

# The Role of Multiple Large Shareholders in the Choice of Debt Source

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## Abstract

This article examines the impact of multiple large shareholders (MLS) on the choice of debt source. Using a sample of 5,230 firm-year observations covering 643 French listed firms from 1998 to 2010, we find that reliance on bank debt financing increases with the presence of MLS and with the contestability of the controlling owner's power. Our findings are robust to endogeneity concerns and to a battery of sensitivity tests. In addition, we show that the identity of the second largest shareholder influences the choice of debt source. Moreover, we find that the effect of MLS on debt choice is more pronounced when agency problems between controlling and minority shareholders are more severe. Taken together, our results suggest that the presence of MLS reduces the incentive of the controlling owner to avoid scrutiny and to insulate herself from bank monitoring, leading to more reliance on bank debt.

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## 1. Introduction

Although the firm's choice of debt source is a central theme in corporate finance, researchers have only recently begun to shed light on the relation between ownership structure and the debt financing choice. For instance, Denis and Mihov (2003) provide evidence that managerial ownership affects debt choice. Lin et al. (2013) show that the control-ownership divergence of the controlling owner is associated with lower reliance on bank debt financing. However, the large body of research on capital structure has thus far been silent on the role of multiple large shareholders (MLS), other than the controlling owner, in debt choice. In this paper, we investigate whether the presence of MLS influences the firm's choice of debt instrument.

The governance role of MLS has been increasingly recognized in the literature. Prior studies show that MLS have incentives (large cash flow rights) and power (large voting rights) to participate in the firm's internal decision process, which affects firm valuation and decision making (e.g., Faccio et al., 2001; Maury and Pajuste, 2005; Attig et al., 2009; Boubaker et al., 2014). However, the impact of MLS on financing decisions, such as the choice of debt source, remains almost unexplored. Our objective is to narrow this gap by addressing the following questions: Is there a relation between the presence of MLS and the firm's reliance on bank debt financing? Does the identity of MLS matter in explaining the choice of debt source? Does the relation between MLS and debt choice still hold in the case of more severe agency problems between controlling and minority shareholders?

The capital structure and corporate governance literatures offer two views on how MLS could affect the choice of debt source. The first view is based on the idea that MLS play a monitoring role in alleviating the agency conflicts between the largest controlling owner and minority shareholders (Bennedsen and Wolfenzon, 2000; Pagano and Röell, 1998). Prior research suggests that self-interested controlling owners tend to behave opportunistically by diverting corporate resources (e.g., Shleifer and Vishny, 1997; Bebchuck et al., 2000; Claessens et al., 2002). Therefore, they might avoid bank debt, since banks have better monitoring ability than other lenders. For instance, banks can access inside information that is not available to other types of borrowers and have superior ability to punish the borrowing firm through liquidation or the renegotiation of loan contract terms (Stiglitz and Weiss, 1983; Fama, 1985; Rajan, 1992; Park, 2000). From this perspective, controlling owners prefer to reduce their firm's reliance on bank debt financing as a way of protecting their private benefits of control. Since MLS have strong incentives and power to monitor the

controlling owner and to inhibit her diversion activities, their presence reduces her incentive to avoid bank monitoring, which results in higher firm reliance on bank debt.

An alternative view draws on the possibility that MLS choose to collude with the controlling owner to extract private benefits at the expense of minority shareholders (e.g., Zwiebel, 1995; Kahn and Winton, 1998). In this vein, Faccio et al. (2001) find that the presence of MLS decreases dividend rates in East Asia. The authors interpret this result as evidence that large owners form a controlling coalition to expropriate minority shareholders. Maury and Pajuste (2005) and Attig et al. (2008) provide evidence that coalitions between large shareholders can facilitate profit diversion, which results in lower firm value and higher costs of equity financing, respectively. Forming a controlling coalition to share private benefits creates incentives for MLS to reduce the firm's reliance on bank debt since they anticipate heightened monitoring by banks. It is therefore likely that the presence of MLS is associated with a lower proportion of bank debt in total debt.

In this paper, we consider the association between the presence of MLS and the firm's choice of debt source an empirical issue. To empirically examine this issue, we use a sample of 5,230 firm-year observations covering 643 French listed firms from 1998 to 2010. We document that the presence of MLS and their contestability of the controlling owner's power is an important determinant of the firm's reliance on bank debt. Specifically, we find compelling evidence that firms with MLS tend to rely more heavily on bank debt financing. Our results are also economically material, since the presence of MLS increases the fraction of bank debt by almost 9%. This finding supports the view that MLS reduce the preference of the controlling owner to avoid bank debt to protect her private benefits of control. We also provide evidence that the voting power of MLS relative to the controlling owner significantly affects the proportion of bank financing in a firm's total debt.

These findings are robust to addressing endogeneity concerns and to several robustness tests. We employ three approaches to address endogeneity concerns. First, we re-estimate our main regressions using a propensity score-matched sample that includes firms with MLS and firms without MLS. Second, we estimate change regressions by considering a model that regresses the change in the ratio of bank debt to total debt on the change in MLS-related variables. Third, we use an instrumental variable approach. The results from these tests are qualitatively similar to our main findings. Our results also stand up to a battery of

robustness checks, including the use of alternative MLS-related variables, a sample that includes only closely held firms, and alternative estimation methods.

We also show that the presence of MLS has a weaker (stronger) effect on reliance on bank debt financing when the borrowing firm has a high (low) level of existing bank debt in its debt structure. In additional analyses, we find that the identity of the second largest shareholder matters in explaining the firm's reliance on bank debt financing. In particular, we document a positive and significant link between the existence of a family or a widely held financial institution as a second largest shareholder and the ratio of bank debt to total debt, suggesting the superior monitoring abilities of these two types of large shareholders. However, the presence of the state or a widely held corporation as a second largest shareholder does not seem to have an impact on the firm's reliance on bank debt financing.

We further test whether the severity of agency problems between controlling and minority shareholders influences the effect of the presence of MLS on debt choice. In particular, our findings reveal that the effect of MLS on debt choice is more pronounced in firms with higher levels of free cash flow, in family-controlled firms, and in firms facing lower product market competition. These findings support the view that MLS play a stronger governance role in firms with higher expropriation likelihood. Furthermore, our results suggest that analyst following and the presence of MLS act as substitutes in determining the choice of debt source.

This study contributes to the literature in several important aspects. First, it adds to the literature on capital structure choice by providing the first rigorous evidence of the impact of MLS on a firm's reliance on bank debt financing. Thus, this study complements prior research by Denis and Mihov (2003) and Lin et al. (2013), who find that ownership structure plays an important role in determining debt choice. Second, this paper extends previous work on the governance role of MLS (e.g., Maury and Pajuste, 2005; Attig et al., 2008; 2009) by showing that MLS play an efficient monitoring role that has a significant impact on firm's debt choice. Third, the present work sheds light on a channel through which large shareholders influence debt choice, which adds a new dimension to our understanding of the relation between ownership structure and firm financial decisions. Fourth, the present paper augments empirical research on the determinants of the choice of debt source by focusing on the French context. French firms are typically closely held and exhibit substantial separation of ownership and control, which induces severe agency

conflicts between controlling owners and minority investors (e.g., Faccio and Lang, 2002). Moreover, French firms are often controlled by more than one large shareholder (e.g., Faccio et al., 2002; Laeven and Levine, 2008). Thus, France provides an excellent laboratory for understanding the role of MLS in the choice of debt source. In addition, a single-country study is appropriate for this analysis, given the cross-country discrepancy in the level of development of bond markets as an alternative source of debt. This allows us to have a more homogeneous sample of firms facing a similar debt market environment.

The rest of the paper is organized as follows. Section 2 develops the hypotheses related to the influence of MLS on debt choice. Section 3 details the sample selection criteria and the data sources, presents the definitions of the variables used in the empirical analysis, and provides summary statistics. Section 4 covers the empirical evidence. Section 5 presents the robustness checks. Section 6 concludes the paper.

## **2. Related literature and hypotheses development**

In this section, we present arguments suggesting a potential link between the presence of MLS and a firm's reliance on bank debt. We first provide a brief discussion on the comparative advantages of banks in monitoring efficiency. We then develop our research hypotheses on how the presence of MLS affects the choice of debt source.

