

Managerial ownership effects on cash holdings of private family firms

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Abstract. This paper focuses on the effect of managerial ownership on cash holdings in a sample of private family firms. Our results suggest that managerial ownership has a significant impact on cash holdings. Cash holdings are largest in the firms with no managerial ownership and lowest in the firms in which ownership and management fully coincide. We also find weaker evidence on a nonlinear effect on cash holdings at intermediate levels of managerial stock holdings. Our results further imply that an increase in firm size decreases the level of cash holdings and that an increase in profitability increases the level of cash holdings. Our results on the dynamic nature of cash holdings are twofold. On one hand, for the total sample we find that the firms have a target level of cash holdings and that they adjust to this level. Contrary to these results, we find no indication of a target level of cash holdings when we run the model in our sample of fully family held firms.

Key words: Cash holdings, Family Firms, Managerial Ownership

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On the determinants of cash holdings of small and medium sized private family firms

Private family firms can be considered as the most common form of business organization in the world. Family-owned or controlled businesses account for over 80% of all firms and 12% of GDP in the United States (Lee, 2006; Shanker and Astrachan, 1996). Even though there is considerable theoretical and empirical work on the capital structure of public firms and SME's (e.g. López-Gracia and Sánchez-Andújar, 2007; Hall et al., 2004; Mishra and McConaughy, 1999; Chaganti et al., 1995; Hutchinson, 1995; Titman and Wessels, 1988) there is a lack of studies that focus on the asset structure of private family firms.

The theoretical finance literature offers three alternative models to explain why firms hold cash. First, the trade-off theory model claims that firms compare the marginal costs and benefits of holding cash. The second framework is provided by the pecking order theory initially outlined in Myers and Majluf (1984) and further developed by Myers (1984). This theory states that firms with information asymmetries should finance new investments first internally, then with low risk debt and finally with equity only as a last resort. This theory suggests that the role of cash is to act as a buffer between retained earnings and investments, and that firm's do not have target cash levels. The fact that information asymmetries are even more pronounced for small firms, suggest that this framework has more importance for small firms than for large firms and that cash levels are lower if information asymmetries can be lowered. Third, the free-cash flow theory by Jensen (1986) claims that management has incentives to cumulate excessive amounts of cash to increase its own power and to avoid monitoring in situations when applying for new funds from the financial markets. When the firm has sufficient funds to finance its projects internally, it avoids any monitoring activities. This in turn may result in situations when management is free to invest in projects that suit their own interest but are not necessarily in the best interest of the shareholders.

When studying cash holdings within the context of private family firms, we need to take into account the heterogeneity within the group of family firms. There is a growing consensus that private family firms cannot be viewed as a homogeneous entity (Chrisman et al., 2005, Westhead and Howorth, 2007). Whether small and medium sized private family firms maintain higher cash levels, may depend on certain family firm characteristics. One such distinction can be made between different family firm types depending on ownership structure of the firm or the firm's management (by a family manager versus a professional outside manager) (Westhead and Howorth, 2007). These family firm characteristics may influence the private family firm's cash holdings level.

Looking at cash holdings from an agency perspective, traditional agency theory predicts that in owner-managed private family firms, the *shareholder-manager agency conflict* is minimal. If family firm ownership and control do not completely coincide, the shareholder-management agency problem arises. The contract between the family owner(s) and family manager leaves scope for management to make decisions that are not in the owners' interests. Jensen (1986) suggests that this may have implications for the level of cash holdings. Free cash flows may induce discretionary behaviour by the management at the expense of the shareholders. Managers can use the funds on projects that do not benefit the shareholders or use the funds to pursue personal objectives.

However, the family character may exacerbate the *shareholder-debtholder agency problem* since private family firms are more vulnerable for self-control problems due to the isolation from the disciplining effect of the external capital market. Family managers want to avoid losing non-pecuniary benefits such as limiting executive management positions only to family members (Anderson and Reeb, 2003), managerial entrenchment (Gomez-Mejia et al., 2001) and 'free riding' by using the firm's resources for personal benefits and privileges of family members (Schulze et al., 2003). So, family firms might incur a higher probability of risk shifting behaviour, hold up and adverse selection in the labour market, increasing the agency costs of debt (Lubatkin et al., 2005;

