Large powerful shareholders and cash holding

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Large powerful shareholders and cash holding [§]

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Abstract

We study the relationship between liquid asset holding and the pattern of share ownership and control structures within the firm. We explore these issues using a data set of Belgian firms that is particularly well suited to studying the institutions of control oriented finance. The data include information on ownership concentration, voting alliances, managerial ownership, membership in family groups, institutional cross-share holdings, and coordination centers which under Belgian law permit consolidation of earnings and cash flow for a group of firms. We show that financial structures in Belgium are strongly control oriented as evidenced by the very high levels of observed ownership concentration and the prevalence of pyramids, voting alliances, and participation in family groups. We find that the level of liquid asset holding is positively associated with ownership concentration and that this effect is particularly marked for family firms. Given the difficulties of family firms in achieving effective wealth diversification we interpret these results as indicating liquid asset holding is largely motivated by risk aversion. Cash holding is negatively associated with institutional cross share holdings, suggesting that these cross holdings facilitate an effective internal capital market. We find little evidence that managers have an independent influence on cash holdings.

Keywords: Liquid assets, Corporate governance, Family firms.

JEL Classification: *C23; G32*

1 Introduction

In this paper we explore the link between the firm's financial structure and the amount of liquid assets it holds. Our interest in this issue comes from the observation of the wide variety of financial structures that exists across countries and even within the same country. This evidence challenges the long-held notion that the normal financial structure of a large firm involves dispersed ownership leaving considerable prerogative to professional managers [Berle and Means (1932)]. In fact, international comparisons have shown that, if anything, the international norm is one of concentrated ownership, often under the control of a single family [see, Shleifer and Vishny (1997); Becht and Röell (1999);La Porta, Lopez-de Silanes, and Shleifer (1999); La Porta, Lopez-de Silanes, Shleifer, and Vishny (2000); and Becht and Mayer (2001)]. Several studies showed that large share stakes and dominant shareholders are a common phenomenon even in the United States [Holderness and Sheehan (1988); and Zwiebel (1995)].

Still, levels of ownership concentration differ across countries. In the literature the reference to large controlling shareholders means shareholders that have a specific threshold of equities, usually 10 or 20 percent and when ownership is below these thresholds firms are considered widely held. For instance, the definition given in Shleifer and Vishny (1997) is that ownership is concentrated when one or several investors in the firm have 10 or 20 percent of equities. Also working with US firms, in Dittmar and Mahrt-Smith (2007) a block of shareholders (blockholdings of common equity by institutions) is defined as being a block when it has a sum of 5 percent or more. On average these blocks hold "only" 13 percent of equities.

Similarly, the notion of what constitutes highly concentrated shareholdings can be rather different outside of the US context. In our sample of Belgian listed firms there is no firm with a largest shareholder with less than a 10 percent equity stake. At the 20 percent level, barely 4 percent of firms are widely held. This shows that ownership is concentrated at levels that are not really comparable to the US case. Moreover, large shareholders in Belgian firms are empowered by the legal practices of voting alliances. Shareholders can form voting blocks which are agreements among shareholders, either individual or institutional, that are part of the same business group and are subject to consolidation rules under Belgian law.

Hence, it is interesting to explore this case to discover what having very high levels of share holdings may mean for the amount of cash held by firms.

The literature on the implications of ownership concentration and control has grown rapidly in recent years. By and large, this literature is focussed on the impact of control on firm performance. Here there are a variety of competing hypotheses. One line of reasoning on this issue holds that concentrated ownership, particularly in a family group, may be an effective means of extracting value from minority shareholders [Demsetz (1983)]. This view has been developed in the theoretical model of Burkart, Panunzi, and Shleifer (2003). The case study of Times Mirror Company by De Angelo and De Angelo (2000) shows how this mechanism works when the controlling family exercises pressure to receive special dividends. Bennedsen, Meisner Nielsen, Perez-Gonzalez, and Wolfenzon (2007) study other characteristics of family firms and show that family CEO succession has a large negative effect on the performance of a sample of Danish firms. Morck, Strangeland, and Yeung (2000) provide empirical evidence of inferior performance by family firms for a sample of Canadian firms.

The alternative hypothesis holds that the concentrated ownership generally and the family firm in particular may be reasonable responses to the difficulties faced by investors in getting professional managers to actively and effectively pursue the investors' interests, resulting in superior performance for family controlled firms [Demsetz and Lehn (1985)].

Evidence in support of this view has been provided by Anderson and Reeb (2003), who work with a data set of US firms. Interestingly they find superior performance both for family firms controlled by the founder and also for family firms where control has passed into the hands of the heirs. Additional studies that provide evidence in favor of the superior performance of family firms is given by Villalonga and Amit (2006), who show that in the US, the family firm premium is mainly attributable to founding family CEOs and Wang (2006), who finds higher earnings for founding family firms. In a continental European context, Sraer and Thesmar (2007), show that French family firms have higher performance than non-family firms. This suggests that beneficial impact of family ownership on performance may not be specific to the US. However, in a study of 13 Western European countries Maury (2006) shows that family firms outperform nonfamily ones in firms where the largest

shareholder has a minority stake.

