Controlling Shareholders and the Agency Cost of Debt: Evidence from Syndicated Loans

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1

Abstract

Controlling shareholders are pervasive globally, but how do they impact the agency cost of debt? We examine the effect of ownership structure on syndicated loans in major European and East Asian economies. Ownership structures conducive to controlling shareholder moral hazard, such as the deviation of control from cash flow rights of the dominant shareholder, are associated with significantly higher loan prices and syndicate sizes, and significant lower loan maturities; however, increasing the cash flow ownership of the dominant shareholder has exactly the opposing effects on the loan variables. Moreover, the impact of controlling shareholders is greater for high default risk firms; for family owned firms; for non-secured loans; for arms-length lending; and for firms in emerging markets. Overall, the results are consistent with the view that controlling shareholders increase the agency cost of debt, especially for high default risk firms; but banks screen borrowers efficiently by using a variety of attributes that are correlated with agency risk.

1   Introduction

In most countries, relatively few listed companies are widely-held and dominant shareholders typ-
ically hold control (i.e., voting) rights significantly in excess of cash flow rights through a variety
of channels (La Porta et al. (1999), Lins (2003) and Doidge et al. (2008)). Globally, controlling
shareholder moral hazard is a major source of agency risk. Indeed, a number of studies examine the
agency risk posed by controlling shareholders for minority shareholders and document the negative
relationship between equity value and the deviation of control from cash-flow rights (Claessens et
al. (2002), La Porta et al. (2002) and Lins (2003)).

But there is sparse literature on the effects of controlling shareholders on agency cost of debt;
in particular, there is little, if any, empirical work on this issue. Theoretically, the relationship
between controlling shareholders and lender welfare appears ambiguous in general. Because of
their entrenchment controlling shareholders can indulge in risky investment to pursue their personal
agendas — such as 'empire building' (Jensen (1986, 1993) and Stulz (1990)) — and thereby raise
default risk. Moreover, diversion of resources (or 'tunneling') by controlling shareholders during
financial distress is rampant (Johnson et al. (2000a, 2000b) and Gilson (2006)), and therefore poses
substantial agency risk for debtors. On the other hand, controlling shareholders may collude with
the lenders to expropriate wealth from minority shareholders (Filatotchev and Mickiewiscz (2001)).
Moreover, to maintain the benefits accruing from their control of the firm, dominant shareholders
may have an incentive to reduce the agency risk against lenders to repeatedly borrow at lower
cost of debt. However, the received literature predicts that ownership structures that encourage
controlling shareholder moral hazard will raise the agency cost of debt for firms with high default
risk.

In this paper, we examine the effects of controlling shareholder moral hazard on syndicated
bank loans in major European and East Asian countries during 1996-2007, using a unique dataset
that allows us to track the ownership structure of the sample companies. Our focus on bank loans
is of independent interest because they are a major source of external capital for firms; in fact,
they remain the most important form of external financing in most economies around the world
(Demirguc-Kunt and Levine (2001) and Drucker and Puri (2006)).[1]

If the presence of controlling shareholders increases the agency cost of bank debt, then, ceteris

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[1] For example, industrial firms borrowed $13.2 trillion between 1993-2003 using syndicated loans arranged by
commercial banks, while the public issuance of debt and equity during this time-period was $12.5 trillion (see Drucker
and Puri (2006)).

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paribus, the deviation between the control and cash-flow rights of the dominant shareholder will be associated with higher loan prices; it will also be associated with lower loan maturities, and greater number of lenders in loan syndicates, because higher agency risk reduces the length of time that lenders are willing to lend but increases — for risk diversification reasons — the number of lenders required to participate in syndicated loans. Moreover, the effects of ownership structure on loan attributes will be disproportionately higher for firms with high default risk.

In our empirical tests, we control for loan-, firm-, and country-specific characteristics used in the literature. In addition, we introduce new measures of the development of the private and public bond markets. Finally, we take into account the simultaneous determination of loan pricing and non-pricing (maturities and the syndicate size) variables, and address potential bias due to an omitted common factor by controlling for default risk.

We find that ownership structures conducive to controlling shareholder moral hazard significantly raise the agency cost of debt. Specifically, holding other things fixed, increasing the ratio of control-to-cash-flow rights held by the dominant shareholder by one standard deviation raises the loan origination spread (over the benchmark rate) by 24 percent or about 30 basis points (bps), based on the sample median spread of 123 bps; and this effect is even higher for firms with above-average deviation between control and cash-flow rights. There are correspondingly significant effects of the separation of control from cash-flow rights on loan maturities and the number of participants in syndicated loans in the directions consistent with higher agency costs, namely, lower loan maturities and greater number of lenders in the syndicate, respectively.

Moreover, our analysis supports the prediction from the literature, the effects of controlling shareholders on the cost of debt are higher for firms with greater default risk. For example, the effects of increasing the control-to-cash ratio by one standard deviation on loan prices for firms with default risk above the median is 3.5% higher than for firms with default risk below the median. We also find that increasing the cash-flow ownership of the dominant shareholder reduces loan prices and syndicate sizes, while increasing loan maturities, ceteris paribus. For example, increasing the dominant shareholder's cash-flow rights by one standard deviation reduces the loan spread by 10 percent or 12 bps. Our analysis therefore suggests that the incentive effects of increased cash-flow ownership by dominant shareholders offset any potential agency costs for debtors.

Screening by the banks based on ownership structure appears efficient since it is commensurate with the extent of the controlling shareholder moral hazard. For example, the influence of ownership

structure on bank loan pricing is significantly higher in the emerging Asian countries than in the European countries, since controlling shareholder moral hazard is arguably greater in the former group of countries compared to the latter. And, the presence of a second blockholder reduces the influence of ownership structure because it can alleviate the power of the controlling shareholders. Furthermore, while controlling shareholder moral hazard affects both collateralized (or secured) and non-collateralized (unsecured) loans, the effects of ownership structure are significantly stronger for non-secured loans, at the margin, because the absence of collateral appears to makes borrowers more sensitive to dominant shareholder incentives and moral hazard. Ownership structure has a greater influence on arms-length loans rather than to related lending. Finally, family owned firms face higher agency costs of debt, at the margin.

Our analysis supports the view that banks screen borrowers based on observable ownership structure attributes when faced with significant controlling shareholder agency risk. In the last few decades, a theory of banking and financial intermediation has developed to emphasize the screening and monitoring role of banks in the presence of asymmetric information and borrower moral hazard that are ubiquitous in financial relationships (Diamond (1984), Gale and Hellwig (1985), Rajan (1992)).[2] But if controlling shareholder moral hazard increases the lending risk for banks and magnifies their expected costs from monitoring loan performance ex post, then banks should use attributes that are correlated with this (i.e., controlling shareholder) agency risk to screen borrowers ex ante. By studying the effects of ownership structure on bank loans, our analysis helps bridge the vibrant literatures on the screening and monitoring role of banks and controlling shareholder agency risk.

In particular, our results advance understanding of screening by commercial banks when confronted with controlling shareholder agency risk, and thereby provide an empirical counterpart to the theoretical analyses of bank screening in the literature (Broecker (1990) and Diamond (1991)). For example, consistent with the theoretical predictions of the financial contracting and bank monitoring literature (e.g., Aghion and Bolton (1992) and Rajan and Winton (1995)), earlier studies find that unsecured loans pay lower loan prices and are indicative of good credit risk (Berger and Udell (1990) and John et al. (2003)). However, the absence of collateral should make lenders more sensitive to the presence of dominant shareholders, i.e., the loan price elasticity of ownership

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[2]The agency-theoretic perspective on banks has been successfully used to explain, among other things, the presence of credit rationing (Stiglitz and Weiss (1981)); the importance of collateral in lending arrangements (Aghion and Bolton (1992) and La Porta et al. (1998)); the presence of reputation and 'life-cycle' effects in borrowing by firms (Diamond (1991)); and the exploitation of ex-post monopoly information by banks (Rajan (1992)).

structure attributes should be greater for non-secured loans, and this is exactly what we find. Similarly, we extend previous results in the literature that related lending occurs at better terms than arms-length lending (La Porta et al. (2003)) and show that there is systematically lower screening in related versus arms-length lending.

Our study also contributes to the large literature that emphasizes the relationship between ownership structure and the cost of external financing, with its attendant implications for capital formation and economic growth (Shleifer and Vishny (1997) and La Porta et al. (1999)). As we noted before, this literature has largely focused on public equity markets (Claessens et al. (2002), Lins (2003) and Doidge et al. (2004, 2008)), and the effects of ownership structure — in the presence of controlling shareholders — on the agency costs of debt have received little attention. To our knowledge, ours is the first paper to uncover the substantial impact of controlling shareholder incentives and moral hazard on bank financing, manifested through economically substantial effects of ownership structure on pricing and non-pricing loan attributes.