### *2.1. Background literature*

Corporate finance theories emphasize that banks have a significant advantage over other types of lenders in terms of monitoring efficiency (e.g., Boyd and Prescott, 1986; Berlin and Lloyes, 1988). This advantage stems from three main sources. First, banks have access to private information at a lower cost compared to other types of lenders (e.g., Fama, 1985), which enables them to closely monitor the actions of corporate insiders and controlling owners and to detect expropriation activities, which reduces moral hazard problems. Second, bank lenders have a much more concentrated ownership of debt claims compared to public debtholders. Hence, banks are likely to face fewer free-rider problems and to avoid the wasteful duplication of monitoring efforts (Diamond, 1984, Houston and James, 1996). Third, bank lenders have superior ability to punish borrowing firms through liquidation or the renegotiation of loan contract terms (Chemmanur and Fulghieri, 1994; Gertner and Scharfstein, 1991; Park, 2000), implying much greater influence and pressure on corporate

insiders and controlling owners, which mitigates moral hazard problems (Stiglitz and Weiss, 1983; Rajan, 1992).

These comparative advantages of banks in monitoring efficiency can create a conflict between controlling and minority shareholders over the choice of debt source. Theoretical and empirical research on corporate governance shows that controlling owners have different means to enhance their control beyond their ownership rights (such as pyramid structures and double-voting shares), which enables them to derive private benefits of control to the detriment of minority shareholders (e.g., Shleifer and Vishny, 1997; Bebchuck et al., 2000; Dyck and Zingales, 2004; Nenova, 2003). In anticipation of bank scrutiny, self-interested controlling owners prefer to avoid bank debt to protect their private benefits of control. In this vein, Lin et al. (2013) provide evidence that firms controlled by entrenched controlling owners (that is, those with high degree of separation of ownership and control) prefer public debt over bank debt to evade bank monitoring. We argue that the presence of MLS can alter the impact of the controlling owner on the firm's reliance on bank debt. The topic of the next section is to derive testable hypotheses on the effect of MLS on debt choice.

## *2.2. Hypotheses development*

MLS structures are common in many countries. For instance, Claessens et al. (2000) document that more than 32% of East Asian firms have at least two large shareholders. Similarly, Faccio and Lang (2002) and Laeven and Levine (2008) reckon that MLS are present in more than 33% of Western European firms. However, our understanding of the role of MLS in financing decisions remains limited. In this study, we focus on an important research issue that remains unaddressed: the effect of MLS on the choice of debt source.

Theoretical research on corporate governance suggests that MLS, beyond the controlling owner, have strong incentives to play a monitoring role that mitigates the extraction of private benefits of control. Pagano and Röell (1998) argue that large shareholders monitor each other, which refrains from diverting corporate resources. Bennedsen and Wolfenzon's (2000) model shows that MLS with evenly distributed equity holdings can form a coalition that improves corporate governance. Recent empirical studies support the view that the governance role of MLS mitigates agency costs, which enhances firm value and profitability (Lehman and Weigand, 2000; Maury and Pajuste, 2005; Laeven and Levine, 2008; Attig et al., 2009) and reduces the cost of equity capital (Attig et al., 2008). In light of these considerations, one might expect the presence of MLS and their

contestability of the controlling owner's power to influence the firm's reliance on bank debt financing. The underlying premise is that the monitoring role of MLS reduces the ability of the controlling owner to divert corporate resources, which obviates her need to avoid bank scrutiny that comes with bank debt financing. On the basis of these arguments, we propose the following hypothesis.

*H<sub>1a</sub>: The presence of MLS is associated with greater reliance on bank debt financing.*

However, the literature on corporate governance offers an alternative view of how MLS can affect debt choice. This view contends that MLS may have incentives to appropriate corporate resources at the expense of minority shareholders. Zwiebel (1995) theoretically demonstrates that MLS may prefer to be in cahoots with each other to extract private benefits of control. Kahn and Winton (1998) assert that, in some situations, MLS choose to behave opportunistically by trading on private information instead of monitoring insiders. Faccio et al. (2001) find that the presence of MLS decreases dividend rates in Asia but increases them in Europe, suggesting that MLS exacerbate the expropriation of minority shareholders in Asia but improves corporate governance in Europe. Maury and Pajuste (2005) and Attig et al. (2008) provide evidence that when the largest and second largest shareholders are families, they collude to appropriate private benefits of control, which decreases firm value and the cost of equity capital, respectively. When MLS, other than the controlling owner, decide to engage in extracting private benefits at the expense of minority shareholders, they have strong incentives to avoid bank scrutiny. In this case, they collude with the controlling owner to reduce their firm's reliance on bank debt financing. In light of these arguments, we draw the following alternative hypothesis.

*H<sub>1b</sub>: The presence of MLS is associated with less reliance on bank debt financing.*

Furthermore, one would expect the severity of agency problems between controlling and minority shareholders to alter the effect of MLS on the choice of debt source. In firms with severe agency problems, controlling owners have stronger incentives to extract private benefits of control and to avoid bank debt to evade scrutiny. If MLS engage in monitoring activities, their governance role is expected to be stronger in these firms than in firms with a lower likelihood of expropriation (e.g., firms with lower levels of free cash flow or with effective external governance mechanisms). In this vein, Attig et al. (2009) find a more pronounced valuation effect of the presence of MLS in firms with a higher likelihood of expropriation. Accordingly, we expect the effect of the governance role of MLS on debt

choice to be more pronounced when the agency problems between controlling and minority shareholders are more severe.

Nevertheless, as discussed above, MLS may also engage in diversion activities (e.g., Zwiebel, 1995; Kahn and Winton, 1998; Faccio et al., 2001). If the agency problems embedded in the ownership structure are severe, MLS can enjoy significant divisible private benefits of control. In anticipation of the heightened monitoring from banks, the MLS of firms with severe agency problems have particularly strong incentives to avoid bank debt to protect their private benefits. Thus, the negative association between the presence of MLS and bank debt reliance is expected to be stronger in firms whose likelihood of expropriation is greater. In light of these arguments, we present the following hypothesis.

*H<sub>2</sub>: The relation between the presence of MLS and the firm's reliance on bank debt financing is more pronounced when agency problems are more severe.*

### **3. Sample, variable definitions, and summary statistics**

This section describes the sample selection criteria, presents the definitions of the variables used in our main regressions, and provides descriptive statistics.

#### *3.1. Sample selection and data sources*

Our initial sample consists of all French listed firms appearing in the Worldscope and Capital IQ databases from 1998 to 2010. From this sample, we discard firms with zero debt and those with missing debt, ownership, or financial data. We also exclude financial firms (SIC codes 6000-6999) and regulated utilities (SIC codes 4900-4999). This selection procedure results in a final sample of 5,230 firm-year observations covering 643 French listed firms from 1998 to 2010. Detailed information on the debt structure is obtained from Capital IQ database. Financial data are collected from Worldscope database. Data on ownership structure are manually gathered from firms' annual reports.

#### *3.2. Variables*

Following Lin et al. (2013), we measure the firm's reliance on bank debt using the ratio of bank debt to total debt. We classify the independent variables used in the analysis into two categories: ownership variables and control variables. The Appendix summarizes the definitions and sources of these variables.



### 3.2.1. Ownership variables

Following previous literature on corporate governance (e.g., Attig et al., 2008; 2009), we capture the presence of MLS and their contestability of the controlling owner's power using the variables *MLSD* and *VRRATIO*. *MLSD* is a dummy variable that is set to one if the firm has more than one large shareholder –that is a legal entity that controls, directly or indirectly, at least 10% of the voting rights (La Porta *et al.*, 2002; Laeven and Levine, 2008)– and zero otherwise. *VRRATIO* equals the sum of the voting rights of the second, third and fourth largest shareholders, divided by the voting rights of the largest controlling owner. Based on our central hypothesis, we expect these two variables to be important determinants of debt choice.<sup>1</sup>

We use the variable, *EXCESS\_CONTROL*, to proxy for the deviation between control rights and cash-flow rights of the controlling owner. It is defined as the difference between the ultimate control rights and cash-flow rights of the controlling owner, all divided by her ultimate control rights. This variable is calculated using the complete ownership chains of each firm in our sample. Following Claessens et al. (2000; 2002) and Faccio and Lang (2002), we calculate the ultimate cash flow rights (*UCF*) of each controlling owner as the sum of the products of cash flow stakes along the different control chains. The ultimate control rights (*UCO*) of a controlling owner are the sum of weakest links along each control chain. *EXCESS\_CONTROL* equals to  $(UCO - UCF)/UCO$ . To illustrate the calculation of this variable, we consider the example of a family that has 90% of the cash flow and voting rights of a firm A that, in turn, has 50% of the shares of a firm B and 20% of the shares of another firm C. Firm B, in turn, owns 12% of the cash flow rights and 20% of the voting rights of firm C. The family is the controlling owner of firm C. The ultimate cash flow rights and the ultimate control rights of the family are 23.4% ( $= 90\% * 20\% + 90\% * 50\% * 12\%$ ) and 40% ( $= \min(90\%; 20\%) + \min(90\%; 50\%; 20\%)$ ), respectively. The excess control of the family is  $EXCESS\_CONTROL = (40\% - 23.4\%) / 40\% = 41.5\%$ . The variable *EXCESS\_CONTROL* is expected to be negatively related to the firm's reliance on bank debt, since more entrenched controlling owners prefer avoiding external monitoring by banks to protect their private benefits of control and to hide their diversion activities.