Schulze et al., 2001). From the point of view of the bank, these problems inherent to private family firms could have a negative influence on several financial indicators including repayment capacity, leading to more stringent bank lending conditions such as a higher interest rate or higher collateral requirements (Voordeckers and Steijvers, 2006; Steijvers et al., 2008; Steijvers and Voordeckers, 2008). An alternative view posits that the professionalization of management may also provide a positive signal to external parties (banks, customers etc.) Professionally managed family firms would be more flexible (Gulbrandsen, 2005) while the emotional attachment of family managers would prevent the firm from having the flexibility to adapt to changing situations. This fear of change may lead to stagnation and loss of market share (Kellermanns and Eddleston, 2006). These objective, risk taking managers are less conservative and less inclined to avoid debt to realize growth. These private family firms would be characterized by lower cash holdings.

The empirical literature on the determinants of cash holdings has recently received a lot of attention (e.g. Kim et al., 1998; Opler et al., 1999; Pinkowitz and Williamson, 2001; Faulkender, 2002; Dittmar et al., 2003; Ozkan and Ozkan, 2004; Niskanen and Niskanen, 2007; Garcia-Teruel and Martinez-Solano, 2007; Chen, 2008, Harford et al., 2008; Kuan et al., 2010). However, any of these studies focuses on the effect of managerial ownership on the cash holdings of private family firms. In this paper, we examine this effect for a sample of private family firms operating in the Finnish bank-dominated capital market over the period 2000-2005. As such, this paper contributes to literature in several ways. First, we add to the literature on determinants of cash holdings in the under-researched context of small and medium sized *private family* firms. In this study, we define family firms in a strict sense as firms that are fully owned by the family. We integrate an understanding of the internal dynamic of the family business into the corporate cash holding literature. Secondly, we take into account the heterogeneity of family firms by considering the effects managerial ownership on the cash holdings level. Prior empirical studies (e.g. Chen, 2008; Ozkan and Ozkan, 2004; Opler et al., 1999) stress the importance of managerial ownership as a

determinant of cash holdings. More specifically, contrary to any previous studies, we incorporate possible moderating effects of the number of owners, to consider the impact of monitoring, on the relationship between managerial ownership and the cash holdings level.

This paper proceeds as follows. In the next section, the effect of managerial ownership on cash holdings in private family firms is discussed and our hypotheses are derived. In the subsequent section, the data and empirical method are discussed. Finally, we present and discuss our results.

2. The effect of managerial ownership on cash holdings in private family firms: hypothesis development

Prior research points to the conflicts of interest between managers and shareholders due to a separation of ownership and control. Taking into account the internal dynamic of family businesses, the effect of managerial ownership on corporate cash holdings in private family firms is expected to be dependent on (i) whether ownership and control of the firm is separated or not and (ii) if there is a separation between ownership and control, to what extent this separation is effectuated.

If there is *complete separation between ownership and management*, which means that the family firm is managed by a professional CEO, this would reduce any privileges of owner-management, derived from parental altruism or nepotism (Gedajlovic et al., 2004). This may provide a positive signal to external parties. Similarly, Johansson and Huse (2000) argue that professionalisation can indicate that the stakes of external stakeholders are better represented which increases the reliability of the firm vis-à-vis debtholders. Contrary to family managers, professional managers can be considered as more objective and risk taking managers who follow a more growth oriented strategy (Dyer, 2006; McMahon and Stanger, 1995). Therefore, we hypothesize that:

H1a: If there is a complete separation between family firm ownership and control, the family firm is expected to maintain lower cash levels.

Alternatively, based on the free cash flow theory by Jensen (1986), it can be argued that professional management has incentives to cumulate excessive amounts of cash to increase its own power and to avoid monitoring in situations when applying for new funds from the financial markets. When the firm has sufficient funds to finance its projects internally, it avoids any monitoring activities. This in turn may result in situations when management is free to invest in projects that suit their own interest but are not necessarily in the best interest of the shareholders. Therefore, we hypothesize, that:

H1b: If there is a complete separation between family firm ownership and control, the family firm is expected to maintain higher cash levels.