The fact that until now reduced form studies of the determinants of firm performance have not resulted in a settled view on the advantages or disadvantages of family control reflects important limitations of the available data for the purposes of discriminating among alternative explanations. In particular, it is often difficult to find observable variables which control for all the possible factors affecting performance. This is further complicated by possible problems of endogeneity. For these reasons it is useful to turn to the issue of the determinants of the firm's decisions, in particular investment decisions, which ultimately impact firm performance. The investment decision considered in this paper is the firm's choice of asset liquidity.

As has been emphasized by Myers and Rajan (1998), liquid assets create greater scope for managerial discretion as liquid assets could be transferred into private benefits at lower cost. We might therefore expect high liquid asset holdings to be associated with weak corporate governance.[1] This viewpoint has been explored in several studies, which make the link between cash holdings and corporate governance issues. It is considered that in environments where investors are less well protected it is easier and less costly for the controlling shareholders to consume the private benefits associated with cash reserves. Dittmar, Mahrt-Smith, and Servaes (2003) study liquid asset holdings in large listed firms from 45 countries using an index of shareholder rights based on the methodology of La Porta, Lopez-de Silanes, Shleifer, and Vishny (1998). They find a strong negative association between shareholder rights and liquid asset holding. In another cross-country study Pinkowitz, Stulz, and Williamson (2006) find that cash reserves are valued less in countries with weak investor protection since controlling shareholders in these countries have greater ability to extract private benefits from cash holdings. In a recent study of a sample of US publicly traded firms, Dittmar and Mahrt-Smith (2007) compare the value and use of cash held by poorly and well governed firms. They find that the value cash holdings is much higher for well governed firms than poorly governed ones.

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[1]It is often argued that holding large amounts of liquid assets may expose a firm to takeover bids or to other pressures to force the firm to increase pay outs and reduce financial slack[Olubunmi (2004)]. Contrary to this view, Harford (1999) and Pinkowitz (2002) find a negative relationship between the likelihood of a firm to become a takeover target and its holding of excess cash.

The results of all these studies seem to support the view that weak shareholder rights result in excessive cash holding. However, this still leaves open the question of whether this is the result of managerial influence on the decision. For it may be that in the presence of relatively weak shareholder rights alternative forms of corporate control can be put into place and these structures affect liquid asset holding.[2] For example, it may be that with appropriate controls shareholders are able to discipline insiders' tendencies to accumulate excess liquid assets. In particular, following Anderson and Reeb (2003), we might inquire whether concentrated ownership, particularly in the hands of a family group may increase value by curbing excessive cash holdings. This is precisely the question we explore in this paper.

In investigating the impact of large shareholders on corporate cash holdings we must confront one important complicating factor: risk aversion. Specifically, as argued by Demsetz and Lehn (1985) major shareholders may hold a large fraction of their wealth in shares of the firm in order to retain control and hence experience under-diversification. Risk aversion of large shareholders means that ownership concentration may be associated with efforts to reduce the total risk (both systematic and idiosynchratic) of the firm. This could be done in part by diversification of the firms' assets by holding liquid traded securities. Alternatively it could be done by holding cash. This suggests a positive correlation between share concentration and liquidity.

Whether or not risk aversion is a dominant characteristic of family firms is an open question. On the one hand, Demsetz-Lehn's argument would seem to apply to the case of a firm where the heirs of the founder must hold an undiversified portfolio in order to maintain the family's controlling interests. However, through the use of holding companies and pyramids, family members may be able to reduce exposure to the family firm while retaining effective control. In the Belgian context this is also facilitated by the device of explicit voting alliances. Furthermore, Anderson and Reeb (2003) point out that family firms are unique in that they are likely to have longer investment horizons than other shareholders. James (1999) hypothesizes that the extended investment horizons characteristic of family firms lead to more efficient investment decisions. Thus the ultimate effect of family ownership

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[2]The studies of Dittmar, Mahrt-Smith, and Servaes (2003) and Pinkowitz, Stulz, and Williamson (2006) do not have information on ownership structure and therefore are not able to explore this issue.

on liquid asset holding is an empirical question.

To explore these issues we construct a new panel data set of listed Belgian firms. These data are particularly well-suited to our purposes because the Belgian financial system displays an interesting variety of ownership structures and because our information about ownership patterns is very detailed. In Belgium most listed firms are relatively old and have their origins in the early 20th century or before. Many of these are still controlled by family groups. Thus most of the family firms in our sample are heir controlled.

We find a clear positive association between concentrated ownership and the fraction of firm assets held in liquid form. We find this relationship is particularly strong for family firms. Thus our results support the hypothesis that cash holding is motivated by risk aversion and that this effect is relatively strong for family firms. We find that cash holding is negatively associated with cross share holdings, which is consistent with the view that such cross share holdings facilitate a more efficient internal capital market among related firms. Somewhat surprisingly, we do not find a big difference between firms related to coordination centers and others in terms of cash holdings. We find little evidence that managers have an independent influence on cash holdings.

The remainder of the paper is organized as follows. Section 2 presents our empirical methodology and our data sources. In Section 3 we present our results. Finally, Section 4 concludes.