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<sup>1</sup> Our results are robust to using alternative MLS-related variables measuring the number of large shareholders beyond the largest controlling owner, the Shapley value solution for the controlling owner and a common factor extracted from all MLS-related variables using a principal component analysis (see the robustness tests below).

### 3.2.2. Control variables

Following previous studies (e.g., Houston and James, 1996; Denis and Mihov, 2003), our regressions include proxies for firm characteristics found in prior research to affect the choice of debt source namely, (i) *LEVERAGE*, which equals to the ratio of total debt to total assets, (ii) *TANGIBILITY*, defined as the ratio of net property, plant, and equipment to total assets, (iii) *PROFITABILITY*, which is the ratio of earnings before interest, taxes, depreciation, and amortization (EBITDA) to total assets, (iv) *TOBIN\_Q*, the firm's Tobin's Q defined as the market-to-book value of assets, (v) Altman's (1968) z-score (*Z\_SCORE*), calculated as follows:  $(1.2 * \text{working capital} + 1.4 * \text{retained earnings} + 3.3 * \text{earnings before interest and taxes} + 0.999 * \text{sales}) / \text{total assets} + 0.6 * (\text{market value of equity} / \text{book value of debt})$ , and (vi) *SIZE*, that equals to the natural logarithm of total assets. We also include in the regressions year and industry dummies (based on Campbell's (1996) industry classification method).

### 3.3. Sample description and correlation matrix

Table 1 presents summary statistics for our sample. To reduce the effect of outliers, all continuous variables are winsorized at the first and the 99th percentiles. As shown in Table 1, MLS are present in more than 37% of the sample firms. This finding is largely in line with previous studies, such as those of Faccio and Lang (2002) and Laeven and Levine (2008). Moreover, the average ratio of the power of MLS relative to the largest controlling owner (*VRRATIO*) is about 32%. Furthermore, the mean excess control of the largest controlling owners is 22.8%, indicating that French listed firms are vulnerable to agency conflicts between their controlling owners and minority shareholders.

Table 1 shows that our sample firms have an average ratio of bank debt to total debt of 40.6%. In addition, our sample includes low- and high-leverage firms, since the leverage ratio varies from less than 0.6% (5th percentile) to more than 50% (95th percentile), with an average of more than 22%. Our sample also includes, on average, relatively profitable firms with a mean ratio of EBITDA to total assets (*PROFITABILITY*) of 9.4%. Moreover, the mean size of our sample firms is 18.920 and the mean value of Tobin's Q is 1.933.

*[Insert Table 1 about here]*

Table 2 reports Pearson pairwise correlations between the independent variables used in our main regressions. As expected, there is a high correlation coefficient of 0.673 between the variables *MLSD* and *VRRATIO*. However, the remaining correlation coefficients

tend to be small, giving us some assurance that multicollinearity is not likely to be a serious problem in our estimations. Moreover, we compute the variance inflation factors for each regression (unreported). According to Neter et al. (1989), a variance inflation factor that exceeds the critical value of 10 indicates that multicollinearity may affect the multivariate results. We find that the variance inflation factors do not exceed 1.43, providing more assurance that multicollinearity is not an issue in our estimations.

*[Insert Table 2 about here]*

#### 4. Empirical evidence

In what follows, we discuss the empirical findings on the effect of the presence of MLS and their contestability of the controlling owner's power on debt choice. We also present robustness checks. In additional analyses, we show the role of the identity of the second largest shareholder in bank debt reliance.

##### 4.1. Regression specifications

To empirically test our hypothesis, we estimate several specifications of the following model (with subscripts dropped for notational convenience):

$$\begin{aligned} \text{BANK DEBT/TOTAL DEBT} = & a_0 + a_1 \text{MLS} + a_2 \text{EXCESS\_CONTROL} + a_3 \text{LEVERAGE} \\ & + a_4 \text{TANGIBILITY} + a_5 \text{PROFITABILITY} + a_6 \text{TOBIN\_Q} \\ & + a_7 \text{Z\_SCORE} + a_8 \text{SIZE} + \text{Industry dummies} + \text{Year dummies} + \varepsilon \quad (1) \end{aligned}$$

where *MLS* is one of the MLS-related variables *MLSD* and *VRRATIO* and  $\varepsilon$  is the error term. We focus on the coefficients of *MLSD* and *VRRATIO* ( $a_1$ ). Positive coefficients for these variables would suggest that reliance on bank debt financing increases with the presence of MLS and their contestability of the controlling owner's power.

##### 4.2. Evidence of the impact of MLS on debt choice

Table 3 presents ordinary least squares (OLS) regressions explaining the role of MLS in the choice of debt source. In all regressions, heteroskedasticity-robust *t*-statistics are in parentheses beneath the coefficient estimates and standard errors are clustered at the firm level. We begin by regressing the proportion of bank financing in total debt against the variables *MLSD* and *SIZE* (specification 1). In support of H1a, the coefficient for the variable *MLSD* is positive and statistically significant at the 1% level, indicating increased reliance on

bank debt financing for firms with at least two large shareholders (at the 10% threshold). This result is economically important, since the presence of MLS increases the fraction of bank debt by almost 9%, with all the other explanatory variables set at their mean values. The coefficient for the variable *SIZE* is significantly negative at the 1% level, indicating that smaller firms rely less on bank financing. This result is consistent with prior research (e.g., Houston and James, 1996; Denis and Mihov, 2003; Meneghetti, 2012) and suggests that smaller firms have greater monitoring needs, since they are likely to have greater information asymmetries (Hooks and Opler, 1993).

*[Insert Table 3 about here]*

In specification 2, we include the control variables *LEVERAGE*, *TANGIBILITY*, *PROFITABILITY*, *TOBIN\_Q* and *Z\_SCORE*. We still find a positive (negative) and significant link between the variable *MLSD* (*SIZE*) and the ratio of bank debt to total debt, which confirms the results from specification 1. Economically, the presence of more than one large shareholder increases the proportion of bank debt in the firm's debt financing by more than 9.3%, which is economically important, given the average bank debt to total debt ratio in our sample.

To proxy for control contestability, we use the variable *VRRATIO* instead of *MLSD* in specification 3 of Table 3. *VRRATIO* measures the relative power of the second, third and fourth largest shareholders vis-à-vis the controlling owner. Higher values of this variable imply greater comparability between the voting rights of the controlling owner and the sum of the voting rights of the second, third, and fourth largest shareholders. We find that *VRRATIO* also loads positively and significantly at the 1% level, implying that firms with greater contestability of the largest controlling owner's power tend to rely more on bank debt financing. This effect is economically significant, given that a one standard deviation increase in *VRRATIO* increases the use of bank debt as a fraction of a firm's total debt by 3.3%, everything else being equal.

Overall, these results support the idea that MLS play an important governance role that mitigates the agency problems between large and minority shareholders. The monitoring role of MLS reduces the preference of the controlling owner to avoid bank debt to insulate herself from external monitoring and to protect her private benefits of control, which increases her firm's reliance on bank debt. The results for the variable *EXCESS\_CONTROL* lend additional credence to this interpretation: *EXCESS\_CONTROL*

enters specifications 2 and 3 with a negative and strongly significant sign (at the 1% level), suggesting that increases in the control rights over the ownership rights of the largest controlling owner are associated with less reliance on bank debt. This finding is in line with Lin et al. (2013), and suggests that entrenched largest controlling owners have strong incentives to avoid bank monitoring, which results in a lower proportion of bank debt in their firms' debt structures.

Turning to the remaining control variables, we report negative and highly significant coefficients for the variables *LEVERAGE* and *Z\_SCORE* (specifications 2 and 3), implying that firms with better credit quality are more prone to use public rather than bank debt financing (Blackwell and Kidwell, 1988; Diamond, 1991; Hoshi et al., 1993). Furthermore, the coefficients of *TOBIN\_Q* are negative and statistically significant at the 1% level, which indicates that firms with more attractive investment opportunities tend to rely less heavily on bank debt financing. These findings lend support to the predictions of Diamond (1991) and Hoshi et al. (1993), suggesting that firm growth opportunities and credit quality are important determinants of the demand for bank monitoring and hence for bank debt. Finally, our proxies for asset tangibility (*TANGIBILITY*) and firm profitability (*PROFITABILITY*) fall short of statistical significance, which is in line with Houston and James (1996).