Finally, our results extend the small but growing literature on (non-US) syndicated loans. Esty and Megginson (2003), Qian and Strahan (2007), and Bae and Goyal (2008), examine the influence of creditor and property rights on various aspects of syndicated loans. For example, Qian and Strahan (2007) conduct a country-level analysis and find that, under strong creditor protection, loans have lower interest rates, longer maturities, and smaller syndicate sizes, ceteris paribus. However, we highlight the role of *firm-level* ownership structure attributes (of borrowers) on these loan variables, controlling for country-level attributes.

We organize the remainder of the paper as follows. Section 2 analyzes the relationship between controlling shareholders and the agency costs of debt. Section 3 describes the data and the sample selection procedures. Section 4 sets out the empirical test design and Section 5 discusses the results. Section 6 provides a summary and concludes.

2   Controlling Shareholders and the Agency Cost of Debt

2.1   Agency Costs of Debt

A long-standing and important literature examines the implications of bondholder-shareholder conflicts for the agency cost of debt. As is well known, agency costs of debt arise because bondholders can be hurt by excessive payouts to shareholders; by claim dilution due to subsequent issuance

4

of debt of higher priority; by asset substitution involving a shift toward high risk projects that benefit shareholders (Jensen and Meckling (1976)); by under-investment when firms forego positive NPV projects if they principally benefit the bondholders (Myers (1977)); and, by acquisitions that increase leverage and affect debt seniority (Warga and Welch (1993)).

However, in practice, because of the separation between corporate ownership and control, managers have major influence on the operational, investment, and financial decisions of the firm. Managerial agency risk arises for outside investors because managers are self-interested and there is asymmetric information between insiders and outsiders (e.g., Jensen and Meckling (1976) and Holmstrom and Tirole (1989)). Moreover, shareholders cannot costlessly separate corporate managers involuntarily from control. Such separation typically requires a successful proxy motion by shareholders (Fluck (1999)); or a takeover (Shleifer and Vishny (1986)); or bankruptcy (Zwiebel (1996)). Managers can therefore entrench themselves because of transactions costs in shareholder activism, in the market for corporate control, and in the bankruptcy process.[3]

Entrenchment allows self-interested managers significant flexibility to pursue their own agenda, and they can threaten bondholder interests in a variety of ways. In particular, risky investment choice by entrenched managers to increase the size of assets under their control, i.e., 'empire-building' (Jensen (1986, 1993) and Stulz (1990)) can increase the default risk. Furthermore, existing bondholders will be hurt if the management issues senior debt to finance these risky investments. Finally, entrenched managers may exploit their control over financial and investment policy to indulge in self-dealing that reduces liquid assets and endangers debtors.

However, entrenched management can help bondholder interests by ameliorating the risk (for bondholders) of opportunistic shareholder behavior. An important illustration is the dilution of bondholder risk from takeovers. Heavily debt-financed takeovers are often inimical to the interests of the current bondholders because they substantially increase leverage — and hence the default risk — and can subvert the existing seniority of claims. But while a change of control may be in shareholders' interests, it will (almost axiomatically) be resisted by an entrenched management. Therefore, bondholder and entrenched management interests are aligned — against the shareholders — in the face of unfriendly takeover attempts.

To address agency risk from shareholders and managers, bondholders use covenants that re-

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[3]We note that corporations can avoid bankruptcy through renegotiation with debt-holders (Leland (1994)). Managers may also effectively entrench themselves by making manager-specific investments (Shleifer and Vishny (1989)) and by strategically enhancing their voting rights (Stulz (1988)).

strict investment policy, subsequent financing policy, payout policy, and the firm's behavior during takeover bids and financial distress. However, including an ever-greater variety of restrictions is not always in bondholder interest (Smith and Warner (1979)). This is because covenants constrain management's ability to implement policies that improve the firm's operational position and reduce default risk. Thus, in the efficient contracting outcome, covenants will not generally eliminate the agency cost of debt.

2.2 Controlling Shareholders and the Agency Cost of Debt

Dominant shareholders can hold control (i.e., voting) rights significantly in excess of cash flow rights through a variety of channels; these channels include multiple classes of shares with unequal endowment of control rights (La Porta et al. (1999) and Doidge (2004)), voting pyramids (Bebchuck et al. (2000)), and cross-holdings across firms (Claessens et al. (2000) and Faccio and Lang (2002)).[4] Wresting control from these shareholders is difficult because it requires major changes in the equity structure of the firm and the unraveling of complex cross-holding and voting pyramid structures.

The position of the controlling shareholders is therefore similar, in many ways, to highly *entrenched* managers. Based on the foregoing arguments, controlling shareholders pose agency risk for lenders through risky investments that increase the default risk; through financing arrangements that upset the seniority claims of the current lenders; and through self-dealing. Indeed, because of their significant control and cash flow stakes in a variety of firms, controlling shareholders pose a substantial resource diversion (or tunneling) risk for lenders; and this risk is particularly acute during financial distress. For example, during the emerging markets' financial crisis of 1997-1998, assets were transferred and profits tunneled out of companies to escape creditors, who typically received nothing (Johnson et al. (2000a)). We note that bank loans can facilitate tunneling by allowing the dominant shareholder to increase the asset base without the dilution of voting rights that may accompany equity financing.

However, controlling shareholders can also reduce risks for lenders. To preserve their control of the firm, controlling shareholders interests may be more closely aligned to wealth maximization (Claessens et al. (2002)); also they may have an incentive to maintain a good reputation in the debt markets (Anderson et al. (2003)), but this effect may be weak if there is access to other forms of external financing. Moreover, if the controlling shareholders are business groups, then

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[4]In a striking illustration of the deviation of control from cash-flow rights, Claessens et al. (2000) found that more than two-thirds of listed East Asian companies are controlled by a single shareholder.

their member firms may allocate resources efficiently through internal capital markets developed by pooling cash flows.[5]

2.3 Empirical Implications

We conclude that the net effect of controlling shareholder moral hazard on the agency cost of debt is theoretically ambiguous in general, and therefore require empirical resolution. However, the literature suggests that controlling shareholder power will be especially detrimental to lenders during financial distress. If we take the deviation between the control and cash flow stakes of the dominant shareholder as a proxy for the extent of controlling shareholder moral hazard, then the prediction from the received literature is that the deviation between control and cash flow stakes of the dominant shareholder will raise the agency cost of debt for firms with higher default risk.

We now study the effects of ownership structure and controlling shareholder moral hazard on syndicated loans to firms in major economies of Europe and Asia

3 Data and Empirical Test Design

3.1 Data and Sample Selection

We construct our data using several sources. We obtain loan data from the Loan Pricing Corporation's (LPC) Dealscan database for January 1996 through December 2007. The Dealscan reports detailed information about the structure of loan contracts — such as, identity of the borrower and lenders, origination and maturity dates, the purpose of the loan, the pricing, the size of the deal, and the syndicate size. We begin our sample in 1996 because the loan data prior to this date are very sparse for deals originating outside the US. However, the non-US coverage has grown steadily during the past decade: the number of loan contracts covered for our sample countries increased from 144 in 1990 to 7,090 in 2007, with the value of syndicated loans increasing from $74 billion to over $5.8 trillion. All our sample loans are floating-rate instruments. As is usual in the literature, we exclude firms in the financial (SIC 6) and the public sectors (SIC 9).

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[5]Buysschaert et al. (2004) report that intra-group equity sales create value for minority shareholders in Belgium. Shin and Park (1999) find that Korean business groups are subject to less financing constraints because of internal capital markets. Examining Indian firms, Khanna and Palepu (2000) find that diversified business groups add value. And Stein (1997) concludes that headquarters can create value by channeling limited resources to different uses inside a company by picking 'winners.'

We use Worldscope and ORBIS (provided by Bureau Van Dijk) for data on firm-specific char-
acteristics (such as, market capitalization, earnings, leverage and tangible assets). We hand match
the borrowers in LPC to Worldscope and ORBIS by using the name of the borrower.[6] (We convert
all financial values to nominal US dollars.) We collect information on multiple classes of voting
rights and track the ownership structure of our sample companies from several sources: ORBIS
for information on ownership structure of both private and public companies as well as their fi-
nancials; LEXIS/NEXIS (the major companies database); Mergent/Moody's International Manual;
Thompson Financial's Extel Cards; Worldscope and Datastream International.

We note that the ownership identification process is complicated when registered shareholders
are nominee/custodian companies and hold shares on behalf of other entities — including financial
institutions — but are not themselves beneficial owners of the shares. This occurs for a large number
of firms in our sample. Our data sources allow us directly to access the annual company reports,
through which we identify the ultimate owner of the nominee accounts for a large number of firms;
this type of information is usually not available in the handbooks used in earlier ownership studies.[7]
Unlike earlier studies, that cover only listed companies, we can trace the control and ownership
rights for unlisted companies that have direct and indirect ownership with listed corporations,
helping us avoid a potential bias in the results.