2 Data and estimation framework

Our sample consists of all active Belgian listed firms except those in the banking, insurance and real estate sectors. Listed firms undergoing a long liquidation process are excluded from the sample.[3] This selection process leaves us with a sample of 717 observations of firms for the period 1991-1996. The accounting variables are taken from the year-end annual accounts of firms available from the database called "Centrale des Bilans" edited by the National Bank of Belgium. Ownership data was collected by hand from the printed annual

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[3]In the remaining sample there are two listed firms with no declared shareholders: Delhaize and Solvac. Despite having no individual shareholder exceeding the 5% reporting limit, they are widely discussed in the Belgian press as being tightly controlled family firms. We have excluded these firms in the results reported here. We have also carried out the analysis with them included and find qualitatively the same results.

reports of listed firms. We supplemented this with notifications from the Documentation and Statistics Department of the Brussels Stock Exchange[4].

The data we use covers the period from 1991 to 1996. The year 1991 was chosen as a starting period because from that date all firms were required to report ownership information including all holdings greater than 5% (or 3% if the firm writes this into its statutes) and also participation in all shareholder voting alliances[5].

Descriptive statistics for the variables used in our study are given in Table 1.

Liquid asset holdings, the main variable to be explained, is measured as the ratio of the sum of cash, amounts receivable within one year, and marketable securities, all divided by total assets.[6] Table 1 shows that the liquidity ratio for Belgian firms is relatively high as compared to the results reported by Kim, Mauer, and Sherman (1998) for the US or by Anderson (2003) for the UK.

We now turn to the description of the explanatory variables we use in this study.

2.1 Governance variables

2.1.1 Ownership concentration

The level of ownership concentration in Belgian listed firms is very high. This gives large shareholders a great power; on average the largest shareholders hold 57 percent of equities. Moreover, in Belgian firms there exist voting blocks and/or business groups which make ownership even more concentrated. In fact, in Belgian listed firms a shareholder can be one of three types. First, shareholding can be represented by direct stakes which are the holdings of independent shareholders, either individuals or institutions. Second, it can be group blocks which are the stakes of companies that are part of a business group that is

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[4]The database we built better suits our research than the already existing ones, namely, BDPart, available in the Documentation and Statistics Department of Brussels Stock Exchange, and the NBB Financial Reports of Belgian firms. Specifically in the former, every time there is a change in the ownership composition, the previous data is overwritten, so it has no historical memory. In the latter, only Belgian shareholders are reported with no indication given of foreign shareholders. Furthermore, a comparison of the printed annual reports and the NBB data revealed frequent discrepancies in ownership information.

[5]The Belgian disclosure law was adopted in 1989, but for the years 1989 and 1990, some of the firms enjoyed a "grace period", where the shareholders of these firms were not obliged to notify the Banking Commission, but by the end of 1991 ownership disclosure was mandatory for all firms.

[6]We also have used the alternative measure of liquidity defined as the sum of cash and marketable securities divided by total assets as in Kim, Mauer, and Sherman (1998). The regression results obtained with this measure are qualitatively the same as those reported in the paper.

subject to consolidation rules under Belgian law. Third, shareholders can be embodied by voting blocks which are composed of direct stakes and/or group blocks. A voting block is a voting coalition where shareholders declare that they act in unison. As a proxy for ownership concentration we use the shareholding of the leading shareholder in the firm. The leading shareholder can be either an individual shareholder or a voting block.

2.1.2 Managerial ownership

We compute managerial share holding as the total reported shares owned by the member of the board of directors including the chairman, the managing director and the administrative director. In some cases it is observed that all members of the board are associated with a voting alliance. In all such cases all reporting managers are members of the same voting alliance. For these cases managerial share holding is the total shares in that alliance. It turns out that in the Belgian context large managerial share holdings are almost always associated with family firms. In the 117 cases where we observe positive managerial share holding, 95 are also family firms. Hence, significant managerial ownership usually occurs in a family firm if at all.

2.1.3 The second largest shareholder

In principle, the effective control of a large shareholder may be diminished by the presence of other large shareholders. To explore this, we calculate the share holding of a second large shareholder. If the second shareholder has any impact, we expect either a negative relationship between cash holdings and share holding of the second shareholder or a smaller coefficient on the variable relative to the first largest one. However, as has been argued by Zwiebel (1995) it may be that large investors "create their own space," i.e., by holding large blocks they deter other block investors from locating in the same firm. It appears that something like this operates in Belgium. In our sample firms' ownership is highly concentrated, and in almost all cases where there is a second largest declared shareholder she/he is very small. Out of 717 observations (from 1991 to 1996) there are only 317 observations where there is a second declared shareholder. However, the ownership of the second shareholder is very small compared to the first one as we can observe from Table 1.

On average a second shareholder holds almost 5 percent of equities while the leading one has 57 percent.