#### 4.3. Robustness checks

In what follows, we employ several methods to address the potential endogeneity concerns. We also check the robustness of our findings to a battery of sensitivity tests, including the use of alternative MLS-related variables, splitting the sample according to the level of bank debt, the use of a Tobit regression approach, and considering a sample that includes only closely held firms.

##### 4.3.1. Endogeneity

While our analysis provides numerous interesting insights, it is susceptible to the criticism that the results may suffer from an endogeneity problem. To address this issue, we adopt three different approaches. First, we use a propensity score matching procedure to identify a control sample of firms without MLS but that have similar characteristics as those with MLS (Dehejia and Wahba, 2002; Rosenbaum and Rubin, 1983). For each firm with MLS, we identify the optimal match based on the industry, year, and probability of being owned by more than one large shareholder—that is, the propensity score—using the nearest neighbor

technique. Following previous studies (e.g., Morgan and Harding, 2006; Boubakri et al., 2012), the propensity score matching is conducted within a maximum distance of one percent and with replacement.

To estimate the propensity scores, we run a probit model that regresses the variable *MLSD* against a set of independent variables shown in the literature to affect the presence of large shareholders, namely firm size, age, leverage ratio, free cash flows, and asset tangibility (e.g., Demsetz and Lehn, 1985; Holderness, 2009; Villalonga and Amit, 2010; Faccio et al., 2011). The model also includes industry and year dummy variables.<sup>2</sup> The propensity score matching procedure yields a sample of 3,918 firm-year observations, equally distributed between firms with MLS and those without MLS. The first column in Table 4 displays the results of estimating Equation (1) using this sample. It shows that our core evidence of the effect of the presence of MLS on debt choice remains essentially the same. The coefficient of *MLSD* remains positive and statistically significant at the 1% level. Moreover, the variable *EXCESS\_CONTROL* has a positive and strongly significant coefficient. Furthermore, the signs and statistical significance of the remaining control variables remain qualitatively similar to those reported in Table 3.

*[Insert Table 4 about here]*

Second, we run a model that regresses the change in the ratio of bank debt to total debt on the change in the independent variables of Equation (1), except the year and industry dummies. The key independent variable in this model is the change in *VRRATIO*, since it is a continuous MLS-related variable. Such a regression is less likely to suffer from omitted variable bias because it controls for unobservable time invariant factors that might jointly affect ownership structure and the proportion of bank financing in total debt. The sample used to estimate the parameters of the change regression includes only firms with more than one observation over the sample period. Moreover, observations with zero change in *VRRATIO* between the two periods are excluded.

The results of the change regression are shown in Table 4 (Column 2) and they are consistent with our baseline findings. Specifically, we find that the change in the relative power of the second, third, and fourth large shareholders vis-à-vis the largest controlling owner is positively and significantly (at the 1% level) related to the change in the ratio of

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<sup>2</sup> Results of the probit model are not reported here but available from the authors upon request.

bank debt to total debt. Further, Table 4 shows that the coefficients of the changes in the variables *EXCESS\_CONTROL*, *LEVERAGE*, *Z\_SCORE*, *SIZE* and *TOBIN\_Q* are all negative and statistically significant at conventional levels. These results further support the view that the governance role of MLS reduces the preference of the controlling owner to avoid bank debt as a way of protecting her private benefits of control.

Third, we employ an instrumental variables approach. In the spirit of Laeven and Levine (2009) and Faccio et al. (2011), we use the industry averages of the variables *MLSD* and *VRRATIO* as instruments for *MLSD* and *VRRATIO*, respectively. The industry average ownership structure is unlikely to directly influence a particular firm's choice of debt source, but it is correlated with the firm's ownership structure. The first-stage regressions (unreported) strongly support the choice of these instruments. The instrumental variable regressions are reported in the last two columns of Table 4. We find that the presence and voting power of MLS continue to significantly influence debt choice. All in all, the results of using the propensity score-matched sample, the change regression, and the instrumental variables regressions lead us to argue that our baseline findings on the impact of MLS on debt choice are unlikely to be driven by endogeneity.

#### 4.3.2. Alternative MLS-related variables

In this subsection, we test the robustness of our results to alternative MLS-related variables. We begin by re-estimating specifications 2 and 3 of Table 3 using *MLSD\_20%* and *VRRATIO\_20%* as MLS-related variables instead of *MLSD* and *VRRATIO*, respectively. *MLSD\_20%* is a dummy variable that equals to one if the firm has at least two large shareholders (at the 20% threshold), and zero otherwise. *VRRATIO\_20%* is the sum of the voting rights of the second, third and fourth largest shareholders (at the 20% threshold), divided by the voting rights of the largest controlling owner. The results displayed in Table 5 (specifications 1 and 2) remain qualitatively similar to those reported in Table 3. In particular, the coefficients of the MLS-related variables remain positive and strongly significant. Moreover, our core evidence of the effects of the control variables remains essentially the same.

To further emphasize the impact of MLS on debt choice, we consider three alternative MLS-related variables namely, (i) *MLSN*, which is the number of large shareholders (at the 10% threshold), other than the largest controlling owner, (ii) *SHAPLEY*, that equals to the Shapley value in a four shareholder voting game, where the four largest shareholders are

treated as individual players and the rest are considered as an “ocean” (Milnor and Shapley, 1978). Higher values for this variable indicate a lower contestability of the controlling owner’s power by ML, (iii) *PCA\_INDEX*, computed using a principal component analysis. This variable is the common factor extracted from all MLS-related variables.<sup>3</sup> The regression results using these variables are reported in the last three columns of Table 5. We find that the estimated coefficients of *MLSN* and *PCA\_INDEX (SHAPLEY)* are significantly positive (negative), corroborating our previous results. Moreover, the signs and statistical significance of the estimated coefficients on the other control variables remain qualitatively similar to those in Table 3.

*[Insert Table 5 about here]*

#### 4.3.4. Additional robustness tests

In this subsection, we conduct additional tests to confirm the validity of our primary findings. For the sake of brevity, we focus only on re-estimating specifications 2 and 3 of Table 3.<sup>4</sup> First, the dependent variable *BANK DEBT/TOTAL DEBT* in Equation (1) is truncated at zero and one, suggesting that it is appropriate to gauge the robustness of our findings to the use of a Tobit regression approach. The results of re-estimating the specifications of Table 3 using the Tobit approach are reported in Table 6. The results indicate that the presence of MLS (specification 1) and their contestability of the controlling owner’s power (specification 2) are positively and significantly associated with bank debt reliance. Moreover, the coefficients of *EXCESS\_CONTROL*, *LEVERAGE*, *Z\_SCORE*, *SIZE* and *TOBIN\_Q* remain negative and statistically significant at conventional levels. These results corroborate the view that MLS play a significant monitoring role that increases bank debt reliance.

Second, we test the robustness of our results to excluding widely held firms from our sample. According to Faccio and Lang (2002), a firm is said to be widely held at the 10% threshold if no shareholder owns more than 10% of its voting rights. The relevant agency problem in widely held firms is not that between controlling owners and minority shareholders but, rather, between professional managers and shareholders (Jensen and Meckling, 1976). Thus, it is important to test whether our results are sensitive to the removal

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<sup>3</sup> The principal component analysis generates only one factor with an eigenvalue greater than one, and which explains almost 70% of total variance.

<sup>4</sup> The results remain qualitatively unchanged when we re-estimate specification 1 of Table 3.



of these firms from our sample. The new sample contains 4,918 firm-year observations representing only closely held firms over the period 1998–2010. The results of this robustness check (reported in the last two columns of Table 6) show that our previous findings for the variables *MLSD* (specification 3) and *VRRATIO* (specification 4) as well as other control variables remain qualitatively the same. Thus, excluding widely held firms from our sample does not qualitatively change our results.

*[Insert Table 6 about here]*

#### 4.3.3. Level of bank debt

According to Sufi (2007), the effort exerted by a bank lender in monitoring activities increases with the portion of the loan it retains. However, Lin et al. (2013) suggest the possibility that, beyond a certain level of existing bank debt in a borrowing firm's total debt, the bank lender's incremental monitoring incentives begin to diminish, since its monitoring effort is already intense. This implies that the sensitivity of bank monitoring to changes in expropriation activities by the controlling owner is less pronounced beyond this level, which reduces the incentives of the controlling owner to avoid bank debt. Consequently, the effect of *MLS* on debt choice is expected to be less pronounced as bank debt accumulates beyond this level.