A partial separation between family firm ownership and control can lead to a conflict of interest between the family shareholders and the family CEO. It provides opportunities for owner-managers to expropriate wealth of non-managing or outside family shareholders. Managers can use the funds on projects that do not benefit the family shareholders i.e. squandering the firm's resources by consuming perquisites or making inefficient investment decisions. However, the impact of the shareholder-manager agency conflict may depend on the *degree* of ownership-control separation or in other words the degree of managerial ownership. Theoretical considerations make us eager to conclude that if there is a *partial separation* between ownership and control, the impact of managerial ownership on cash holdings would be non-monotonic (Ozkan and Ozkan, 2004). Jensen (1986) argues that a higher level of managerial ownership could reduce the shareholder-manager agency problem due to the alignment of interests of managers with those of shareholders. Managers would be less eager to engage in diverting away resources from value maximization because they would bear a large part of the costs of their actions. However, if the private benefits of 'free riding'

by using the firm's resources for personal benefits and privileges of family members outweigh the costs of decreasing shareholder value, the manager may engage in non wealth maximizing behaviour and increase the cash holdings of the firm. This may hurt the long term rents enjoyed by the family shareholders. Consequently, the monitoring by the shareholders appears to be important to estimate the effect of managerial ownership on cash holdings. If there are only few owners or low ownership dispersion, they will possess a substantial amount of shares. Their ownership share must be substantial in order to do the effort to curb managerial discretion (Westhead et al., 2002). They will monitor more efficiently and lower shareholder-management agency costs. Moreover, external financiers would be more willing to lend due to the shareholders monitoring effort. Debt would even act as the ultimate tool to avoid the waste of any free cash flow on perquisites and opportunistic behaviour (Jensen, 1986; Blanco-Mazagatos et al., 2007). Consequently, we hypothesize that:

H2: If there is a partial separation between ownership and control, an increase in managerial ownership by the family manager is expected to *initially* decrease cash levels.

However, if managerial ownership further increases, outside family shareholders have a decreasing ability to monitor the management. The powerful insiders may try to exploit the firm's resources to their private benefit (Anderson and Reeb, 2004). There will be less incentive for each family member to monitor the management. The cost of monitoring is likely to outweigh the benefit since the benefit is only in proportion to their shareholding (Grossman and Hart, 1988). This could lead to the entrenchment of family managers, adverse selection behaviour (Gomez-Mejia et al., 2001). For example, once a family has enough ownership for unchallenged control, it can begin to abuse its power by taking resources out of the business (Claessens et al., 2002). A major owner may use its controlling position in the firm to free ride by using the firm's resources for personal benefits

and privileges of family members (Schulze et al., 2003). Moreover, parents' altruism may lead them to be generous to their children even when these children free ride and lack the competences to lead the firm (Anderson and Reeb, 2003). Restricting promotional opportunities and top management positions to a labour pool of family members can be problematic as the risk of hiring low quality employees increases (Lubatkin et al., 2005). Therefore, this would result in higher cash holdings to pursue private benefits. Therefore, we hypothesize that:

H3: If there is a partial separation between ownership and control, a *further* increase in managerial ownership by the family manager is expected to increase cash levels

If the family firm's *ownership and management completely coincide*, there is no shareholder-manager agency problem. Shareholder and managerial interests are completely aligned. Concentrated ownership and owner-management lead to zero level of agency costs as well as zero information asymmetries between owners and managers (Jensen and Meckling, 1976; Fama and Jensen, 1983). It can then be argued, that if inside equity is the main source of new funding for the family firm, these firms can be expected to maintain lower cash levels.

H4a: If ownership and control completely coincide, family firms are expected to maintain lower cash holding levels.

If the family firm depends on the debt markets for outside funding, a different scenario might prevail. Owner-managers of private family firms are more vulnerable for self-control problems due to the isolation from the disciplining effect of external markets, as indicated above (Lubatkin et al., 2005; Schulze et al., 2001). These family firm owners have a unique position of power (Westhead

et al., 2000). This lender risk increase would result in higher agency costs of debt which lowers the availability or increases the cost of external finance. So, we hypothesize that:

H4b: If ownership and control completely coincide, family firms are expected to maintain higher cash holding levels.

4. Methodology

4.1. Data set

The data for the study were collected through a private survey. The database consists of 600 Finnish SMEs and is a panel with observations from the years 2000-2005, but the number of observation varies across regression models because of missing data on some variables. In the first part of our study, we measure family ownership with a) a continuous variable measuring the share of family ownership in percentage points and b) with a dummy variable getting the value of one if the family holds more than 50 % of the shares. From this database, we selected only the small and medium sized private family firms in the second part of our analysis. We define a family firm in a strict sense as those firms that are fully owned by the family.