We obtain data on country-level financial structure from the IMF's International Financial Sta-
tistics for 1996-2007; data on stock market capitalization, private bond market capitalization, and
public bond market capitalization from the Bank of International Settlements' Quarterly Review;
GDP data from the World Development Indicators. After merging the databases, there are 7214
loan facilities for our sample countries from 1996 through 2007.

Appendix A provides a detailed listing of our data sources by country.

3.2 Empirical Test Design

Our response variables are the three primary attributes of syndicated loans: the loan spread (in
basis points) at the time of origination; the loan maturity (in logs); and, the log of the number of

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[6]Occasionally, attempts at matching firms solely with the company name proved difficult. In many cases, the name
of the firms in one data source contains an abbreviation or a contraction of any sort, which make matching difficult.
For each firm, we hand-check matches before deciding on the correct match and adding the matched company to our
database.

[7]We exclude the firms for which the ultimate owner information is missing. The exclusion of these firms may
overstate the proportion of widely-held firms in our sample. However, these firms make up less than 3 percent of our
sample, so any bias is likely to be marginal and such an exclusion is unlikely to distort our cross-country comparisons.

participants in the syndicated loan (i.e., the syndicate size). The loan spread is calculated against the benchmark rate that is specified in the loan agreement. There are a variety of benchmark rates used in our sample. While the London Interbank Offered Rate (LIBOR) and the Euro Interbank Offered Rate (EURIBOR) are the benchmark rates for over 80% of the sample loans, the other benchmark rates in the sample are the money market rate and the Hong Kong, Singapore, and Tokyo Interbank Offered Rates (HIBOR, SIBOR, and TIBOR, respectively).[8] Our test design controls for the differences in the benchmark rates.

We now describe the covariates that we use in our analysis and briefly discuss some salient estimation issues.

3.2.1 Ownership and Control Characteristics

In our measurement of control and cash-flow ownership rights, we follow the literature (see Claessens et al. (2000)). For completeness, we illustrate the basic methodology through a couple of examples. For expositional ease, we will sometimes use 'ownership' and 'control' to refer to cash-flow and control rights, respectively.

Suppose firm X is the largest shareholder in Firm Y and has 40% of control and ownership rights in this firm. Firm Y, in turn, holds a 15% control and ownership stake in firm Z. Hence, firm X has control and ownership stake in firm Z through pyramidal holding. According to our method of computation, X holds 6% of ultimate ownership (= 40%*15%) and 15% of ultimate control in Z (= min(15%,40%)).

Next, suppose that firm X holds a 32% stake in firm Y, which in turn owns 10% percent of firm Z. Firm X also holds 40% of firm W, which in turn holds 5% of Z. As a result of this cross-holding pattern, X has a control stake of 15% (= min(32%, 10%) + min(40%, 5%)) and an ownership stake of 5.2% (=(32%*10%) + (40%*5%) in firm Z. Similarly, suppose that firm X holds a 35% stake in firm Y, which in turn owns 10% percent of firm Z, which in turn holds 8% of X. This is a cross-holding pattern with a circular ownership structure. We take X to have a control stake of 10% (= min(35%, 10%)) and an ownership stake of 3.5% (=35%*10%) in firm Z, which in turn owns 8% of voting and cash-flow rights in X. These examples can be extended to accommodate

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[8]LIBOR is a daily reference rate — based on the average interest rates — at which banks offer to lend unsecured funds to other banks in the London wholesale money market. EURIBOR is a similarly calculated daily reference rate at which banks offer to lend unsecured funds to other banks in the euro wholesale money market (or interbank market). The Asian benchmark rates are analogously calculated in reference to the regional money markets.

other cases.

In Appendix B, we discuss the dynamic structure of the Belgian firm, Frère-Bourgeois, and illustrate the calculations of ownership and control rights in a realistic situation. This example illustrates the pyramidal, cross-holdings, and multiple-class share structure that applies to many companies in our sample.

For our analysis, we identify the dominant shareholder of each sample firm by searching for the largest single owner of voting rights, provided that the shareholder owns at least 10% of the firm's voting rights. A firm is described to be widely-held if it does not have any shareholder with control rights at or above this threshold level.[9] However, if there is a dominant shareholder, then we calculate the ownership rights (*CashFlow*) based on the methodology described above. It is noteworthy that, unlike other studies in this area, our ownership and control rights data are dynamic and not static; i.e., we track the ownership structure attributes across the sample period.

We use the ratio of control rights to cash–flow rights (or the 'control-to-ownership' ratio) of the dominant shareholder (*ControlCash*) as a proxy for the deviation of control from cash-flow rights; a similar measure is commonly used in the literature (Faccio et al. (2001,2005)). But our results are robust to alternative measures of the divergence between control rights and ownership: for example, the difference between the control and cash-flow rights (Doidge et al. (2008) and Claessens et al. (2002)) or a dummy variable that takes the value of 1 when control rights exceeds cash-flow rights (Claessens et al. (2002)). And, to address the possibility of non-linear effects in the control-to-ownership ratio, we create a dummy variable (*ControlCashHigh*) that is triggered if the firm's ratio is greater than the sample mean ratio.

Finally, we also use information relating to the presence of a *second* blockholder with at least 10 percent of voting rights (*SecondController*).[10] The literature presents contending arguments for the role of the additional large blockholder. Lehman and Weigand (2000) report that the presence of a strong second large shareholder enhances profitability in German listed companies. However, Faccio et al. (2001) report that the presence of multiple large shareholders dampens dividend expropriation in Europe (due to monitoring), but exacerbates it in Asia (due to collusion). Thus, the second blockholder may alleviate the dominant shareholder agency problem by diluting the

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[9]The 10% share-ownership threshold is commonly used in this literature (e.g., Claessens et al (2002) and Doidge et al. (2008)). However, our results are robust to alternative thresholds; for example, we used a 20% share-ownership threshold with similar results.

[10]If there are more than two blockholders with greater than 10% voting ownership, we take the one with the second highest controlling stakes.

power and influence of the controlling shareholder; on the other hand, the second blockholder may also aggravate this agency problem by forming a 'coalition' with the dominant shareholder.

3.2.2 Firm-specific Characteristics

We control for variations in the underlying agency and default risk of the borrowers using a variety of firm-specific covariates. For default risk, we principally use Altman's *Z-score* (Altman (1968)), which is negatively associated with default risk and is well accepted in the empirical literature.[11] We also control for the firm's debt-to-assets ratio (*Leverage)* and the firm's size (*Firm Size)* using the log of the market value of the firm's assets. Smaller firms are known to require a larger risk-premium in equity markets (Banz (1981) and Fama and French (1992)), possibly because of higher agency and default risk. In addition, larger firms tend to have more collateralizable assets and stable cash flows compared to smaller firms; the larger firms are therefore likely to borrow from banks on better terms.

Meanwhile, the firm's ratio of tangible-to-total assets (*Tangibles)* is a proxy for collateral value (Myers (1977)). In a related vein, firms with higher earnings have a lower probability of default, other things being the same; we use the ratio of the EBITDA-to-total assets *(Earnings)* as the earnings measure. Barclay et al. (2003) suggest that firms match the maturity of their assets with the maturity of their liabilities. Thus, firms with long-lived assets will borrow for longer term than firms with relatively short-lived assets. We measure the firm's asset maturity (*Asset Maturity* — used for maturity regressions only) as the (weighted) average of two ratios: the ratio of current assets to the cost of goods sold and the ratio of net property, plant, and equipment to depreciation and amortization. These ratios are weighted by the relative size of current assets and net property, plant, and equipment.

3.2.3 Loan Characteristics

We use a variety of loan-specific covariates to control for variations in lending risk. Term loans are used to finance long-term investments and typically are of relatively longer maturity; they should

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[11]Recent studies that use the Altman *Z-score* as a measure of default risk include Santos and Winton (2008), Chava et al. (2008), Bharath et al. (2007) and Leary and Roberts (2005). We compute this score using the specification in Altman (1968) model: $Z = 1.2$ (Working Capital/Total Assets) + 1.4 (Retained Earnings/Total Assets) + 3.3 (EBIT/Total Assets) + 0.6 (Market Value of equity/Book Value of Total Liabilities) + (Sales/Total Assets). Since the *Z-score* uses profitability and earnings information in its computation, we also run our tests excluding those variables from regression specifications. Our results are predominantly robust.

therefore have higher origination spreads commensurate with their longer-maturity, ceteris paribus. Indeed, previous studies, such as Angbazo et al. (1998), find that term loans have higher yields than do revolving loans, and that loan rates vary with the purpose of the loan. We control for these effects through an indicator variable *(Type)* that equals 1 if the loan is a 'term loan'. In a related vein, we also classify the primary purpose of loans into four groups: debt repayment, general corporate purposes, financing acquisitions, and commercial paper back up. We control for the stated purpose of loan in all our regression models; however, following the convention in the literature, we do not tabulate these results to save space.