To investigate this possibility, we split our sample at the median level of the bank debt-to-total debt ratio, obtaining two groups of equal size (2,615 firms-year observations).<sup>5</sup> We then rerun our baseline regressions for each subsample. The results are reported in Table 7.<sup>6</sup> We find that the coefficients of the variable *MLSD* remain positive and statistically significant at the 1% level for the two subsamples. Interestingly, the effects of the presence of *MLS* (*MLSD*) and of the degree of separation of ownership and control of the controlling owner (*EXCESS\_COTROL*) on debt choice are less pronounced for the subsample of firms that have a high bank debt ratio (specification 1 of Table 7). The differences between the coefficients of *MLSD* and those of *EXCESS\_COTROL* for the two subsamples are statistically significant at the 1% level (unreported). These findings corroborate the conjecture that a bank

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<sup>5</sup> Our results are robust to splitting the sample at the mean level of bank debt-to-total debt ratio or to using a breakpoint of 50% of this ratio.

<sup>6</sup> The results remain qualitatively unchanged if we use the variable *VRRATIO* instead of *MLSD*.

lender's incremental monitoring incentives decrease beyond a certain ratio of bank debt to total debt, which weakens the link between the presence of MLS and bank debt reliance.

*[Insert Table 7 about here]*

#### 4.4. Does the identity of the second largest shareholder influence debt choice?

The aim of this section is to investigate whether the identity of the second largest shareholder plays a role in determining the choice of debt instrument. Previous studies argue that the incentives and abilities to monitor the controlling owner may differ from one large shareholder to another (e.g., Villalonga and Amit, 2006; Attig et al., 2008; 2009). Moreover, the empirical results on the role of MLS identity in alleviating agency problems are mixed. For instance, Maury and Pajuste (2005) and Attig et al. (2008) present evidence that the existence of a family as the second largest shareholder reduces firm value and increases the cost of equity capital in family-controlled firms, respectively. Attig et al. (2009), however, find that having a family as the second largest shareholder mitigates the risk of minority shareholder expropriation, which enhances firm value.

To assess the impact of the identity of the second largest shareholder on debt choice, we replace the variable *MLSV* in Equation (1) with the dummy variables *FAMILY\_2*, *STATE\_2*, *WHF\_2*, and *WHFI\_2* that equal one if the second largest shareholder is a family, the state, a widely held firm, or a widely-held financial institution, respectively. The results using OLS (specification 1) and Tobit (specification 2) regressions are portrayed in Table 8. We find that the coefficient of *FAMILY\_2* loads significantly positive at the 1% level, implying that firms that have a family as the second largest shareholder tend to rely more heavily on bank debt financing. This result corroborates those of Attig et al. (2009) and Boubaker et al. (2014), who provide evidence that families have strong incentives to monitor controlling owners.

Furthermore, Table 8 shows that the coefficient of *WHFI\_2* is positive but statistically significant only at the 10% level, indicating a somewhat weaker impact of widely held financial institutions on debt choice compared to family shareholders. This finding may be attributable to the tendency of financial institutions to play a monitoring role over the controlling owners, which helps them to achieve higher returns on their investments. However, to the contrary of families, the gains of the monitoring activities of financial institutions will be diluted among several owners (Villalonga and Amit, 2006), which

explains the weak impact of their presence compared to that of families. Moreover, the coefficient estimates of *STATE\_2* and *WHF\_2* do not seem to have an impact on the firm's reliance on bank debt financing. Overall, the results from Table 8 confirm that the identity of the second largest shareholder matters in determining debt choice.

*[Insert Table 8 about here]*

## **5. Does the severity of agency problems matter?**

This section presents evidence of the effect of the severity of agency problems on the relation between the presence of MLS and the firm's reliance on bank debt. We hypothesize that this relation is more pronounced when agency problems are more severe (H2). To investigate this hypothesis, we include in Equation (1) proxies for the severity of agency problems between controlling and minority shareholders and the interaction effects between the variable *MLSD* and each of these proxies. In particular, we consider the following variables.

(i) The variable *FCF* equals the ratio of the firm's free cash flows to its total assets. According to Jensen (1986) and Bebchuk et al. (2000), free cash flows are responsible for severe agency problems. The authors argue that corporate insiders and controlling owners tend to invest free cash flows in unprofitable projects to extract private benefits. Thus, we expect the controlling owners of firms with higher levels of free cash flow to have particularly strong incentives to avoid bank debt in order to evade bank scrutiny. It follows that there should be a negative association between the level of free cash flow and the borrowing firm's reliance on bank debt.

(ii) The variable *FAMILY\_1* is a dummy variable that equals one if the firm's controlling owner is a family and zero otherwise. Previous studies show that agency problems between controlling and minority owners are particularly severe in family-controlled firms. For instance, Claessens et al. (2002) find that firm value decreases with the separation of ownership and control of the controlling owner and that this value discount is more pronounced in family-controlled firms. Thus, we expect family controlling owners to have greater incentives to insulate themselves from bank monitoring by avoiding bank debt financing. In this vein, Lin et al. (2013) provide evidence that the negative relation between the control-ownership wedge of the controlling owners and bank debt reliance is more prominent in family-controlled firms than in other firms. In light of these arguments, we

expect a negative relation between the variable *FAMILY\_1* and the ratio of bank debt to total debt.

(iii) The variable *HHI* is the Herfindahl–Hirschman Index, which measures industry concentration. This variable is computed for each firm *i* and industry *j* as follows:

$$HHI_j = \sum_{i=1}^n \left( \frac{Sales_i}{\sum_{i=1}^n Sales_i} \right)^2 \quad (2)$$

where *Sales<sub>i</sub>* is firm *i*'s net sales and *n* is the number of firms in industry *j* at the end of the fiscal year.<sup>7</sup> This variable measures industry concentration and it decreases with the number of competitors. Thus, it indicates whether a firm is facing high product market competition (Datta et al., 2011). Previous studies argue that the informational environment is richer when product market competition is higher (e.g., Stivers, 2004; Hoberg and Phillips, 2010). Gaspar and Massa (2006) support this view by providing evidence that the dispersion in earnings forecasts is lower in concentrated industries. Datta et al. (2011) also find that analysts' earnings forecast accuracy is positively and significantly related to industry concentration. We therefore expect monitoring activities to be less costly in more concentrated industries, which implies fewer incentives of controlling owners to divert corporate resources and to avoid bank debt. Hence, there should be a negative association between the variable *HHI* and the proportion of bank debt in total debt.

(iv) The variable *NANALYSTS* is the I/B/E/S number of analysts following the firm. Security analysts are information intermediaries that can play an important role in improving corporate transparency, alleviating the risk of corporate diversion (Chung and Jo, 1996; Yu, 2008; Boubaker and Labégorre, 2008). In this vein, Lang et al. (2004) and Jo and Harjoto (2011) provide evidence that the governance role of security analysts is associated with higher firm valuation. Therefore, analyst following is likely to reduce the controlling owner's ability to extract private benefits of control and hence reduces their preference for non-bank debt to evade scrutiny. Accordingly, we expect the variable *NANALYSTS* to be positively associated with the ratio of bank debt to total debt.

We also include in Equation (1) interaction terms between *MLSD* and each of the variables *FCF*, *FAMILY\_1*, *HHI*, and *NANALYSTS*, one at a time. The results are reported in

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<sup>7</sup> Our results are robust to using the asset-based (rather than sales-based) Herfindahl–Hirschman Index.

Table 9. In specification 1, we include the variable *FCF* and an interaction term that equals *FCF* times the dummy variable *MLSD*. The coefficient for *FCF* is negative and statistically significant at the 1% level. This result supports the argument that the likelihood of expropriation is greater for firms with higher levels of free cash flow, which provides their controlling owners with strong incentives to avoid bank debt to insulate themselves from bank monitoring. Interestingly, the interaction term enters the regression with a positive and strongly significant sign, indicating that the effect of *MLS* on bank debt reliance is more pronounced for firms with greater free cash flow.

In specification 2 of Table 9, we replace the variable *FCF* and the interaction term with *FAMILY\_1* and the interaction between *FAMILY\_1* and *MLSD*, respectively. We find that the coefficient estimate of *FAMILY\_1* loads negatively and significantly at the 5% level, implying that family-controlled firms are more vulnerable to severe agency problems and, thus, more inclined to avoid bank debt to evade bank scrutiny. More importantly, the interaction term is positive and statistically significant at the 1% level, further supporting the idea that the severity of agency problems strengthens the relation between the presence of *MLS* and reliance on bank debt financing.