Because the data is a panel, we employ appropriate panel data estimation methods in our regression models. More specifically, we employ panel estimation methods which allow for GMM to control for the possibility of an endogeneity problem: random disturbances that affect decisions about cash level may also affect firm characteristics such as leverage and growth opportunities. E.g., Garcia-Teruel and Martinez-Solana (2007) suggest this approach.

4.2 Dependent variable

Our measure of cash holdings is the natural logarithm of the ratio cash and marketable securities to total assets. This approach has previously been adopted by, e.g., Ozkan and Ozkan (2004). Alternative approaches are the cash to sales ratio applied by, e.g., Faulkender (2002) and cash to total assets minus cash -ratio applied by Opler et al. (1999). This section discusses the motivation for the explanatory variables used in explaining the level of cash holdings

4.3. Explanatory variables

Family ownership

The presence of market imperfections and higher agency costs of debt (Ozkan and Ozkan, 2004) seem to make cash holdings necessary for private family firms in order to avoid the high costs of acquiring new debt (transaction cost motive), to meet unanticipated contingencies that may arise and to finance investments if debt financing is unavailable or too costly (precautionary motive). Moreover, private family firms have a strong desire to keep control (Romano et al., 2000) and to pass the firm onto their heirs. Family firm owners do not want to open up equity for non family members to prevent the loss of control. Since issuing equity is no viable option for private family firms and the use of debt financing, if available, may cause financial distress and default, family firms could be less willing to apply for external debt finance. Instead, they could be more inclined to maintain higher cash balances in order to reduce the probability of financial distress and to safeguard the firm for subsequent generations (Ozkan and Ozkan, 2004). Empirically, Ozkan and Ozkan (2004) confirm that firms having families as ultimate controllers tend to hold more cash.

Managerial ownership

Whether small and medium sized private family firms maintain higher cash levels, may depend on certain family firm characteristics such as the ownership structure of the firm or the firm's management (by a family manager versus a professional outside manager) (Westhead and Howorth, 2007). Therefore, we combine both elements into managerial ownership whereas a professional manager does not hold any shares of the firm since a private family firm is defined as fully owned by the family members. A family manager can own all the shares or only a partial amount of the family firm's shares.

We measure managerial ownership with several differently formulated specification of the percentage of managerial ownership. First of all, we employ a dummy variable indicating that there is no managerial ownership in place in the firm. Secondly, we employ a dummy variable indicating whether all ownership in the firm is in the hand of operating management. Finally, we take into account the possibility that the relationship between managerial ownership and cash holdings is nonlinear with the percentage of managerial ownership in its quadratic and cubic forms.

Relationship lending

The relationship lending literature essentially states that agency problems and information asymmetries between banks and borrowing firms can be alleviated through close bank-borrower relationships. This literature further concludes, that small businesses in particular could benefit from a closer and more informed relationship with their banks. It has been suggested that difficulties in obtaining outside capital may be alleviated by the nature of the bank-borrower relationship. Previous studies on relationship lending suggest that close bank-borrower relationships enhance credit availability, especially for small firms. Among others, Binks and Ennew (1997) investigate different attributes of bank-firm relationships and suggest that small businesses could benefit from a closer and more informed relationship with their banks. Other studies show that the duration of the

relationship decreases interest rates and collateral requirements (e.g., Berger and Udell, 1995). Degryse and Van Cayseele (2000) find that in Europe contract terms seem to deteriorate with the length of the bank-borrower relationship. Boot (2000) suggests that this may be caused by the fairly consolidated nature of the banking sector in Europe with fewer credit alternatives for borrowers. Previous studies on Finnish data (e.g., Niskanen and Niskanen, 2000) additionally find that while contract terms deteriorate with relationship length for larger firm, they improve with relationship length for smaller firms. More recently, Niskanen and Niskanen (2004) find that firms with long-term relationships and firms that have recently switched their main bank are more likely to have restrictive covenants in their loan contracts.

Ozkan and Ozkan (2004), Ferreria and Vilela (2004) as well as Garcia - Teluel and Martinez-Solano (2004) all use the level of bank debt to measure the effect of relationship lending on cash holdings and conclude that high debt levels and cash holdings are positively correlated. They interpret this to imply that firms with close lending relationships hold more cash. We are able to use more detailed measures of this relationship. Our first relationship lending variable is the number of lending banks that the firm uses. Previous literature suggests that an increase in the number of lending banks reduces the closeness and value of the bank-borrower relationship. Our second relationship lending variable is the length of the relationship that the firm has with its main bank. The central idea behind this variable is that a lot of valuable information is collected during the relationship.