2.1.4 Families

In order to take into account the family effect we subdivide the sample into two sub-samples one with family firms and the second with the rest. Several empirical and theoretical studies have shown the role of families and their effect on corporate performance[7]. But what is the definition of a family controlled firm? Some studies define a family firm as one where the founder or the heir is in control like Sraer and Thesmar (2007). In Maury (2006) a family firm is one in which the largest controlling shareholder that holds at least 10 percent of the voting rights is a family, an individual, or an unlisted firm. In fact there is not a real consensus amongst researchers on the definition of a family business. The most common definitions of a family firm are:

a. if the founder or a heir is in control.

b. If one or more of the family members is on the board.

c. If one or more of the family members hold a specified threshold. However, there is no clear cut-off for the level of the threshold, in some studies it is 10 percent, in others it is 20 percent of voting rights. For example, this threshold is of 10 percent in Maury (2006).

d. If the family controls a target firm through a chain of pyramidal firms.

We adopt a relatively broad definition as follows. A family firm is one where there is a known link to the family of the founding owner(s) as evidenced by either direct shareholding in the firm[8] or control by a family firm indirectly through a pyramid. As discussed in the introduction the lack of diversification in family share holding will tend to induce greater liquid asset holdings for reasons of risk aversion.

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[7]Anderson and Reeb (2003), Burkart, Panunzi, and Shleifer (2003), De Angelo and De Angelo (2000), Faccio and Lang (2002), Maury (2006), Sraer and Thesmar (2007) among many other studies.

[8]In the declaration of control to the Banking Commission it is said clearly that the shareholder is a family group.

2.1.5 Coordination centers

Coordination centers were created in Belgium in 1982 by the Royal decree 187, in order to give incentives, mainly very attractive tax incentives, to multinational groups to relocate their financial operations in Belgium and to favor employment. Coordination centers allow multinational groups to carry out a large variety of financial and managerial services on a roughly tax-free basis.

While tax benefits may be an important, perhaps the most important, reason to establish a coordination center, it may be that coordination centers allow the creation of an internal capital market within a group of firms. If so, this may lead to a reduction in cash holdings.

To investigate this, we consider two sub-samples: one with firms related to coordination centers and the second with the rest. The coordination center sample constitutes approximately one quarter of our observations.

2.2 Other firm specific variables

In addition to these variables related to the ownership and control structure of firms, we control for other factors influencing the choice of liquid assets using a number of variables that have been used in previous studies.

- *Cash flow.* Cash flow offers an immediate source of liquidity to meet operating expenditures and maturing liabilities. The theoretical analysis of Anderson and Carverhill (2005) suggests that there is a non-monotonic relationship between expected cash flow and liquidity. Kim, Mauer, and Sherman (1998) find a negative effect; whereas, Opler, Pinkowitz, Stulz, and Williamson (1999) find a positive effect.

- *Leverage.* Previous empirical studies by Opler, Pinkowitz, Stulz, and Williamson (1999) and Kim, Mauer, and Sherman (1998) both find a negative relationship between leverage and liquid asset holdings.

- *Working capital.* Opler, Pinkowitz, Stulz, and Williamson (1999) argue that firms use factoring and securitization as a means of raising liquidity. Accordingly, firms with

high working capital are expected to hold less cash. We expect a negative relation between working capital and liquid asset holdings.

- *Investment in tangible assets.* Opler, Pinkowitz, Stulz, and Williamson (1999) argue that a firm that invests more should have fewer internal resources, and hence would accumulate less cash. This suggests a negative relationship between capital expenditures and cash held by the firm.

- *R&D.* We use R&D expenditures as a proxy for growth opportunities. The argument is that firms with high growth opportunities keep more cash to meet these opportunities. We expect a positive association between this measure and liquid asset holdings.

- *Firm size.* Firm size is included as a proxy for the development of internal capital markets, since large firms are more likely to be diversified and thus less likely to face financial distress [Titman and Wessels (1988)]. In studies as in Fazzari and Peterson (1993) it is argued that small firms are more likely to face financial constraints. We therefore expect an inverse relationship between firm size and liquid asset holdings. Opler, Pinkowitz, Stulz, and Williamson (1999), Kim, Mauer, and Sherman (1998) as well as Vogel and Maddala (1967) find a negative effect of firm size on liquidity holdings.

- *Investment in financial fixed assets.* Opler, Pinkowitz, Stulz, and Williamson (1999), use the number of reported lines of business segments to measure whether firms have non-core assets that could be liquidated in periods of economic distress. More generally, industrial cross-shareholding may indicate the existence of an internal capital market that operates among related firms. In our study we proxy this as the ratio of the amounts invested by the firms in tied firms and firms with which there exists a participation link[9] to total assets. We expect a negative association with liquid asset holding.

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[9]The firms tied to another firm are: the firms that control it, the firms that it controls, the firms with which it forms a consortium, the other firms that, to the knowledge of the board, are controlled by one of the firms mentioned above. The firms with which there exists a participation link are the firms, other than tied firms, in which the firm or its subsidiary holds a direct or indirect participation.