Additionally, we use the variable *HHI*, instead of *FAMILY\_1* to proxy for the degree of severity of agency problems between controlling and minority shareholders (specification 3 of Table 9). As expected, we find a negative and strongly significant relation between the variable *HHI* (which decreases with the number of the firm's competitors) and the ratio of bank debt to total debt. This finding indicates that firms facing less product market competition have a higher likelihood of expropriation, which increases their controlling owners' preference for non-bank financing as a way of avoiding bank scrutiny. Moreover, the coefficient of the interaction term between *HHI* and *MLSD* is strongly positive at the 1% level, which means that the effect of *MLS* on bank debt reliance is intensified by the severity of agency problems.

Finally, we add to the right-hand side of Equation (1) the variable *NANALYSTS* and the interaction between this variable and *MLSD* (specification 4 of Table 9). Not surprisingly, we find that the variable *NANALYSTS* has a positive and statistically significant impact on the dependent variable *BANK DEBT/TOTAL DEBT*. This result implies that analysts play an effective external monitoring role that alleviates the agency problems between controlling and minority shareholders, which reduces the ability of the controlling owners to divert

corporate resources and, consequently, reduces their preference to rely less heavily on bank debt financing. More interestingly, the interaction term between *NANALYSTS* and *MLSD* is negative and statistically significant at the 5% level, indicating that the presence of MLS and the number of analysts are substitutes in determining the proportion of bank financing in total debt.

Taken together, the results presented in this section support the argument that the severity of agency problems indeed matters in altering the relation between the presence of MLS and the firm's reliance on bank debt financing. These findings extend those of Attig et al. (2009) and Lin et al. (2013), who show that the severity of agency problems shapes the impact of ownership structure on firm value and bank debt reliance, respectively.

*[Insert Table 9 about here]*

## **6. Conclusion**

The present study adds important new dimensions to the corporate governance and the capital structure choice literatures by establishing a link between the governance role of MLS and the choice of debt source. Using a sample of 5,230 firm-year observations covering 643 French listed firms over the period 1998–2010, our study documents that the governance role of MLS, beyond the largest controlling owner, is an important determinant of the firm's reliance on bank debt financing. Specifically, our analysis shows that firms controlled by more than one large shareholder tend to rely more heavily on bank debt financing. Moreover, we find that the proportion of bank debt in total debt is significantly higher for firms with higher contestability of the largest controlling owner's power. These findings are attributed to the important governance role of MLS that alleviates the risk of corporate diversion, which reduces the incentives of the largest controlling owner to avoid bank debt to insulate herself from bank scrutiny.

Our results are robust to addressing endogeneity issues using a propensity score matching approach, a change regression, and instrumental variable analysis. The results are also robust to a set of sensitivity tests, including the use of alternative MLS-related variables, a sample of closely held firms, and Tobit analysis. We also show that the presence of MLS has a weaker (stronger) effect on the choice of debt source when the borrowing firm has a higher (lower) level of existing bank debt in its debt structure. In additional analyses, we investigate whether the identity of the second largest shareholder influences the choice of

debt source. We find that the presence of a family or a widely held financial institution is associated with higher bank debt reliance. This finding implies higher incentives for these two types of large shareholders to monitor the largest controlling owner.

Furthermore, we provide evidence that the severity of agency problems alters the relation between the presence of MLS and the firms' reliance on bank debt financing. In particular, we find that the effect of MLS on debt choice intensifies in firms with higher levels of free cash flow, in family-controlled firms, and in firms facing less product market competition. Our findings support the idea that MLS play a stronger governance role in firms with a higher likelihood of expropriation. We also find evidence suggesting that analyst following and the presence of MLS act as substitutes in determining the proportion of bank financing in total debt.

Overall, our study extends academic research by enhancing our understanding of the relation between ownership structure and firm financial decisions. It also adds to the corporate governance literature by showing that MLS play an important governance role that significantly affects firms' choice of debt source. Moreover, it augments the evidence of the role of MLS as an effective corporate governance mechanism (e.g., Maury and Pajuste, 2005; Attig et al., 2008, 2009).

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## Appendix

Variable	Definition	Source
<b>Dependent variable</b>		
<i>BANK DEBT / TOTAL DEBT</i>	The ratio of bank debt to total debt.	Capital IQ
<b>Ownership variables</b>		
<i>MLSD</i>	Dummy that equals one if the firm has at least two large shareholders (at the 10% threshold), and zero otherwise.	Annual reports and authors' calculations
<i>VRRATIO</i>	The sum of the voting rights of the second, third and fourth largest shareholders (at the 10% threshold), divided by the voting rights of the largest controlling owner.	As above
<i>MLSN</i>	The number of large shareholders (at the 10% threshold), other than the largest controlling owner.	As above
<i>SHAPLEY</i>	The Shapley value solution for the largest controlling owner in a four shareholder voting game, where the four largest shareholders are individual players and the rest are considered as an "ocean".	As above
<i>PCA_INDEX</i>	The common factor extracted from the MLS variables <i>MLSD</i> , <i>MLSN</i> and <i>VRRATIO</i> , using a principal component analysis.	As above
<i>EXCESS_CONTROL</i>	The excess control of the largest controlling shareholder (at the 10% threshold), defined as the difference between her ultimate control and cash-flow rights, all divided by her ultimate control rights.	As above
<i>FAMILY_2</i>	Dummy that equals one if the second largest shareholder (at the 10% threshold) is a family, and zero otherwise.	As above
<i>STATE_2</i>	Dummy that equals one if the second largest shareholder (at the 10% threshold) is the State, and zero otherwise.	As above
<i>WHF_2</i>	Dummy that equals one if the second largest shareholder (at the 10% threshold) is a widely held firm, and zero otherwise.	As above
<i>WHFI_2</i>	Dummy that equals one if the second largest shareholder (at the 10% threshold) is a widely held financial institution, and zero otherwise.	As above
<i>MLSD_20%</i>	Dummy that equals one if the firm has at least two large shareholders (at the 20% threshold), and zero otherwise.	As above
<i>VRRATIO_20%</i>	The sum of the voting rights of the second, third and fourth largest shareholders (at the 20% threshold), divided by the voting rights of the largest controlling owner.	As above
<b>Control variables</b>		
<i>LEVERAGE</i>	Total debt divided by total assets.	Worldscope and authors' calculations

<i>TANGIBILITY</i>	The ratio of net property, plant, and equipment to total assets.	As above
<i>PROFITABILITY</i>	The ratio of earnings before interest, taxes, depreciation, and amortization (EBITDA) to total assets.	As above
<i>TOBIN_Q</i>	The market-to-book value of assets.	As above
<i>Z_SCORE</i>	Altman's (1968) z-score, calculated as follows: (1.2*working capital + 1.4*retained earnings + 3.3*earnings before interest and taxes + 0.999*sales) / total assets + 0.6*(market value of equity / book value of debt).	As above
<i>SIZE</i>	The natural logarithm of total assets.	As above
<i>FCF</i>	the ratio of the firm's free cash flows to its total assets	As above
<i>FAMILY_1</i>	Dummy that equals 1 if the firm's controlling owner is a family, and zero otherwise.	Annual reports and authors' calculations
<i>NAALYSTS</i>	The I/B/E/S number of analysts following the firm.	I/B/E/S
<i>HHI</i>	The Herfindahl-Hirschman Index, computed for each firm <i>i</i> and industry <i>j</i> as follows: $HHI_j = \sum_{i=1}^n \left( \frac{Sales_i}{\sum_{i=1}^n Sales_i} \right)^2$	Worldscope and authors' calculations

where, *Sales<sub>i</sub>* is firm *i*'s net sales and *n* is the number of firms in industry *j* at the end of the fiscal year.

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**Table 1: Descriptive statistics**

	<b>N</b>	<b>Mean</b>	<b>STD</b>	<b>5th percentile</b>	<b>25th percentile</b>	<b>50th percentile</b>	<b>75th percentile</b>	<b>95th percentile</b>
<i>BANK DEBT/TOTAL DEBT</i>	5,230	0.406	0.429	0.000	0.000	0.200	0.920	1.000
<i>MLSD (N<sub>MLSD=1</sub>=1,959)</i>	5,230	0.375	0.484	0.000	0.000	0.000	1.000	1.000
<i>VRRATIO</i>	5,230	0.319	0.524	0.000	0.000	0.000	0.487	1.503
<i>EXCESS_CONTROL</i>	5,230	0.228	0.239	0.000	0.010	0.174	0.339	0.825
<i>LEVERAGE</i>	5,230	0.224	0.178	0.006	0.082	0.196	0.325	0.550
<i>TANGIBILITY</i>	5,230	0.170	0.163	0.013	0.044	0.115	0.253	0.500
<i>PROFITABILITY</i>	5,230	0.094	0.129	-0.145	0.054	0.101	0.151	0.281
<i>TOBIN_Q</i>	5,230	1.933	2.087	0.810	1.043	1.299	1.865	5.373
<i>Z_SCORE</i>	5,230	2.726	1.872	0.315	1.482	2.255	3.421	7.864
<i>SIZE</i>	5,230	18.920	2.376	15.675	17.178	18.485	20.431	23.632

This table reports descriptive statistics on the governance variables and firm characteristics used in our regressions. The sample includes 5,230 firm-year observations representing 643 French listed firms over the period 1998–2010. The appendix reports definitions for all the variables used in our analysis.