Firm size

Firm size can be expected to be an important determinant of cash holdings, because information asymmetries are by nature larger in smaller firms. Additionally, it can be argued that the probability of default decreases as firm size increases. Both approaches indicate that the ratio of cash to assets should decrease as firm size increases. Alternative lines of reasoning can be based on the pecking order theory and the free cash flow theory. Opler et al. (1999) suggest that larger firms should have

more cash because they are presumably more successful. Ferreira and Vilela (2004) base their arguments on the free cash flow theory and suggest that larger firms may hold more cash for two alternative reasons. One is that the number of shareholders is usually higher in larger firms, which gives rise to superior managerial discretion. Also, large firms are less likely to be takeover targets due to the large amounts of cash that they hold. In both cases, managers of large firms have more incentives to hold large cash balances than the managers of small firms.

Profitability

Previous findings on the relationship between cash holdings and profitability are ambiguous. One line of literature suggests that more profitable firms use their profits to build up cash reserves and therefore, they can be expected to hold more cash (Opler et al. 1999; Ferreira and Vilela 2004). An alternative line of thought suggests that if cash and profits are substitutes (or if firms use profits to repay debt), there should be a negative relationship between profitability and the level of cash holdings (Kim et al. 1998).

Leverage

A number of studies imply that leverage is a significant determinant of cash holdings. Most studies suggest that the relationship between leverage and cash holdings is negative. John (1993) argues that this may be because the debt market is a substitute for holding cash. Baskin (1987) suggests that firms with high leverage ratios have a higher cost of funds and hold less cash because of the higher costs of leverage. Our measure of leverage is the debt-to-assets ratio of the firm.

Liquidity

Investments in liquid assets can be seen as a substitute for cash. Opler et al. (1999), Ferreira and Vilela (2004) and Ozkan and Ozkan (2004) all calculate the measure for liquid assets as the ratio of

working capital less cash to total assets. Because the idea behind this variable is that investments in liquid assets are seen as substitutes for cash holding, we expect to obtain a negative coefficient for this variable.

5. Empirical Results

5.1. Descriptive statistics

Table 1 presents descriptive statistics on key variables. The results indicate that the average ratio of cash to assets is 18.4 %. The results further indicate that the average level of managerial ownership in the firms is 35.17 % and that 38.4 % of the firms fall into the category in which management and ownership are fully separated while these two attributes fully coincide in 39.8 % of the firms.

TABLE 1

Table 2 presents further descriptive statistic for subsamples with different levels of managerial ownership. Panel A Column 1 compares family firms with no managerial ownership to those with some level of managerial ownership and Column 2 compares family firms with 100 % managerial ownership to those with lower levels of managerial ownership. The results in column II indicate that the level of cash to assets is lower in the firms in which CEO ownership is lower than 100 % as opposed to the firms in management and ownership fully coincide.

TABLE 2

Panel B of table two further compares subsamples with 0-5 %, 5-25 %, 25-50 and over 50 % of managerial ownership. This is done to investigate if the relationship between managerial ownership

and the level of cash holdings is non-linear as suggested in previous literature (e.g. Ozkan and Ozkan, 2004). The results in panel B support the non-linearity of the relationship suggesting that the level of cash holdings initially decreases as managerial ownership increases. The effect is then reversed at higher levels of managerial ownership but starts to decrease again as managerial ownership goes above the 50 % level.

5.2 Regression analysis

Table 3 presents our analysis on the determinants of cash holdings in small and medium sized family firms overall. The results imply that the family firms in our sample hold less cash than the non-family firms. This is the case with a continuous variable measuring family ownership as well as with a dummy variable indicating whether the family holds more than 50 % of equity in the firm. This contradicts previous studies, e.g., Ozkan and Ozkan (2004). The results in table 3 also imply that the firms in our sample have a target level of cash holdings. The positive coefficient further implies that the firm under adjust, but that this adjustment is quite rapid. We further find that cash holdings increase with an increase in profitability and liquidity and that they decrease with an increase in firm size.