The lead bank (or arranger) and other participants in syndicated loans are typically 'repeat players' in the loan syndication market. Therefore, if the lead arranger shirks in its due diligence and monitoring activities, it faces a credible threat of loss of reputation (Pichler and Wilhelm (2001)). Indeed, Dennis and Mullineaux (2000) find that the reputation of the lead arranger is the primary mechanism that attenuates shirking or other exploitative agency problems within the syndicate. Following this literature, we employ a proxy for reputation in the syndicate size regressions *(Reputation)* through a measure of the repeat-transaction activity between the lead bank and the observed syndicate participants; this measure relates to the ability of the lead arranger to syndicate loans, since reputable lead banks can more easily form larger syndicates.[12]

We do not use detailed information on loan covenants because covenant information is not available for a portion of the loan facilities in our sample. Rather, we use a dummy variable for flagging secured lending *(Secured)*. Extant studies show that commercial bank loan spreads are higher on secured than on unsecured loans (Berger and Udell (1990) and John et al. (2003)). As we noted before, the literature argues that the lack of collateral is actually a proxy for low-credit risk, because lenders usually require collateral on high-risk loans. We pursue this issue further when we discuss the empirical results.

Finally, we also control for the benchmark rate (LIBOR, EURIBOR etc.) used in a loan agreement. But for the sake of brevity, we do not tabulate these results.

3.2.4 Country-specific Characteristics

We include several country-specific variables that enable us to control for a wide range of cross-country differences that are likely to affect both firm borrowing choices and loan pricing. Specifi-

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[12]We also employ the lead bank's market share of originations during the syndication year as a proxy for reputation in our estimations. However, the results are unaffected.

cally, the studies cited in the Introduction emphasize the role of the legal system — e.g., protection of minority shareholder and creditor rights — and the level of financial development — e.g., the ratios of stock market capitalization to GDP and of bond market capitalization to GDP. For our study, the legal and financial development measures are likely to be informative about the bankruptcy law that influences ex ante contractibility and availability of debt. In addition, we use information on the relative importance of financial market versus bank financing and the quality of information sharing mechanisms.

The financial systems of some countries, such as the US and the UK, are market-based, i.e., firm financing through public equity and debt markets is prominent, whereas the financial systems of other economies, such as Japan, are bank-based, i.e., banks play a prominent role in mobilizing capital and participating in project management. The literature highlights the strengths and weaknesses of both systems. For example, banks can be useful in sharing knowledge — based on lending to multiple firms — regarding good projects, monitoring managers, and managing risk (Levine (1997)). The market-based view emphasizes the positive role of financial markets in enhancing risk management, information dissemination, corporate control, and capital allocation (Levine and Zervos (1998)). The proponents of the market-based view further argue that powerful banks with few regulatory restrictions on their activities may collude with firm managers against other creditors and impede efficient corporate governance (Hellwig (1998), Wenger and Kaserer (1998)). We use an indicator variable *(Market)* that is set equal to 1 if the country has a market-based financial system and 0 if it has a banking-based system; our study appears to be the first to use this variable.

We employ three ratios, namely, *Stock Market Capitalization/GDP, Private Bond Market Capitalization/GDP,* and *Public Bond Market Capitalization/GDP* as proxies for the development of financial markets. A high level of bond market development indicates relatively strong creditor rights protection, and we expect these variables to have a negative effect on the loan spreads, ceteris paribus. Similarly, if the development of stock markets contributes to information disclosure, then it alleviates the adverse selection problem between the borrower and banks and has a negative impact on the loan spreads. Moreover, if the stock and bond markets are alternative sources of financing for large loans requested by companies, they will create a competition for the supply of funds and force banks to offer loans at more attractive terms. Finally, a well developed stock market, by allowing efficient risk-diversification for lenders, may lower the number of lenders required for participation in syndicated loans, for a given level of lending risk. We note that earlier studies

have used alternative measures of private credit: for example, Qian and Strahan (2007) use the ratio of private domestic *bank* credit to the GDP and Bae and Goyal (2008) use the ratio of private sector credit to the GDP. But, to our knowledge, we are among the first to use indicators of private and public bond market development, which is more directly related to the strength of creditor rights and development of contractual and bankruptcy law.

Issuing debt is unattractive to creditors when courts cannot enforce contracts. Following the literature on the effect of law and institutional development on financial markets (La Porta et al. (1997, 1998), Qian and Strahan (2007), Bae and Goyal (2008)), we include a measure of creditor rights or protection (*Creditor Rights)* in our analysis. This index is recorded on a scale from zero to four, with a higher score indicating better protection of creditors. Enhanced protection of creditor rights also helps to promote the development of bond markets, reducing the cost of loans (La Porta et al. (1998)).

The literature emphasizes two types of information sharing mechanisms facilitating the exchange of information among banks and financial institutions: public and private registries owned by public authorities and commercial or non-profit organizations, respectively (Jappelli and Pagano (2002)). In our data, there is information on whether the public or private credit (or both) registries operate in the country. We use an indicator variable *(Sharing)* that is set equal to 1 if either a public or a private bureau operates in a borrower country, and 0 otherwise.

3.3 Estimation Issues

3.3.1 Fixed Effects

Firms may have different loan structures based on firm-specific and country-specific heterogeneity that are unobservable to the econometrician. To control for the these unobservable effects, we use firm-, year- and country-specific fixed effects regressions. The fixed effects are likely to pick up any covariation that is caused by particular firms, countries, or time-periods that have unusual characteristics. For example, we can test at the firm-level if expropriation risk leads to different loan structures by using fixed-effects, exploiting only the variation within the same firm and the same country over time and across lenders.

3.3.2 Simultaneity

To address the joint determination of multiple facets of loan structure, we examine the choices of loan spread, loan maturity and syndicate size within a simultaneous system of equations. We estimate the following system of structural equations:

$$
\begin{aligned}
y_1 &= b_{12}y_2 + \boldsymbol{\lambda}_1'\mathbf{x}_1 + u_1 \\
y_2 &= b_{21}y_1 + \boldsymbol{\lambda}_2'\mathbf{x}_2 + u_2 \\
y_3 &= b_{31}y_1 + b_{32}y_2 + \boldsymbol{\lambda}_3'\mathbf{x}_3 + u_3
\end{aligned}
\tag{1}
$$

where y_1 is loan spread, y_2 is logarithm of loan maturity and y_3 is the log of syndicate size. And $\mathbf{x}_1, \mathbf{x}_2, \mathbf{x}_3$ are the vector of exogenous variables used in our earlier regressions, while u_1, u_2 and u_3 are the error terms of the system. The parameters of interest here are the structural parameters: b_{ij} and $\boldsymbol{\lambda}_i$, $i, j = 1, 2, 3$. It is well-known that the ordinary least squares (OLS) estimation of the structural parameters is biased and inconsistent, because the endogenous variables of the system which are also used as right-hand-side explanatory variables are correlated with the disturbance terms. We estimate the simultaneous system using the two-stage least square (2SLS) method (see Green (2002)).

3.3.3 Omitted Factor Bias

It is possible that we may obtain a spurious correlation between ownership structure and loan prices because of an omitted common factor that is correlated with both of them. Specifically, we know that default risk will influence loan prices, but the theory of capital structure suggests that default risk may be correlated with ownership structure as well. But we are already controlling directly for default risk by through Altman's *Z-score*. And given that we are also controlling for other characteristics such as leverage and size that may be potentially correlated with both ownership structure and loan prices, it is unlikely that there is an residual omitted factor bias in our tests.

4   Results

We start by describing some salient bank loan related characteristics of the sample countries. We then present the results of the regression analysis. To facilitate comparison with the extant empirical literature on bank loans — which typically does not directly examine the joint determination of

the price and non-price aspects of loans — we initially do not use the simultaneous equations framework. Subsequently, we address the joint determination of the loan characteristics. In all of our regression analysis, we control for the fixed effects mentioned above.

4.1 Sample Characteristics

In Table 1, we present salient aspects of the loans by country. The average loan size in the European countries typically exceeds substantially the average loan size in the Asian countries. Interestingly, the difference in loan sizes does not appear to be based on the level of economic development or whether the country has a market- versus bank-based economy. For example, the average loan size for a highly developed economy like Japan is less than that of any European country. Moreover, the average loan size in UK, a market-based economy, is more than 6 times the average loan size in Japan, a bank-based economy.