In our estimation we first consider a benchmark model by regressing the ratio of cash holdings on the variables capturing firm characteristics but omitting the variables capturing ownership and control structure as follows:

$$Liqrat_{it} = \beta_0 + \beta_1 CFrat_{it} + \beta_2 Leverage_{it} + \beta_3 Size_{it} + \beta_4 Work.Cap_{it} + \beta_5 FFA_{it} + \beta_6 Invest_{it} + \beta_7 R\&D_{it} + \epsilon_{it},$$

(1)

where $Liqrat_{it}$ is the variable for liquid assets of firm i at year t. It is computed as the ratio of cash in hand and at bank, other amounts receivable within one year and marketable securities to total assets. $CFrat_{it}$ is the variable for Cash flow of firm i at year t. It is computed as the ratio of earnings before interest and taxes to total assets. $Leverage_{it}$ is the variable for total debts of firm i at year t. It is the sum of short-term and long-term debt, divided by total assets. $Size_{it}$ is the size of firm i at year t. It is measured by the log of total assets. $Work.Cap_{it}$ is the working capital of firm i at year t. It is computed net of cash and is divided by total assets. FFA_{it} is the investment in financial assets of firm i at year t. It is the ratio of shareholdings of the firm in tied firms and firms with which there exists a participation link to total assets. $Invest_{it}$ is the variable for the capital expenditures of firm i at year t. It is the ratio of new acquisitions of tangible assets to total assets. $R\&D_{it}$ is the variable for expenses in R&D of firm i at year t. It is the ratio of R&D expenditures to total assets. ϵ_{it} is the error term.

We then explore ownership and control structure using the variables described above to capture the specificities of Belgian corporate ownership, namely, ownership concentration, managerial ownership, and the second largest shareholder ownership. In order to explore family effects we estimate the model separately for firms related to families and for non-family firms. This allows us to estimate how the sensitivity to share concentration differs across the two types of firms. We do the same for firms that are related to coordination centers. In results not reported here we also allow for family effects through the inclusion of a family dummy variable and also an interaction term between the family dummy and

the share of the largest share holder.

We first estimate the benchmark model and the model augmented with governance variables using OLS. In order to control for unobserved firm specific heterogeneity we estimate the model use the random effects specification. Since ownership variables do not vary much over time it is not appropriate to use the fixed effect model [Zhou (2001)]. To check for the robustness of the results we re-estimate the regression in a cross-sectional model (results are not reported)[10].

3 Results

3.1 Benchmark results

Table 2, columns (1) and (2) show the results of the regressions of liquid assets on the set of firm specific explanatory variables but omitting variables relating to ownership and control structures. As discussed already this specification is quite close to those used in Kim, Mauer, and Sherman (1998), Opler, Pinkowitz, Stulz, and Williamson (1999) and Anderson (2003). In each case, we present estimations from the OLS and the random effects panel data models. By and large our results are in line with those obtained by previous researchers and are robust to the inclusion of the ownership and control variables. The exceptions to this will be commented upon below.

Specifically, we find cash flow enters the regressions negatively but not significantly. This is consistent with previous research which found mixed results on this effect and with the theoretical results of Anderson and Carverhill suggesting an indeterminate sign for this effect. The effect of total leverage is negative. This is in accordance with the US studies which show that debts may be a substitute for cash [Kim, Mauer, and Sherman (1998), Opler, Pinkowitz, Stulz, and Williamson (1999), and Baskin (1987)]. Working capital is negatively related to liquid asset holdings. Hence, the more the firm has substitutes for cash that could be liquidated in periods of financial distress, the less cash it holds. Our

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[10]The cross-sectional model estimations are as in Rajan and Zingales (1995). The dependent variable is measured in 1996 and for the explanatory variables we take their average values over the period 1991-1995. The results obtained in the cross-sectional model are in almost all cases the same as those of the random effects model.

findings are in agreement with those of Opler, Pinkowitz, Stulz, and Williamson (1999) for US corporations.

In our benchmark model, R&D is positively related to liquid asset holdings, in accord with the argument that when a firm has greater growth opportunities, it keeps more cash in order meet them. However, this result is not robust across all ownership and control specifications. The same remark applies to investment in tangible assets, which enters the benchmark regression negatively. This is in agreement with the argument that firms investing more should have fewer internal resources, and consequently would have less liquidity [Opler, Pinkowitz, Stulz, and Williamson (1999)].

The variables that proxy for the level of development of internal capital markets are largely in line with our expectations. The first variable FFA, represents industrial cross share holdings. It is inversely related to liquidity holdings and significantly so in all specifications (at the 1 percent level of significance). It is worth pointing out that the size of the coefficients on FFA is economically highly significant. It suggests that all else equal, for every $100 of shares held in related companies, the firm will reduce its cash holdings by about $43 ($45 in the random effects model). Firm size is inversely related to cash holdings in our benchmark specification. This is consistent with the argument that small firms are more prone to face financial constraints than larger ones and accordingly, small firms would detain more cash[11]. However, the result is not robust across all specifications with ownership and control variables.

3.2   Governance and liquidity

We now turn our attention to our main concern by introducing into the model variables relative to ownership and control structures in Belgian firms.

3.2.1   Ownership of the largest shareholder

In Table 2, columns (3) and (4) we introduce the share of the largest shareholder, FLS. This variable enters positively and is statistically significant at the 1 percent level in all

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[11]Among other studies supporting this view, there are: Fazzari and Peterson (1993), Vogel and Maddala (1967), Opler, Pinkowitz, Stulz, and Williamson (1999), and Kim, Mauer, and Sherman (1998).

specifications (with one exception). The inclusion of this variable has virtually no impact on the estimates of the other coefficients in the model.