(TABLE 3)

Table 4 presents our main analysis on the determinants of cash holdings in private family firms. Our results indicate that cash holdings are likely to be higher in the firms in which there is a full separation of ownership and control, that is, when managerial ownership is 0 %. This contradicts H1a and supports hypothesis H1b. The results can be explained through the free cash flow theory (Jensen, 1986), suggesting that outside managers are inclined to hold high levels of

cash to allow for discretionary behaviour by the management at the expense of non managing shareholders. We also find some evidence for the non-linear relationship between cash holdings and managerial ownership when there is only a partial separation between ownership and management. Our results here imply that cash holdings initially increase as managerial shareholdings increase and that they decrease and then further increase at higher levels of managerial ownership which is in line with H2 and H3.

Surprisingly enough, the coefficients on the lagged cash to assets variables are non-significant suggesting, that even if the firms in our sample overall adjust to a target level, the family firms in our sample do not seem to do so. Our results on the other control variables are for the most part in line with our expectations. The results also indicate that the level of cash holdings decreases as firm size increases. This result is in line with the idea that as information asymmetries decrease as firm size increases, there is less need for large cash reserves. We also find that an increase in profitability increases the level of cash holdings in our sample firms. This result is in line with, e.g., Opler et al. 1999, and Ferreira and Vilela 2004, who suggest that more profitable firms use their profits to build up cash reserves.

TABLE 4

Because of the fact that the lagged cash to assets variables in table 4 are not statistically significant, we also run the models with random effects GLS estimations. The results on these estimations are presented in table 5. The results on the managerial ownership variables are similar to the ones in table 4.

TABLE 5

6. Conclusion

The aim of this paper is to investigate the determinants of cash holdings in a sample of private family firms. We find that overall the family firms in our sample hold less cash than the non-family firms. Our results also indicate that cash holdings are higher when there is a total separation of ownership and control in our sample of small and medium sized family firms. These results can be interpreted to imply that in cases when management holds no shares in the company, it seeks to increase its freedom to make decisions by increasing the level of cash holdings (free cash flow problem). If the level of cash holdings is high, there is less need to consult the owners or lenders of the firm. It can be further hypothesized that this supports the idea that if family firms employ outside managers, they should be required to hold equity in the firm. We also find that between the two extremes, the relationship between managerial ownership and cash holdings is nonlinear. The results further imply, that the family firms in our sample have a target cash balance and that overall cash holdings are lower in the firms which are older, and that they increase with an increase in firm age and profitability.

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Table 1
Descriptive statistics on key variables

	N	Mean	Std. Deviation
Cash to Assets	1177	0.176	0.184
Debt to Assets	1139	58.20	31.361
Return on Assets	485	16.53	17.57
Total Assets	1184	1,583	5,751
Liquidity	485	2.22	4.474
Firm Age	1623	12.91	12.78
Managerial ownership (%)	1367	53.88	35.167
Managerial ownership =0	1376	0.18	0.384
Managerial ownership=100	1376	0.120	0.398
Family members in the board =1	1587	0.63	0.484
Only family members in the board =1	1520	0.41	0.492
Length of bank-borrower relationship	1489	15.87	13.21
# lending banks	657	0.86	0.609

Table 2
Descriptive Statistics on Key Variables by CEO Ownership

<i>Panel A</i>						
	<i>Column I</i>			<i>Column II</i>		
	<i>CEO ownership =0</i>	<i>CEO ownership >0</i>	<i>Significance</i>	<i>CEO ownership =100</i>	<i>CEO ownership <100</i>	<i>Significance</i>
Cash to assets	0.171	0.181	0.489	0.203	0.174	0.0537*
Liquidity	1.88	2.23	0.169	2.08	2.18	0.746
Debt to assets	60.13	58.23	0.472	61.97	57.93	0.109
Total Assets	2,626	499	0.000***	282	1,014	0.018***
ROA	20.28	17.31	0.1456	21.47	17.18	0.049**
Number of lending banks	0.76	0.83	0.216	0.66	0.86	0.000***
Length of main bank relationship	16.10	16.36	0.795	12.64	17.21	0.000***
Firm Age	12.11	12.88	0.379	13.13	12.64	0.559

Table 2 continues...