There is also a wide variation in the average loan spread across the sample countries — ranging from 23.8 bps for Austria to 220.6 bps for Ireland. Interestingly, there is no systematic trend in the average loan spreads in terms of the developed versus emerging countries. Similarly, the average loan maturity shows a large variation — ranging from 28.8 months for Portugal to 72.3 months for Thailand. Singapore has the lowest number of average participants in the syndicated loans (about 4) while Germany has the largest average syndicated size.

Turning to the ownership characteristics, we find that the average control rights ownership (among all the shareholders) is significant for all the sample countries — ranging from 9% in Japan to 58% in France. Moreover, the control stakes exceed the cash flow stakes for a significant fraction of companies in a majority of the sample countries. Specifically, the control-to-ownership ratio exceeds 1 for at least 10% of the sample companies in 16 (out of 22) countries in the sample; this fraction reaches over 80% for countries as varied as Belgium and Indonesia. Thus, our sample reinforces earlier studies in highlighting the extent of the controlling shareholder agency risk globally.

4.2 Loan Spreads

Table 2 analyzes the effect of ownership and control rights on loan pricing. The dependent variable is the "drawn all-in-spread" at the time of loan origination. Because corporate bank loans are almost invariably floating-rate instruments, this spread represents the markup over the benchmark rate (typically LIBOR), and is paid by the borrower on all drawn lines of credit. The drawn all-

in spread is the standard loan pricing variable used in the bank financing literature (see Guner (2006)). We introduce the ownership and control rights variables sequentially (cf. Models 1-3) to better understand their relative impact. Finally, to make the economic significance of the results more transparent to the reader, we have transformed the coefficients to percentage terms.

Estimates of Models 2 and 3 (in Table 2) indicate that the deviation of control from cash flow rights — measured by the ratio of control to cash-flow rights of the dominant shareholder — has a significant positive effect on the loan price, even after controlling for default risk and the other firm-, loan-, and country-specific characteristics. There is also some evidence of non-linearity in the effects of excessive control rights (relative to ownership) in Model 3: the estimate for the effect of high (i.e., above-average) control-to-cash ratio is significant at conventional levels. Contrariwise, estimates of Model 1 indicate that dominant shareholder cash flow ownership has a significant and sizable negative effect on the loan price, cetris paribus.

The effects of ownership structure on loan pricing are economically significant. For example, Model 3 indicates that one standard deviation increase in the control-ownership ratio results in an 16.3 percent increase in loan price or by about 21 bps (based on the sample median spread of 123 bps), other things held fixed. On the other hand, a one standard deviation increase in cash flow ownership of the dominant shareholder reduces the loan price by approximately 6.5% (8 bps).

In sum, ownership structure variables that are correlated with controlling shareholder agency risk have a statistically and economically significant impact on the loan price, in the direction predicted by the agency-monitoring framework. Specifically, banks charge a significant penalty — in terms of interest rates — for greater separation between control and cash-flow rights of the dominant shareholders of borrowing firms. On the other hand, increased equity-based incentives of dominant shareholders — through higher cash-flow rights — are rewarded with lower loan costs, ceteris paribus.

The estimates of the other firm- and loan-specific covariates are also economically appealing. Firms with lower default risk (i.e., higher Altman *Z-score*) pay a significantly lower loan price, ceteris paribus. But even controlling for the Z-score, firms that are less levered or are larger or have higher earnings-to-assets and higher tangible-to-total assets ratios also pay a significantly lower loan price.[13] Firms also pay a higher loan price for the longer maturity term loans.

Turning to the country-level variables, we find that firms in countries with stronger creditor

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[13]We do not include loan size in our tests as it is highly correlated with firm size that is included in our regressions. But results remain the same even if we include loan size as an additional covariate.

rights and more well-developed (public and private) bond markets face lower costs of bank financing, other things held fixed. More developed bond markets indicate not only stronger creditor rights but also well-developed bankruptcy laws and procedures. However, neither the size of the stock market nor the existence of formal information sharing on debtors have a significant effect on loan pricing, once we control for creditor rights and the size of the debt markets. Moreover, firms in market-based economies pay lower bank loan costs. One reason for higher loan spreads in bank-based economies could be that banks implicitly charge monitoring fees — in the form of high interest payments — for monitoring their borrowers.

The effect of strong creditor rights on loan spreads is consistent with Qian and Strahan (2007), who consider a sample of loans to large firms from 43 countries outside the US during 1994-2003. However, Qian and Strahan (2007) find that the size of the private domestic bank credit (as a proportion of GDP) increases loan prices and they interpret a higher bank credit to GDP ratio as reflecting greater demand for bank loans. On the other hand, we use the ratio of private bond market capitalization to the GDP, which clearly has a negative effect on loan prices, ceteris paribus. As we argued above, more developed private (and public) bond markets are likely to reflect greater strength of creditor rights and better articulation of bankruptcy laws and procedures, and the results appear to confirm this argument.

4.3   Loan Maturity

In Table 3, we analyze the effect of ownership and control rights on loan maturity. Estimates of Model 1 show that ownership of the largest shareholder has a significantly positive effect on the loan maturity, other things held fixed. Contrariwise, Models 2 and 3 indicate that the control-ownership ratio has a significantly negative effect on the loan maturity; however, unlike the loan spread regressions (cf. Table 2), there is no evidence of non-linear effects of this ratio. Thus, consistent with the agency-theoretic perspective, banks are willing to lend for a longer term, ceteris paribus, when the dominant shareholder's ownership provides incentives for better economic management of the firm, but the reverse is the case if there is a significant deviation between the control and cash-flow rights of this shareholder.

Turning to the other firm-specific attributes, firms with higher *Z-scores* (i.e., lower default risk) obtain longer maturity loans, ceteris paribus. But even controlling for *Z-scores,* larger firms with higher earnings-to-assets and higher tangible-to-total assets ratios obtain longer-maturity loans,

other things held fixed, while the reverse is the case for more levered firms. Table 3 also supports the hypothesis that firms tend to match the maturity of their assets with those of their liabilities (Barclay et al. (2003)), since firms with longer asset maturity take longer term loans.

Holding firm- and loan-specific attributes fixed, firms in countries with stronger creditor rights use longer-term loans. And while the size of the stock market does not have a significant effect on loan maturity, the presence of information sharing (i.e., credit registries) has a marginally significant positive effect. We also find that firms in market-based economies use longer-maturity loans, ceteris paribus, compared to firms in bank-based economies. This result is consistent with the argument that the development of the banking sector is more related to the availability of short-term financing (Demirguc-Kunt and Maksimovic (2002)). However, there appears to be a negative correlation between the development of bond markets and loan maturity, which appears counter-intuitive. We pursue this issue below, when we control for the joint determination of loan spreads, maturity, and syndicate size.

Overall, the estimated coefficients in Table 3 appear to be of opposite sign to the corresponding coefficients in Table 2. These results are not surprising if we one makes the usual assumption that firms seek to borrow for longer terms than lenders are willing to lend. In such a situation, in the credit market equilibrium, firms will economize on the price of borrowing per unit time. Hence, firms facing lower costs of borrowing per unit time will also choose longer maturity loans, other things being the same.

4.4   Syndicate Size

In Table 4, we analyze the effect of ownership and control rights on the number of lenders in syndicated loans. The prediction is that syndicate size will be positively related to agency risk from borrowers, i.e., for diversification purposes, loans to more risky borrowers will require a larger set of lenders, other things held fixed. Consistent with this prediction, estimates of Model 1 in Table 4 show that dominant shareholder ownership has a significantly negative effect on syndicate size, while Models 2 and 3 indicate that the control-ownership ratio is significantly and positively associated with the number of lenders in syndicated loans. As in the loan maturity regression (Table 3), we do not observe any non-linear effects of the control-ownership ratio.

Turning to the other loan- and firm-specific attributes, it is somewhat striking that the Altman *Z-score* has no significant effect on the syndicate size. However, the syndicate size is significantly

19

affected by other firm-specific characteristics; it is smaller, ceteris paribus, for firms with higher earnings-to-assets and higher tangible-to-total assets ratios. On the other hand, term loans are associated with larger number of lenders, as are larger firms — because firm size is highly correlated with loan size. These results are consistent with the view that a major driver for syndicate size is the diversification of borrower exposure across lenders. Interestingly, leverage is not significant in the determination of the syndicate size. Repeat transactions between the lead bank and other lenders is conducive to a larger syndicate size, but this effect is only marginally significant in Model 3, which has the most enhanced specification.

By contrast to the loan pricing and maturity regressions (Tables 2 and 3), it is the level of the development of the *stock* market — and not the bond — that influences the syndicate size. Other things held fixed, the syndicate size is significantly smaller in countries with more developed stock markets. This result suggests that the diversification afforded by well-developed equity markets influences the number of participants needed in the syndicated loans. In a related vein, the presence of formal information sharing mechanisms on borrowers reduces the syndicated size, while strong creditor rights continue to play a significant role in the predicted direction. Finally, we do not observe any significant difference between market- versus bank-based countries on syndicate size; this is, again, by contrast to the regressions on loan pricing and maturity.