This positive relation with liquidity holdings is consistent with the view that risk aversion of reference share holders can have a significant impact on decision making of firms. This effect is potentially of great importance in the Belgian context. From Table 1, in more than 75 per cent of Belgian firms the largest shareholder owns more than 45 per cent of the shares. A quarter of Belgian firms have dominant owners holding 70 percent of the shares. From the estimates in Table 2, columns (3) and (4) we see that, for instance, if we increase the largest owner's share 25 percentage points (e.g., from 25 to 50 percent) we obtain an increase in liquid asset holdings of 5 per cent of total assets.

3.2.2 Families

We explore the influence of family ownership on firm asset choice by running our benchmark model augmented by shareholding of the largest shareholder on the subsamples of family firms (columns 5 and 6 in Table 2) and other firms (columns 7 and 8). The results suggest that family ownership matters for cash holding behavior. In particular for family firms the shareholding of the largest shareholder (FLS) has a positive sign, is statistically significant, and has quantitatively greater impact than in the results for all firms pooled. For example, the results of column 5 suggest a 25 percentage point increase in shareholding is associated with an increase of liquid assets of about 9 percent of total assets. In contrast, in non-family firms the same variable enters with a smaller positive effect in the OLS specification and is insignificantly negative in the random effects specification. This suggests that the impact of risk aversion on liquid asset holding is particularly strong in family firms.[12]

The cash holding behavior appears to differ across family and non-family firms in other respects. The coefficient on R&D is statistically insignificant and is smaller in magnitude in family firms as compared to non-family firms. In addition firm size does not enter as a significant variable in the family firm regressions.

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[12]To check the robustness of this conclusion we also run the model with benchmark variables, FLS plus FLS interacted with a family dummy on the pooled sample. The interaction term is positive and significant (results not reported). This also supports the argument that risk aversion has a particularly strong impact on cash holdings in family firms.

3.2.3 Managers

As already discussed, much of the corporate finance literature focusses on problems of managerial moral hazard, and this leads rather naturally to the notion that asset liquidity may be favored by managers because it facilitates managerial rent extraction. If so, we would expect higher levels of liquid asset holding when managers exert greater control.

We investigate this hypothesis by augmenting the regression model with the variable on managerial share holding. In fact, managerial share holding is not very widespread among Belgian firms, and when it occurs it tends to be associated with family presence in management. Within our pooled sample of 717 firm/years, there is at least one manager with declared share holdings in only 117 cases. Of these, 95 observations are for family firms. Furthermore, when there is a manager holding shares, the scale of managerial share holdings is highly correlated with those of the largest share holder, in part due to the fact that they often are either the same person or that they belong to the same voting alliance.

The results of including managerial share holding in the model are reported in columns (9) and (10) of Table 2. This variable enters with a positive coefficient but is statistically insignificant. All the other estimates, including the coefficient of the largest share holding variable, are very close to those obtained with "Manager" omitted. These pertain to the full pooled sample, and assign the value of 0 to managerial share in those cases where there is no declared managerial share holder. We have also run the model on the subsample of 117 cases with declared managerial share holdings. Again, the "Manager" variable enters with a positive but insignificant coefficient and the other estimates are largely unchanged (results not reported). If we restrict ourselves to the subsample of 117 cases and drop the variable on largest share holdings from the regression, then "Manager" enters with a positive coefficient that is statistically significant. But for the reasons discussed above, this appears to be picking up the same effect as largest share holder in family firms only.

From these results we conclude that among Belgian listed firms it is hard to see that managers not closely aligned with the interests of the dominant family share holder exercise any independent influence over the firm's asset choices as reflected in their liquid asset holdings.

3.2.4 The second largest shareholder

We have already remarked that in our sample of Belgian firms it is not common to see two or more large shareholders who are not members of the same group or voting alliance. Thus it would be surprising if share holdings of the 2nd largest shareholder had a dramatic impact on the firm's asset choices.

To explore this idea we include "2ndLS" in the model and report the results in columns (11) and (12) of Table 2. The estimated coefficient is positive in the OLS regression, negative in the random effects model, and insignificant in both cases. Including this variable has no noticeable impact on the other results. To explore the notion that the presence of a second declared shareholder may moderate the effective risk aversion exercised by the largest shareholder we interact "FLS" and "2ndLS" and report the results in columns (13) and (14). Again this has no significant effect and has no influence on the other estimates. Thus this confirms our expectation that we would not be able to detect an independent influence of a large shareholder not closely aligned with the largest shareholder.

3.2.5 Coordination centers

Finally we consider whether being associated with a coordination center has an influence on the firm's choice of liquid asset holding. We run our model including the share holdings of the largest shareholders on two sub-samples, one for firms related to a coordination centre and the other one with the rest of the firms. The results are in Table 2, in columns from (15) to (18). The estimated coefficients of the largest share holding variable are positive and significant in both subsamples. The coefficient estimate is slightly smaller in the coordination center subsample. However, if we estimate the model in the pooled sample and include a variable interacting "FLS" with a coordination center dummy, this interaction term is insignificant (results not reported). Otherwise, the estimates are not very different across the two subsamples with the exception of the estimated coefficient on "R&D" which is insignificant in the coordination center subsample. This may suggest that coordination centers do appear to operate to some extent as an internal capital market what allows resources in one part of the group to support growth opportunities elsewhere in the group. However, even for firms with coordination centers there is a significant positive

association between liquid asset holding and the share of the largest shareholder.