<i>Panel B</i>				
	<i>CEO ownership 0-5</i>	<i>CEO ownership 5-25</i>	<i>CEO ownership 25-50</i>	<i>CEO ownership >50</i>
Cash to assets	0.171	0.144	0.191	0.176
Liquidity	1.88	1.15	2.40	2.40
Debt to assets	60.13	70.19	56.79	56.85
Total Assets	2,626	835	455	1,787
ROA	20.28	11.05	16.88	15.83
Number of lending banks	0.76	1.05	0.99	0.84
Length of main bank relationship	16.10	19.76	15.30	15.60
Firm Age	12.11	10.50	11.50	13.82
Family members in the board =1	0.69	0.68	0.61	0.62
Only family members in the board =1	0.48	0.47	0.53	0.34

Table 3**The determinants of cash holdings in small private firms. Effect of family ownership**

The dependent variable is the natural logarithm of the cash to assets ratio. Avellano-Bover/ Blundell-Bons GMM estimates

	Column I		Column II	
	Coeff.	Prob.	Coeff.	Prob.
Constant	2.227	0.148	1.787	0.249
<i>Firm characteristics</i>				
Cash t_{-1}	0.181	0.004	0.198	0.002
Ln (Total assets)	-0.348	0.061	-0.320	0.087
Liquidity	0.081	0.062	0.079	0.069
Ln(Firm age)	0.027	0.811	0.041	0.711
Return on assets	0.013	0.000	0.013	0.000
Debt to assets	-0.004	0.262	-0.004	0.272
<i>Ownership</i>				
Family Ownership %	-0.021	0.024		
Family Firm Dummy			-1.300	0.079
Banking relationship length	-0.509	0.179	-0.530	0.172
Wald Chi2	54.99	0.000	51.93	0.000
Number of observations	628		628	

Table 4**The determinants of cash holdings in family firms. Effect of managerial ownership**

The dependent variable is the natural logarithm of the cash to assets ratio. Avellano-Bover/ Blundell-Bons GMM estimates.

	Column I		Column II		Column III	
	Coeff.	Prob.	Coeff.	Prob.	Coeff	Prob.
Constant	4.302	0.071	0.454	0.771	0.254	0.881
<i>Firm characteristics</i>						
Cash t_{-1}	0.049	0.611	0.083	0.385	0.002	0.977
Ln (Total assets)	-0.746	0.023	-0.704	0.007	-0.692	0.011
Liquidity	0.112	0.051	0.124	0.032	0.114	0.048
Ln(Firm age)	0.175	0.306	0.200	0.240	0.176	0.301
Return on assets	0.022	0.000	0.024	0.000	0.022	0.000
Debt to assets	-0.0001	0.937	0.0001	0.986	0.0001	0.979
<i>Ownership</i>						
Number of owners	-0.674	0.109	-0.231	0.513	0.268	0.426
Managerial ownership	0.0001	0.978				
Managerial ownership ²	-0.003	0.002				
Managerial ownership ³	0.0001	0.008				
Management holds 100 %					0.518	0.608
Management holds 0 %			4.462	0.000		
Relationship length	0.313	0.515	0.144	0.755	-0.230	0.616
Wald Chi2	44.80	0.000	42.77	0.000	30.13	0.000
Number of observations	270		270		270	

Table 5**The determinants of cash holdings in family firms. Effect of managerial ownership**

The dependent variable is the natural logarithm of the cash to assets ratio. Random Effects GLS estimates.

	Column I		Column II		Column III	
	Coeff.	Prob.	Coeff.	Prob.	Coeff	Prob.
Constant	0.559	0.438	0.454	0.771	0.254	0.881
<i>Firm characteristics</i>						
Ln (Total assets)	-0.505	0.000	-0.461	0.000	-0.424	0.000
Liquidity	0.131	0.001	0.121	0.002	0.121	0.002
Ln(Firm age)	-0.031	0.712	-0.059	0.483	-0.067	0.430
Return on assets	0.016	0.000	0.015	0.000	0.016	0.000
Debt to assets	-0.008	0.014	-0.007	0.018	-0.007	0.021
<i>Ownership</i>						
Managerial ownership	0.006	0.035				
Managerial ownership ²	-0.001	0.017				
Managerial ownership ³	0.0001	0.034				
Management holds 100 %					-0.001	0.996
Management holds 0 %			0.621	0.036		
Relationship length	-0.143	0.360	-0.175	0.271	-0.237	0.124
Wald Chi2	87.21	0.000	79.85	0.000	76.97	0.000
Number of observations	348		348		348	