4.5   The Effects of Default Risk

The prediction from the literature is that the effects of ownership structures that are conducive to controlling shareholder moral hazard on the agency cost of debt will be greater for high default risk firms. That is, irrespective of whether controlling shareholders increase or decrease the agency cost of debt *on average*, the effect of controlling shareholders on these costs will be increasing in the default risk of the firm. It is therefore natural to test this hypothesis by introducing an interaction term between the control-to-cash-ratio and high default risk. If the sign of the coefficient for the interaction term is positive, then this implies that, at the margin, the effects of controlling shareholder power on loan prices etc. are greater for high default risk firms, and conversely if the sign is negative. Table 5 displays the results of this test, where we identify high default risk firms as those whose Altman *Z-score* is below the sample median. For parsimony, we do not display the coefficients for covariates other than the ownership structure variables.

Consistent with the said prediction, the positive effect of higher control-to-cash ratios on loan

prices is significantly greater for the high default risk firms. And the negative effect of higher control-to-cash ratios on loan maturities is also significantly greater for the high default risk firms. The sign of the interaction term for syndicate size is also significant at conventional levels (but less significant than the effects on prices and maturities) and in the predicted direction. Moreover, the interaction effects are economically significant. For example, the effects of increasing the control-to-cash ratio by one standard deviation on loan prices for the high default risk group is 3.5% higher than for the low default group.

4.6 Geographic Effects

Apart from Japan, the East Asian countries in our sample — South Korea, Philippines, Indonesia, Taiwan, Malaysia, Singapore, and Thailand — are part of the so-called emerging markets with relatively less developed financial markets, enforcement rights, and greater political influence on the banking sector. Thus, other things being the same, there will be higher dominant shareholder agency risk in these countries compared to the European countries. From an agency-theoretic standpoint, we therefore expect that the ownership structure variables will have greater influence on the loan parameters in the East Asian versus the European countries. Table 6 tests this hypothesis by regressing the Models 2 and 3 of Tables 2-4 separately for the two regions. For expositional ease, in these tables, we report only the estimates of the ownership structure related variables and their interaction with the variable of interest.

Both ownership and the control-ownership ratio (of the dominant shareholder) have a much more significant and economically sizable influence on the loan characteristics in the East Asian countries, compared to the European countries. For example, comparing the second and forth columns in panel A (Model 3), we find that a one standard deviation increase in ownership reduces loan spread in the East Asian countries by 8.3% versus 5.2% for the European countries; meanwhile, increasing the control-cash ratio by one standard deviation raises the loan spread by 17.5% versus 12.0% in East Asia and Europe, respectively. Furthermore, the nonlinear effects of above-average control-ownership ratio are also more substantial in the East Asian countries, in comparison with the European countries. The positive effects of dominant shareholder ownership, and the negative effects of this shareholder's control-to-ownership ratio, on loan maturity are also more sizable in the East Asian countries compared to the European countries. And, we see a similar situation — in terms of economic significance — regarding the effects of the ownership structure variables on

the syndicate size. Indeed, the control-cash ratio does not appear to have a significant influence on the syndicate size in the European countries.

We note that the emerging economies in our sample are diverse from the viewpoint of legal origins: using the La Porta et al. (1997, 1998) categorization, these countries belong to the French (Philippines), English (Hong Kong, Singapore), and German (Taiwan, South Korea) legal systems. Yet, we find that banks are more sensitive to controlling shareholder agency risk in these countries compared to the European countries, even controlling for creditor rights and the level of financial market development. These results suggest that there are other aspects of emerging markets — for example, relatively underdeveloped commercial law (Gilson (2006)) — that heighten controlling shareholder agency costs of debt.

4.7   Related versus Arms-Length Lending

In Table 7, we compare the effects of the ownership structure variables on loan characteristics between affiliated and non-affiliated companies, where the former are the group of companies that control financial institutions. One would therefore expect the affiliated companies to be able to use their special relationship with financial institutions to get loans on better terms. In our framework, this is tantamount to the hypothesis that there is less agency-based screening for affiliated companies compared to the non-affiliated ones.

The results in Table 7 support this hypothesis. We find that dominant shareholder ownership is not even a significant influence on the loan spread for affiliated companies, i.e., the incentive effects of dominant shareholder ownership do not appear to be priced in the loans to the affiliated companies, but have a strong negative influence on the loan spreads for non-affiliated companies. Similarly, the effect of the control-ownership ratio on the loan prices is economically more significant for the non-affiliated companies.

There are also significant differences between the effects of other firm- and country-specific covariates (on loan pricing) between the two groups of companies. For example, strong creditor rights play a much more important role for loans to non-affiliated versus affiliated companies, as does the presence of formal information sharing mechanisms on debtors.

Next, in comparing the effects of agency risk on loan maturity for affiliated versus non-affiliated companies, we find that dominant shareholder ownership is not a significant factor for affiliated companies, while it is highly so for non-affiliated companies. Moreover, the effects of some firm-

specific variables that reduce default risk, such as leverage and the earnings-to-asset ratio, are not significant determinants of loan maturity for affiliated companies, but are highly significant for non-affiliated companies. And while the control-ownership ratio is significantly and positively related to the syndicate size for loans to both categories of companies, the effect of dominant shareholder ownership for affiliated companies is of the wrong sign.

We conclude that, compared to non-affiliated companies, loans to affiliated companies do not screen as efficiently (or effectively) for dominant shareholder agency risk. These results are consistent with the view that affiliated companies use their relationship with financial institutions to dilute ownership structure based screening in bank loans. The analysis here therefore complements and extends La Porta et al. (2003); using data on Mexican firms, they find that related lending transactions take place on better terms than arm's-length lending. Our sample extends to 22 countries in Europe and East Asia and the analysis indicates that there is also a qualitative difference between related and arms-length lending: bank loans to firms not affiliated with the financial institutions are screened more systematically based on attributes correlated with large shareholder incentives and entrenchment.

4.8   The Role of Collateral

In Table 8, we compare the role of ownership structure variables on loan attributes for secured versus non-secured loans.[14] The financial contracting and bank monitoring literature argues that, banks will demand collateral from relatively high risk borrowers (Aghion and Bolton (1992) and Rajan and Winton (1995)), and this prediction has been empirically verified (Berger and Udell (1992) and John et al. (2003)). However, banks should also be more sensitive to the (extent of) the dominant shareholder's incentives and moral hazard on non-secured versus secured loans. This is because, in the absence of collateral, banks are not protected against the nefarious effects of inefficient firm management and tunneling by the dominant shareholder.

In panel A of Table 8 (Model 3), we find that non-secured loans pay a significantly smaller loan price, even after controlling for the ownership structure variables. This difference in loan spreads is economically significant: non-secured loans pay about 8.2% lower spreads. Moreover, the effect of increasing large-shareholder ownership on the loan spreads is more pronounced for non-secured loans, at the margin. On the other hand, increasing the deviation between control and

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[14] For brevity of exposition, in Tables 8-10, we report only the estimates of the ownership structure related variables and their interaction with the variable of interest.

ownership has a greater incremental (positive) effect on non-secured loans. Specifically, the impact of increasing the control-ownership ratio on non-secured loans is 4.3% higher than the corresponding effect on secured loans, ceteris paribus.

Similarly, Panel B of Table 8 shows that non-secured loans have a significantly longer maturity. And the incremental effects of ownership on the maturity of non-secured loans is stronger than their corresponding effect on secured loans. However, in panel C, we find that there is no significant difference in the number of participants of secured versus non-secured loans; but, the incremental effect of large-shareholder ownership on syndicated size is more pronounced for non-secured loans, compared to secured loans.

Overall, we find that the role of ownership structure variables is relatively stronger in the pricing, maturity, and syndicate size for non-secured loans, compared to secure loans. Thus, we confirm the theoretical conjecture that banks will be more sensitive to dominant shareholder incentives and moral hazard, at the margin, for non-secured versus secured loans. Our results here complement recent findings by Chava et al. (2008) that firms more vulnerable to takeovers are charged higher loan prices, ceteris paribus, and that lack of collateral seems to exacerbate banks' concern regarding the takeover risk of borrowing firms. Thus, it appears that although unsecured loans reflect good credit risk overall, the lack of collateral increases banks' sensitivity to specific forms of risk, such as controlling shareholder moral hazard and takeovers.

4.9 Multiple Blockholders

In Table 9, we analyze the effect of an additional blockholder — that owns more than 10% of the voting rights — on the major loan parameters. As we noted above, there are two conflicting hypotheses on the effects of multiple blockholders: they can aggravate the agency-risk problem stemming from the largest shareholder or they can alleviate this agency problem by acting as an independent monitor. The results in Table 9 support the latter view, i.e., the second blockholder alleviates the dominant shareholder agency problem.