**Table 2: Correlations**

	<i>MLSD</i>	<i>VRRATIO</i>	<i>EXCESS_CONTROL</i>	<i>LEVERAGE</i>	<i>TANGIBILITY</i>	<i>PROFITABILITY</i>	<i>TOBIN_Q</i>	<i>Z_SCORE</i>	<i>SIZE</i>
<i>MLSD</i>	1.000								
<i>VRRATIO</i>	0.673***	1.000							
<i>EXCESS_CONTROL</i>	0.047***	0.092***	1.000						
<i>LEVERAGE</i>	-0.081***	-0.080***	-0.031**	1.000					
<i>TANGIBILITY</i>	-0.056***	-0.117***	-0.095***	0.281***	1.000				
<i>PROFITABILITY</i>	0.012	-0.059***	0.011	-0.153***	0.098***	1.000			
<i>TOBIN_Q</i>	0.082***	0.084***	-0.007	-0.106***	-0.134***	0.129***	1.000		
<i>Z_SCORE</i>	0.015	0.005	-0.027**	-0.021	-0.018	0.032**	0.100***	1.000	
<i>SIZE</i>	-0.169***	-0.114***	-0.021	0.234***	0.224***	0.027**	-0.302***	-0.032**	1.000

This table reports Pearson correlations between the independent variables used in our main regressions. The sample includes 5,230 firm-year observations representing 643 French listed firms over the period 1998–2010. The appendix reports definitions for all the variables used in our analysis.

**Table 3: The impact of multiple large shareholders on the choice of debt source**

<b>Variables</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
<i>MLSD</i>	0.08987*** (4.41)	0.09342*** (4.64)	
<i>VRRATIO</i>			0.06386*** (3.74)
<i>EXCESS_CONTROL</i>		-0.11499*** (-3.18)	-0.11572*** (-3.16)
<i>LEVERAGE</i>		-0.14702** (-2.53)	-0.15292*** (-2.64)
<i>TANGIBILITY</i>		-0.10667 (-1.43)	-0.10336 (-1.41)
<i>PROFITABILITY</i>		0.09219 (1.33)	0.10222 (1.45)
<i>TOBIN_Q</i>		-0.00026*** (-4.11)	-0.00024*** (-3.80)
<i>Z_SCORE</i>		-0.01147*** (-3.62)	-0.01167*** (-3.72)
<i>SIZE</i>	-0.02796*** (-6.94)	-0.02823*** (-6.87)	-0.02963*** (-7.31)
<i>Constant</i>	0.39762*** (4.33)	0.51598*** (5.59)	0.55568*** (6.04)
<i>Year_FE</i>	Yes	Yes	Yes
<i>Industry_FE</i>	Yes	Yes	Yes
Sample Size	5,230	5,230	5,230
Adjusted R <sup>2</sup>	0.209	0.221	0.216
F-value	55.94***	45.76***	45.94***

This table presents our main evidence on the impact of multiple large shareholders on the firm's reliance on bank debt financing. The sample includes 5,230 firm-year observations representing 643 French listed firms over the period 1998–2010. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t*-statistics are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.



Table 4: Addressing endogeneity

Variables	Propensity score matched sample	Change regression	Instrumental variable regressions	
	(1)	(2)	(3)	(4)
<i>MLSD</i>	0.06900*** (2.73)		0.15211*** (6.56)	
<i>VRRATIO</i>		0.05873*** (2.58)		0.13489*** (2.86)
<i>EXCESS_CONTROL</i>	-0.12609** (-2.31)	-0.24519*** (-2.76)	-0.11944*** (-5.35)	-0.12604*** (-3.49)
<i>LEVERAGE</i>	-0.14593* (-1.86)	-0.24894* (-1.89)	-0.14917*** (-4.47)	-0.15053*** (-2.61)
<i>TANGIBILITY</i>	-0.12230 (-1.21)	0.23473 (0.60)	-0.09353** (-2.49)	-0.09584 (-1.30)
<i>PROFITABILITY</i>	0.04591 (0.46)	-0.16515 (-1.12)	0.00669* (1.80)	0.12530* (1.72)
<i>TOBIN_Q</i>	-0.00028*** (-4.98)	-0.02358** (-2.35)	-0.00028* (-1.78)	-0.00023*** (-3.82)
<i>Z_SCORE</i>	-0.00810** (-2.06)	-0.02117*** (-2.66)	-0.01046*** (-5.28)	-0.01277*** (-3.97)
<i>SIZE</i>	-0.03054*** (-5.29)	-0.10553** (-2.46)	-0.02542*** (-9.76)	-0.02805*** (-6.69)
<i>Constant</i>	0.52749*** (4.34)	0.03779*** (4.82)	0.87793*** (14.02)	0.96222*** (9.53)
<i>Year_FE</i>	Yes	Yes	Yes	Yes
<i>Industry_FE</i>	Yes	Yes	Yes	Yes
Sample Size	3,918	1,257	5,230	5,230
<i>F-value</i>	35.55***	7.39***		
<i>Chi-2</i>			1,607.66***	1,283.17***

The first column of this table presents regression results on the effect of multiple large shareholders on the firm's reliance on bank debt financing using a propensity score matched sample. This sample includes 3,918 firm-year observations over the period 1998–2010. The second column provides regression results on the effect of a change in the relative power of multiple large shareholders on a change of the firm's reliance on bank debt financing. This sample includes 1,257 firm-year observations over the period 1998–2010. The last two columns present the results of instrumental variable regressions using a sample of 5,230 firm-year observations representing 643 French listed firms over the period 1998–2010. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t*-statistics are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.

**Table 5: Alternative MLS-related variables**

Variable	Using a 20% threshold		Alternative MLS-related variables		
	(1)	(2)	(3)	(4)	(5)
<i>MLSD_20%</i>	0.06904** (2.39)				
<i>VRRATIO_20%</i>		0.09226*** (2.66)			
<i>MLSN</i>			0.05130*** (3.77)		
<i>SHAPLEY</i>				-0.05233* (-1.89)	
<i>PCA_INDEX</i>					0.02456*** (4.34)
<i>EXCESS_CONTROL</i>	-0.11980*** (-3.16)	-0.11923*** (-3.13)	-0.11288*** (-3.11)	-0.09977*** (-2.64)	-0.11309*** (-3.12)
<i>LEVERAGE</i>	-0.15475*** (-2.65)	-0.15533*** (-2.66)	-0.14916** (-2.56)	-0.15042*** (-2.59)	-0.14808** (-2.56)
<i>TANGIBILITY</i>	-0.10864 (-1.48)	-0.10564 (-1.44)	-0.11288 (-1.50)	-0.10745 (-1.46)	-0.10660 (-1.43)
<i>PROFITABILITY</i>	0.08258 (1.18)	0.08377 (1.20)	0.09530 (1.37)	0.10452 (1.48)	0.10592 (1.51)
<i>TOBIN_Q</i>	-0.00027*** (-4.06)	-0.00026*** (-4.03)	-0.00024*** (-3.89)	-0.00024*** (-3.68)	-0.00024*** (-3.90)
<i>Z_SCORE</i>	-0.01128*** (-3.54)	-0.01112*** (-3.53)	-0.01138*** (-3.60)	-0.01073*** (-3.44)	-0.01155*** (-3.66)
<i>SIZE</i>	-0.03102*** (-7.59)	-0.03101*** (-7.60)	-0.02865*** (-6.97)	-0.03337*** (-8.14)	-0.02952*** (-7.28)
<i>Constant</i>	0.59190*** (6.41)	0.59061*** (6.36)	0.53600*** (5.81)	0.65185*** (7.04)	0.56814*** (6.28)
<i>Year_FE</i>	Yes	Yes	Yes	Yes	Yes
<i>Industry_FE</i>	Yes	Yes	Yes	Yes	Yes
Sample Size	5,230	5,230	5,230	5,230	5,230
Adjusted R <sup>2</sup>	0.214	0.214	0.217	0.212	0.219
F-value	44.02***	44.26***	45.48***	43.67***	45.99***

This table presents regression results of the impact of multiple large shareholders on the firm's reliance on bank debt financing using alternative MLS-related variables. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t*-statistics are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.