4 Concluding remarks

In this paper we have studied the case of a strongly control-oriented financial system to see what effect the share ownership and governance structures in that system have on firms' decisions to hold liquid assets. We have found that firms in this system hold levels of liquid assets that are high by comparison to the US and the UK and that there is a strong positive association between ownership concentration and the level of liquid asset holding. This effect is particularly strong for family firms. Given the difficulty of family firms in achieving effective wealth diversification while still retaining control, we interpret this result as evidence that liquid asset holding is strongly influenced by risk aversion among controlling shareholders. We find little evidence in support of the alternative hypothesis that high liquid asset holding may be due to independent managers keeping assets in liquid form because this facilitates managerial rent extraction. In particular, in our study those managers who have share holdings at levels sufficient to exert some control are typically joined in a voting alliance with the largest shareholder and very often these represent a family group. We do find evidence that liquid asset holding motivated by risk aversion is mitigated somewhat by the operation of an internal capital market as manifested most notably by cross share holdings among a group of firms.

While the ownership structures found in the Belgian case that we have studied in detail contrast strongly with those found in the largest US and UK firms, many of these features are present in other countries of continental Europe and elsewhere. Our results suggest that if effective control requires high ownership concentration and this is achieved at the cost of under-diversification of controlling shareholders then risk aversion may play a large role pushing firms to hold relatively high levels of liquid assets.

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Variables	Abbreviation used	Mean	25th percentile	Median	75th percentile
Liquidity	Liqratio	0.19	0.04	0.11	0.25
2nd definition of liquidity	Liqratio2	0.12	0.01	0.03	0.14
Cash flow	CFrat	-0.01	0	0.001	0.02
Total leverage	Leverage	0.33	0.10	0.29	0.49
Firm size	Size	9.49	8.96	9.42	10.01
Working capital	Work.cap	-0.08	-0.17	-0.06	-0.004
Investment in financial assets	FFA	0.45	0.16	0.46	0.72
Capital expenditures	Invest	0.02	0	0.001	0.02
R&D expenditures	R&D	0.002	0	0	0
The first largest shareholder	FLS	56.84	45	55.10	69.98
The second largest shareholder	2ndLS	4.66	0	0	7.07
Manager's ownership	Manager	34.38	7.61	26	59.80

The number of observations in the sample is 717.
The number of observations with managerial ownership is 117.

Table 1: Univariate analysis of variables used

Liquidity is cash in hand and at bank, other amounts receivable within one year and marketable securities divided by total assets. The 2nd definition of liquidity is the sum of cash in hand and at bank and marketable securities divided by total assets. Cash flow is earnings before interest and taxes divided by total assets. Total leverage is the sum of short-term and long-term debt, divided by total assets. Firm size is measured by the log of total assets. Working capital is computed net of cash and is divided by total assets. Investment in financial assets is the ratio of shareholdings of the firm in tied firms and firms with which there exists a participation link divided by total assets. Capital expenditures are new acquisitions of tangible assets, divided by total assets. R&D expenditures are expenses in R&D, divided by total assets. The first largest shareholder variable is the percentage of the direct shareholdings of the largest shareholder in the firm. The second largest shareholder variable is the percentage of the direct shareholdings of the second shareholder in the firm. Managers ownership is the percentage of the direct shareholdings of a manager regardless of his rank in the board.

| Variables | OLS | RE | OLS | RE | Family Firms | | Non-Family Firms | | OLS | RE |
	(1)	(2)	(3)	(4)	OLS (5)	RE (6)	OLS (7)	RE (8)	(9)	(10)
CFrat	-0.0329	-0.0277	-0.0116	-0.0215	-0.0117	0.0150	-0.0074	-0.0708	-0.0122	-0.0221
	(0.3741)	(0.3251)	(0.7477)	(0.4426)	(0.7640)	(0.6164)	(0.8986)	(0.1034)	(0.7345)	(0.4315)
Leverage	-0.2742	-0.2946	-0.2586	-0.2824	-0.4061	-0.3800	-0.2359	-0.2967	-0.2611	-0.2826
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Size	-0.0367	-0.0169	-0.0328	-0.0194	0.0078	-0.0132	-0.0315	-0.0032	-0.0301	-0.0191
	(0.0000)	(0.2200)	(0.0001)	(0.1465)	(0.6569)	(0.6489)	(0.0015)	(0.8376)	(0.0003)	(0.1567)
Work.Cap	-0.4149	-0.4316	-0.4075	-0.4369	-0.3740	-0.5504	-0.4103	-0.4009	-0.4165	-0.4374
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
FFA	-0.4351	-0.4533	-0.4259	-0.4476	-0.4547	-0.5407	-0.4272	-0.4307	-0.4301	-0.4478
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Invest	-0.5819	-0.4128	-0.5264	-0.3991	-0.5879	-0.0472	-0.4586	-0.4511	-0.5247	-0.3989
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0091)	(0.8043)	(0.0022)	(0.0000)	(0.0000)	(0.0000)
R&D	2.5787	4.2765	2.3963	4.1066	1.0337	1.1648	2.5879	4.7844	2.4211	4.1084
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.1562)	(0.4093)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
FLS			0.0022	0.0018	0.0035	0.0043	0.0015	-0.0004	0.0021	0.0018
			(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0008)	(0.4343)	(0.0000)	(0.0000)
Manager									0.0060	0.0001
									(0.1080)	(0.8149)
Obs	717	717	717	717	194	194	523	523	717	717
R-Square	43.05%		46.56%		64.18%		43.12%		45.70%	
F test (p-values)	(0.0000)		(0.0000)		(0.0000)		(0.0000)		(0.0000)	
LM test (p-values)		(0.0000)		(0.0000)		(0.0000)		(0.0000)		(0.0000)