Specifically, the existence of a second blockholder makes the monitoring effect of large shareholder ownership more powerful. Comparing panel A of Table 9 with Model 3 of Table 2, we find that the (incremental) influence of increasing dominant shareholder ownership on the loan price is magnified in the presence of the second blockholder. This inference is confirmed by the estimate of the interaction term between ownership and the presence of the blockholder, which

is reliably negative; i.e., the effect of dominant shareholder ownership on loan prices (negative) is magnified in firms with a second blockholder. Contrariwise, the presence of the second blockholder ameliorates (or dilutes) the positive effect of the divergence between control and ownership rights of the dominant shareholder: the coefficient for the control-ownership ratio (in panel A) is only marginally significant; this needs to be compared with Table 2, where the control-ownership ratio is highly significant. Again, the ameliorating effect of the second blockholder on the effects of the control-ownership divergence are confirmed by the estimate of the interaction term between the control-ownership ratio and the existence of the second blockholder; hence, the effect of the dominant shareholder's control-ownership deviation on loan prices is magnified in the presence of the second blockholder.

Turning to the effect of the second blockholder on loan maturity, panel B of Table 9 shows that firms with an additional blockholder reliably receive loans of longer maturity, ceteris paribus. And, panel C indicates that the syndicate size (of lenders) is significantly lower for with a second blockholder, other things held fixed.

4.10 Family Owned Firms

The effects of family-owned firms on the agency cost of debt appear ambiguous ex ante. Family-owned firms often reflect significant deviations between control and cash flow stakes of the founders (e.g., Claessens et al. (2002)). But family-owned firms may also be concerned about their long-term reputation in debt markets (Anderson et al. (2003)). Indeed, the literature presents mixed evidence on the relationship between family-owned firms and the cost of debt (Claessens et al (2002) and Anderson et al. (2003)).

We identify family firms in our sample through a dummy variable that takes the value of 1 whenever a family founder is still involved with the control of the firm. We then test the effects of family involvement on loan prices, maturities, and the size of the lending syndicates. The results are displayed in Table 10. Controlling for cash flow ownership and the control-to-cash ratio, family ownership does not have a significant effect on loan prices (cf. Model 3) and has marginally significant effects on loan maturity and the syndicate size. The direction of these effects suggests that family ownership tends to raise the agency cost of debt.

We find stronger effects of family involvement in the interaction between the control-to-cash ratio and family ownership. Thus, the positive effect of higher control-to-cash ratios on loan prices is

significantly greater for family-owned firms compared with firms where there is no control by family founders. Specifically, the effects of increasing the control-to-cash ratio by one standard deviation on loan prices for the family-owned firms is 3.3% higher than the other group. Similarly, the effect of controlling shareholder moral hazard on loan maturities is significantly higher for family-owned firms. Thus, in our sample of European and Asian firms, the control-to-cash ownership deviation has an especially pernicious effect on the agency cost of debt.[15]

4.11   Simultaneous Estimation

We now address the joint determination, in equilibrium, of loan pricing, maturity, and the number of participants in the syndicated loans. Based on the test-design described in Section 3.3, we analyze the effects of the ownership structure on the loan pricing and non-pricing variables, while taking into account their simultaneous determination. The results are displayed in Table 11. Since the effect of above-average control-ownership ratio (*ControlCashHigh)* is only marginally significant for loan spreads (Table 2), and not significant for loan maturity and syndicate size (Tables 3 and 4), we drop this variable from the estimation specification.

Comparing the results in Table 2 (Model 2) with Table 11, we find that the determinants of loan pricing are qualitatively unaffected when we use the simultaneous estimation approach. In fact, the effects of the ownership structure variables on the origination loan spreads are amplified once we account for the endogeneity of the pricing with the non-pricing variables. Of course, the simultaneous framework allows us to examine the equilibrium relationship between the loan price and maturity; and between the loan price and the syndicate size. Not surprisingly, the loan spreads are higher for longer maturity loans, other things held fixed. However, there is no significant relationship between the loan price and the syndicate size in our sample.

Next, and comparing Table 3 (Model 2) with Table 11, we find that the effects of the ownership structure, firm-, and loan-specific variables on loan maturity are qualitatively the same even after we account for the joint determination of the pricing and non-pricing variables. Indeed, the effects of the ownership variables on loan maturity are actually stronger once the endogeneity effects are taken into account. However, Table 11 indicates that the development of public bond markets exerts a significant positive influence on loan maturity, in contrast to the somewhat puzzling negative

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[15]Anderson et al. (2003) examine the relationship between family ownership and the agency cost of debt in the S&P 500 firms. They find that family ownership reduces the agency cost of debt. However, they do not incorporate the deviation between control and cash stakes of the family owners.

estimate for the same coefficient in Table 3. But, as in Table 3, the development of the stock market does not appear to have a significant effect on the major bank loan parameters; moreover, while the development of the private bond market has a significant influence in reducing loan pricing, it has no corresponding effect on loan maturity.

Finally, ownership and the deviation of control from ownership (of the dominant shareholder) continue to have a significant impact on the syndicate size even after we account for endogeneity effects. But compared to Table 4 (Model 3), the effect of ownership is weaker while the effect of the control-to-cash ratio is stronger in Table 11. Again, the effects of firm- and loan-specific characteristics and lead bank reputation are qualitatively similar to that in Table 4. However, once we account for the simultaneous effects, the level of stock market development is no longer significant, whereas it emerged significant in Table 4. On the other hand, the size of the public bond market has a significant effect on the syndicate size (it was insignificant in Table 4) — in a direction consistent with the agency-theoretic perspective.

Overall, addressing the joint determination of pricing and no-pricing aspects of bank loans helps clarify the role of financial markets on bank loans. Specifically, it is the level of development of the bond markets, rather than stock markets, that appears to influence the bank loan market. Furthermore, while loan prices are influenced by both private and public bond market size, loan maturity and the syndicate size are affected significantly only by the size of the public bond markets.

As we mentioned earlier, the literature typically uses reduced form regressions for the pricing and non-pricing loan variables, and does not examine the effects of the joint endogeneity of these variables. While addressing endogeneity does not qualitatively influence the effects of firm- and loan-specific covariates, it does lead to a re-evaluation of the effects of country-level variables.

4.12 Robustness Checks

The literature argues that controlling shareholder moral hazard is positively associated with the deviation between the dominant shareholder's control and cash flow rights. We have measured this deviation as a ratio between control and cash flow rights of the dominant shareholder. To ensure that this measure does not introduce any unintended effects in our tests, we also estimated all the regressions with alternative measures of the said deviation. Specifically, we used the difference between the control and cash flow rights of the dominant shareholder; and, separately, we also used a dummy variable for firms where the control stakes of the dominant shareholder exceed the cash

flow stakes. The results — which we do not tabulate for parsimony — were very similar in both cases to those displayed in Tables 2-11 above.

5   Summary and Conclusions

Concentration of control by dominant shareholders, who typically hold control rights significantly in excess of their cash flow stakes, is ubiquitous globally and a primary source of agency risk for capital providers. Theoretically, the effect of controlling shareholder on the agency cost of debt is ambiguous in general, but the literature predicts that controlling shareholders increase the agency cost of debt for high default risk firms. However, there is little, if any, empirical examination of the effects of controlling shareholders on the agency cost of debt. We examine the effect of controlling shareholders on syndicated loans in major European and East Asian economies.

We find that ownership structures conducive to controlling shareholder moral hazard, such as the deviation of control from cash flow rights of the dominant shareholder, are associated with significantly higher loan prices and syndicate sizes, and significant lower loan maturities; however, increasing the cash flow ownership of the dominant shareholder has exactly the opposing effects on the loan variables. And consistent with the prediction from the literature, the impact of controlling shareholders is greater for high default risk firms. On the other hand, because of its incentive effects, dominant shareholders' cash-flow rights or ownership are significantly and negatively associated with loan prices and the size of the syndicate, while being positively associated with loan maturity. These results are robust to the legal origin, the strength of creditor rights, and the level of financial market development of the country.

Our results are economically appealing because screening by banks appears efficient since the impact of ownership structure on bank loans is commensurate with the extent of agency risk. For example, this impact is greater for family owned firms; for non-secured loans; for arms-length lending; and for firms in emerging markets. However, the effect is lower when there is a second blockholder or for secured loans. Overall, our analysis is consistent with the view that lenders — in this case, banks — will use ownership structure attributes to screen borrowers ex ante if controlling shareholder moral hazard increases the lending risks for banks and magnifies their expected costs from monitoring loan performance ex post.