**Table 6: Additional robustness tests**

Variables	Tobit regressions		Closely held firms	
	(1)	(2)	(3)	(4)
<i>MLSD</i>	0.21622*** (4.84)		0.09185*** (4.47)	
<i>VRRATIO</i>		0.14910*** (4.04)		0.06137*** (3.53)
<i>EXCESS_CONTROL</i>	-0.29693*** (-3.37)	-0.29417*** (-3.31)	-0.11732*** (-3.12)	-0.12099*** (-3.18)
<i>LEVERAGE</i>	-0.33756*** (-2.58)	-0.35190*** (-2.69)	-0.14838** (-2.51)	-0.15384*** (-2.61)
<i>TANGIBILITY</i>	-0.29250* (-1.73)	-0.28405* (-1.69)	-0.11818 (-1.54)	-0.11539 (-1.52)
<i>PROFITABILITY</i>	0.15118 (0.88)	0.17743 (1.03)	0.08710 (1.22)	0.09347 (1.28)
<i>TOBIN_Q</i>	-0.00488*** (-2.86)	-0.00497*** (-2.80)	-0.00024*** (-4.11)	-0.00023*** (-3.84)
<i>Z_SCORE</i>	-0.02302** (-2.42)	-0.02354** (-2.51)	-0.01206*** (-3.66)	-0.01211*** (-3.72)
<i>SIZE</i>	-0.04294*** (-4.64)	-0.04658*** (-5.09)	-0.02493*** (-5.40)	-0.02589*** (-5.65)
<i>Constant</i>	1.08330*** (4.82)	1.22422*** (5.51)	0.52569*** (5.14)	0.56425*** (5.62)
<i>Year_FE</i>	Yes	Yes	Yes	Yes
<i>Industry_FE</i>	Yes	Yes	Yes	Yes
Sample Size	5,230	5,230	4,918	4,918
Pseudo-R <sup>2</sup> / Adjusted R <sup>2</sup>	0.177	0.174	0.216	0.212
<i>F</i> -value	12.47***	12.45***	45.68***	46.09***

Models 1 and 2 present Tobit regression results on the impact of MLS on the firm's reliance on bank debt financing using a sample of 5,230 firm-year observations representing 643 French listed firms over the period 1998–2010. Models 3 and 4 present regression results of the impact of multiple large shareholders on the firm's reliance on bank debt financing using a sample of 4,918 firm-year observations that includes only French closely held firms over the period 1998–2010. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t*-statistics are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.

**Table 7: Level of bank debt and the impact of multiple large shareholders on debt choice**

Variable	High ratio of bank debt to total debt	Low ratio of bank debt to total debt
	(1)	(2)
<i>MLSD</i>	0.05979*** (3.34)	0.10283*** (4.87)
<i>EXCESS_CONTROL</i>	-0.08909** (-2.14)	-0.15268*** (-6.05)
<i>LEVERAGE</i>	-0.13312** (-2.41)	-0.14915*** (-3.79)
<i>TANGIBILITY</i>	-0.06604 (-1.01)	-0.05069 (-0.79)
<i>PROFITABILITY</i>	0.00854 (0.12)	0.13518** (2.18)
<i>TOBIN_Q</i>	-0.0076** (-2.01)	-0.00007** (-1.97)
<i>Z_SCORE</i>	-0.00751* (-1.81)	-0.01423*** (-8.16)
<i>SIZE</i>	-0.03939*** (-8.87)	-0.02328*** (-6.11)
<i>Constant</i>	0.76139*** (4.40)	0.80684*** (7.03)
<i>Year_FE</i>	Yes	Yes
<i>Industry_FE</i>	Yes	Yes
Sample Size	2,615	2,615
Adjusted R <sup>2</sup>	0.407	0.164
F-value	114.01***	10.13***

This table presents the regression results on the effect of the level of bank debt on the relation between the presence of multiple large shareholders and the firm's reliance on bank debt financing. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t*-statistics are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.

**Table 8: Identity of the second largest shareholder and debt choice**

Variables	OLS	Tobit
	(1)	(2)
<i>FAMILY_2</i>	0.11945*** (5.20)	0.27474*** (5.35)
<i>STATE_2</i>	-0.06749 (-0.55)	-0.06272 (-0.23)
<i>WHF_2</i>	0.00413 (0.07)	0.03680 (0.33)
<i>WHFI_2</i>	0.05556* (1.76)	0.12380* (1.85)
<i>EXCESS_CONTROL</i>	-0.11174*** (-3.14)	-0.29196*** (-3.36)
<i>LEVERAGE</i>	-0.15617*** (-2.70)	-0.35798*** (-2.75)
<i>TANGIBILITY</i>	-0.09680 (-1.30)	-0.27215 (-1.60)
<i>PROFITABILITY</i>	0.08527 (1.23)	0.12706 (0.75)
<i>TOBIN_Q</i>	-0.00027*** (-4.20)	-0.00489*** (-2.93)
<i>Z_SCORE</i>	-0.01145*** (-3.60)	-0.02257** (-2.36)
<i>SIZE</i>	-0.02709*** (-6.50)	-0.04057*** (-4.29)
<i>Constant</i>	0.49663*** (5.33)	1.05871*** (4.61)
<i>Year_FE</i>	Yes	Yes
<i>Industry_FE</i>	Yes	Yes
Sample Size	5,230	5,230
Adjusted R <sup>2</sup>	0.224	
Pseudo-R <sup>2</sup>		0.178
<i>F-value</i>	43.37***	11.79***

This table presents the regression results on the effect of the identity of the second largest shareholder on the firm's debt choice. The sample includes 5,230 firm-year observations representing 643 French listed firms over the period 1998-2010. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t-statistics* are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.

**Table 9: Severity of agency problems and debt choice**

<b>Variables</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
<i>MLSD</i>	0.09393*** (4.68)	0.09033*** (4.50)	0.07057*** (3.34)	0.08813*** (4.49)
<i>FCF</i>	-0.03121** (-2.39)			
<i>FCF × MLSD</i>	0.09898*** (4.52)			
<i>FAMILY_1</i>		-0.05423** (-2.10)		
<i>FAMILY_1 × MLSD</i>		0.11695*** (2.62)		
<i>HHI</i>			-0.29485** (-1.97)	
<i>HHI × MLSD</i>			0.40535*** (4.90)	
<i>NANALYSTS</i>				0.00260** (2.16)
<i>NANALYSTS × MLSD</i>				-0.00389** (-2.29)
<i>EXCESS_CONTROL</i>	-0.11591*** (-3.20)	-0.08498** (-2.23)	-0.11555*** (-3.19)	-0.11706*** (-3.23)
<i>LEVERAGE</i>	-0.14153** (-2.44)	-0.14192** (-2.47)	-0.13333** (-2.30)	-0.14022** (-2.40)
<i>TANGIBILITY</i>	-0.10880 (-1.47)	-0.11304 (-1.52)	-0.11806 (-1.59)	-0.10138 (-1.35)
<i>PROFITABILITY</i>	0.08042 (1.17)	0.11045 (1.58)	0.09179 (1.32)	0.09802 (1.42)
<i>TOBIN_Q</i>	-0.00031*** (-5.82)	-0.00026*** (-3.98)	-0.00025*** (-4.31)	-0.00026*** (-4.07)
<i>Z_SCORE</i>	-0.01134*** (-3.54)	-0.01173*** (-3.65)	-0.01152*** (-3.64)	-0.01232*** (-3.94)
<i>SIZE</i>	-0.02828*** (-6.91)	-0.03168*** (-7.43)	-0.02901*** (-6.96)	-0.03658*** (-6.52)
<i>Constant</i>	0.52446*** (5.51)	0.59401*** (6.49)	0.64233*** (7.23)	0.70021*** (6.17)
<i>Year_FE</i>	Yes	Yes	Yes	Yes
<i>Industry_FE</i>	Yes	Yes	Yes	Yes
Sample Size	5,230	5,230	5,230	5,230
Adjusted R <sup>2</sup>	0.222	0.225	0.225	0.225
<i>F-value</i>	43.43***	43.01***	48.11***	43.49***

This table presents the regression results on the effect of the severity of agency problems on the relation between the presence of MLS and debt choice. The sample includes 5,230 firm-year observations representing 643 French listed firms over the period 1998–2010. All continuous variables are winsorized at the 1st and 99th percentiles. The heteroskedasticity-robust *t-statistics* are in parentheses beneath coefficient estimates and they are computed with standard errors clustered by firm. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. The appendix reports definitions for all the variables used in our analysis.