	0.2346 (3.25)[a]	0.0585 (0.63)	0.0325 (0.24)
ΔNA_{t+1}	0.2316 (10.36)[a]	0.1843 (12.69)[a]	0.1639 (8.80)[a]	0.0579 (1.89)[c]	0.2055 (4.51)[a]
$R\&D_t$	0.4284 (0.86)	3.7933 (9.29)[a]	4.4656 (9.60)[a]	2.2087 (3.32)[a]	3.9516 (3.66)[a]
$\Delta R\&D_t$	0.2720 (0.70)	0.3402 (0.91)	-0.6839 (-1.68)[c]	1.6495 (2.85)[a]	-1.8372 (-2.58)[b]
$\Delta R\&D_{t+1}$	1.1558 (3.70)[a]	2.9313 (10.27)[a]	2.3071 (6.69)[a]	4.4368 (9.96)[a]	1.2851 (1.51)

(Table 3 continued)

Variable	Panel A. Main analysis			Panel B. Additional analysis	
	Full sample (1)	**Full sample (2)**	**Family firms (3)**	**Full sample (1)**	**Family firms (2)**
INT_t	-1.996	-2.2714	4.5033	-0.3900	-4.7295
	(-1.47)	(-2.83)[a]	(2.74)[a]	(-1.60)	(-1.02)
ΔINT_t	-6.3947	-0.4240	-1.9570	-0.4452	-1.5937
	(-6.52)[a]	(-2.63)[a]	(-1.42)	(-1.90)[c]	(-0.55)
ΔINT_{t+1}	-8.7490	-7.3327	-2.2557	-5.1342	-2.1064
	(-11.75)[a]	(-11.52)[a]	(-1.79)[c]	(-4.94)[a]	(-0.66)
DIV	8.2171	8.0803	5.7930	6.0036	1.3753
	(7.06)[a]	(6.75)[a]	(4.27)[a]	(3.05)[a]	(0.57)
ΔDIV_t	-2.2793	-2.3762	-1.8125	-0.6247	-0.9512
	(-3.84)[a]	(-3.80)[a]	(-2.59)[b]	(-0.38)	(-0.50)
ΔDIV_{t+1}	3.0438	3.0138	1.8211	-3.9590	-0.3821
	(4.79)[a]	(4.59)[a]	(2.44)[b]	(3.75)[a]	(-0.31)
ΔV_{t+1}	-0.0899	-0.0428	-0.0625	-0.0859	-0.1272
	(-14.31)[a]	(-8.29)[a]	(-11.54)[a]	(-10.57)[a]	(-9.11)[a]
Intercept	1.2874	1.5745	1.4319	1.42882	1.5296
	(19.77)[a]	(25.40)[a]	(16.82)[a]	(10.35)[a]	(6.93)[a]
NB.OBSV	3,223	3,223	2,456	3,223	2,456
R-squared	23.06%	18.27 %	20.17%	15.16%	19.19%

NOTES