| Variables | OLS | RE | OLS | RE | OLS | RE | OLS | RE |
| | | | | | Firms related to CC | | Firms not related to CC | |
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
CFrat	-0.0130	-0.0214	-0.0136	-0.0218	0.0449	0.0106	-0.0195	-0.0496
	(0.7178)	(0.4439)	(0.7064)	(0.4370)	(0.1539)	(0.4736)	(0.7093)	(0.2158)
Leverage	-0.2596	-0.2804	-0.2596	-0.2805	-0.3647	-0.3937	-0.2668	-0.2973
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Size	-0.0322	-0.0200	-0.0319	-0.0198	-0.0114	0.0146	-0.0509	-0.0234
	(0.0001)	(0.1341)	(0.0001)	(0.1425)	(0.2930)	(0.4231)	(0.0000)	(0.2108)
Work.Cap	-0.4070	-0.4356	-0.4083	-0.4360	-0.6262	-0.5219	-0.3829	-0.4047
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
FFA	-0.4259	-0.4473	-0.4255	-0.4467	-0.5181	-0.6097	-0.4187	-0.4438
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Invest	-0.5281	-0.4014	-0.5299	-0.4020	-0.5355	-0.0750	-0.5277	-0.4132
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0195)	(0.6123)	(0.0003)	(0.0001)
R&D	2.4359	4.0811	2.4341	4.0851	0.1517	-1.6747	3.1347	4.8335
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.7338)	(0.0290)	(0.0000)	(0.0000)
FLS	0.0023	0.0017	0.0023	0.0017	0.0014	0.0039	0.0021	0.0014
	(0.0000)	(0.0000)	(0.0000)	(0.0001)	(0.0004)	(0.0000)	(0.0000)	(0.0067)
2ndLS	0.0012	-0.0005	0.0020	0.0001				
	(0.1471)	(0.5915)	(0.4990)	(0.9814)				
FLS.2ndLS			-0.0001	-0.0001				
			(0.7654)	(0.8243)				

Obs	717	717	717	717	188	188	529	529	529
R-Square	46.72%		46.73%		67.78%		42.88%		
F test (p-values)	(0.0000)		(0.0000)		(0.0000)		(0.0000)		
LM test (p-value)		(0.0000)		(0.0000)		(0.0000)		(0.0000)	

Table 2: Estimates from the OLS Pooled and the Random effects models.

Intercept terms and year dummies are included for all regressions, but not reported. (P-values are in parentheses)

OLS and RE are OLS Pooled and Random Effects models respectively. The dependent variable is liquid assets. It is computed as the ratio of cash in hand and at bank, other amounts receivable within one year and marketable securities to total assets. CFrat is the variable for Cash flow. It is the ratio of earnings before interest and taxes to total assets. Leverage is the variable for total debts. It is the sum of short-term and long-term debt, divided by total assets. Size is firm size and it is measured by the log of total assets. Work.Cap is the working capital. It is computed net of cash and is divided by total assets. FFA is the investment in financial fixed assets. It is the ratio of shareholdings of the firm in tied firms and firms with which there exists a participation link to total assets. Invest is the variable for the capital expenditures. It is the ratio of new acquisitions of tangible assets to total assets. R&D is the variable for expenses in R&D. It is the ratio of R&D expenditures to total assets. FLS is the shareholding of the first largest shareholder in the firm. He could be an individual shareholder or a voting block. Manager is the variable for the share ownership of only one manager (any member on the board of directors regardless of his rank) or the sum of share ownership of a voting block if the manager belongs to it. 2ndLS is the share ownership of a second shareholder in the firm. FLS_2ndLS is an interaction variable between FLS and 2ndLS.

Columns (1) and (2) present the benchmark model. Columns (3) and (4) show the effect of the first largest shareholder in the firm on cash holdings. Columns (5) and (6) present the family effects, while Columns (7) and (8) present the non-family effects on cash holdings. Columns (9) and (10) present the managerial effects on cash holdings. Columns (11), (12), (13), and (14) show the estimates of the effects of the second shareholder in the firm on cash holdings. Columns (15) and (16) present the results for the coordination centers effects, while Columns (17) and (18) show those for firms not related

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to coordination centers.

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