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Appendix A: Data sources

Variable	Definition	Data sources
Market	Equals 1 for market-based financial systems and 0 for bank-based systems as defined in Demirguc-Kunt and Levine (1999). The variable classifies countries as being market-based when they have larger, more active and efficient stock markets compared to banks measures. The system is market-based if the financial structure aggregate index is above the median, bank-based otherwise. Financial structure aggregate index is the first principal components of financial structure size, activity and efficiency. Financial structure size is given by the ratio of stock market capitalization to total assets of deposit money banks; financial structure activity is defined as the total value of stocks traded divided by bank credit to the private sector; and finally financial structure efficiency is given by the product of total value traded on the stock market and average overhead costs of banks in the country. See Demirguc-Kunt and Levine (1999) for a discussion of alternative ways of defining market-based and bank-based systems.	Total assets of deposit money banks: IMF's International Financial Statistics (IFS lines 22 a-d) Total value of stocks traded: Standard and Poor's Emerging Market Database (and Emerging Stock Markets Factbook) Overhead Costs: BankScope database Bank credit to private sector: IMF's International Financial Statistics (IFS line 22d)
Stock market capitalization to GDP	Value of listed shares to GDP	Standard and Poor's Emerging Market Database (and Emerging Stock Markets Factbook). Data on GDP in US dollars is from the World Development Indicators.
Private bond market capitalization to GDP	Private domestic debt securities issued by financial institutions and corporations as a share of GDP	Bond data is taken from the Bank of International Settlements' Quarterly Review: International Banking and Financial Market Developments by sector and country of issuer.
Public bond market capitalization to GDP	Public domestic debt securities issued by government as a share of GDP	Bond data is taken from the Bank of International Settlements' Quarterly Review: International Banking and Financial Market Developments by sector and country of issuer. Data on GDP in US dollars is from the electronic version of the World Development Indicators.

Creditor rights	An index aggregating creditor rights. The index aggregates various rights that secured creditors might have in bankruptcy, liquidation and reorganization. Restrictions on the managers' ability to seek unilateral protection from creditors, mandatory dismissal of management in reorganizations, lack of automatic stay on assets, and absolute priority for secured creditors all contribute to this index. The index ranges from 0 to 4.	Bankruptcy and reorganization laws; La Porta et al. (1998), Djankov et al. (2007)
Information sharing	Equals 1 if either a public or a private bureau operates in a borrower country, 0 otherwise.	Jappelli and Pagano (2002) Djankov et al. (2007)

Country	Data Sources
Austria	http://www.huginonline.at/ Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Belgium	http://www.huginonline.be/ http://www.euronext.com Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Finland	http://www.huginonline.fi/ Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
France, Portugal	http://www.euronext.com Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Germany	http://www.huginonline.de/ Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual

Italy	Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Japan	ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual Japan Company Handbooks, Toyo Keizai Inc
Norway	http://www.huginonline.no/ ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards
Spain	Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Sweden	http://www.huginonline.se/ Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Switzerland	http://www.huginonline.ch/ Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
Taiwan, Thailand, Singapore Philippines, Malaysia, South Korea, Indonesia, Hong Kong	ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual
United Kingdom	http://www.huginonline.uk/ Major Companies of Europe ORBIS database provided by Bureau Van Dijk Datastream International, Worldscope LEXIS/NEXIS, Thompson Financial's Extel Cards Mergent/Moody's International Manual

Appendix B

Figures 1 through 3 below show the dynamic structure of the Frère Group which has a pyramidal, cross-holdings and multiple class shares structure. The group is dominated by the Frère-Bourgeois company which is privately held and controlled at 100% by Albert Frère and his family. We trace 21 companies under the ultimate control of Albert Frère and his family in 1996, 28 companies in 1999 and 23 companies in 2005. We focus on the ownership and control structure of Groupe Bruxelles Lambert (GBL), one of the ten largest Belgian companies listed in Belgium Euronext. In 1996, the Frère family holds 13.6% ownership (=100% * 54.5% * 54.1% * 46.2%) stake in Compagnie National à Portefeuille (CNP) which is a Belgian holding company is a part of the BEL20 index on the Brussels stock exchange. Their control rights is the weakest linkage along the control chain which is 46.2% (=min(100%, 54.5%, 54.1%, 46.2%)). At 10% cut-off level, for instance, GBL is controlled by the Frère family.

By moving down the pyramid now we can pin down the ultimate control and ownership structure of GBL. GBL has two ultimate owners: Power Corporation and Frère family. Power Corporation has 13.15% ownership (=50% * 55.5% * 47.4%) and 47.4% control (=min(50%, 62.5%, 47.4%)) of the GBL. Frère family, on the other hand, has 1.6% of direct ownership (=100% * 54.5% * 54.1% * 46.2% * 89.5% * 50% * 55.5% * 47.4%) and 1.38% (=100% * 10.5% * 50% * 55.5% * 47.4%) indirect ownership through Agesca Nerdeland adding up to 2.98 total ownership right of the company. Frère family's ultimate control stake is the sum of weakest direct and indirect chains in the pyramid. That is, min (100%,54.5%,54.1%,46.2%,49%,50%,62.5%,47.4%)=46.2% direct and min(100%,51%,0%,0%,0%)=0% indirect control through Agesca Nerdeland.[16] Thus, Frère family has 46.2%+0%=46.2% of control rights in GBL.

Over the past decade, the trend of mergers and acquisitions in financial markets has led many companies to refocus their businesses. This led ownership and control structure of many companies to change over time. For instance, GBL ceased Royale Vendome, sold Royale Belge to French Axa and BBL to Dutch ING, started holding indirect shares in Suez starting in 1998, merged by absorbtion with Electrafina in 2001. Many other activities are undertaken along the different control chains of the formation and this change in ownership-control for Frère group over time can be seen from Figures 2 and 3.

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[16] Note that we use 0% from Agesca Nerdeland, to Parjointco (instead of 49%); from Parjointco to Pargesa Holding (instead of 50%); from Pargesa Holding to GBL (instead of 47.4%), because the associated control rights are already taken into account in the pyramidal chain.

Moving to 1999, we find that the ownership stake of the Frère family increases to 5.5% (=2.8% direct + 1.3% indirect through CNP + 1.4% through Agesca Nerdeland), and using the weakest direct and indirect links the family's control rights becomes 43.3%. Finally in 2005, Frère family has 6.3% of ownership and 42.6% of control rights in company GBL. Overall, the control-ownership diversion decreases (i.e., improves) from 15.4=46.2%/2.98% to 7.8=43.3%/5.5% in 1999 and to 6.19=38.6%/6.2% in 2005 (approximately 40% in control/cash-flow wedge from 1996 to 2005). This in fact proves that ownership structure should be treated as a dynamic (should have a time-dimension) rather than static variable, especially given the fact that markets have experienced big merger and acquisition waves over the past decade, leading substantial changes in ownership structures.

Frère Family

100% O&C

Frère-Bourgeois

54.5% O&C

Erbe

54.1% O&C

Fibelpar

46.2% O&C

Compagnie National á Portefeuille (CNP)

Power Corp.

89.5 % O
49.0% C

Agesca Nerdeland

50.0% O&C

10.5 % O
51% C

50.0% O&C

Parjointco

55.5 % O
62.5% C

Pargesa Holding

69.0% O&C Orior

47.4% O&C

30.2% O&C

47.6%

Transcor 47.6%

GBL

27.0% O&C Parfinance

52.7% O&C

Belgian Sky 38.0%

25.1% O&C

Royale Vendome

7.6% O&C

76.8% O&C

Electrafina

Imétal

50.0% Dupuis 50.0%

12.4% O&C

34.9% O&C

22.6% O&C

20.5% O&C

4.2% O&C

21.7% Bernheim 40.5%

Royale Belge

CLMM

Tractebel

20.4%

22.8% O&C

6.5% O&C

Dewaay 49.0%

12.4% O&C

51.6% O&C

Petrofina

BBL

Audiofina

66.7% O&C Nimex

95.9% O&C

100% O&C

Fratel

Cometra

81.3% O&C

15.5% O&C

CLT

Figure 1. Frère Family and Ownership (O) and Control (C) structure of Groupe Bruxelles Lambert (GBL) in 1996

Frère Family

100% O&C

Frère-Bourgeois

54.5% O&C

11.3% O&C

10.5 % O
51% C

Paribas

45.5% O&C

Erbe

43.3% O&C

Compagnie National á Portefeuille (CNP)

89.5 % O
49.0% C

Power Corporation

Agesca Nerdeland

50.0% O&C

50.0% O&C

Parjointco

54.2 % O
61.9% C

Pargesa Holding

48.8% O&C

0.3% O&C

GBL

Distripar | 76.0%

Audiofina

76.8% O&C

Ijsboerke | 100.0%

50% O&C

51.2% O&C

Electrafina

Ed. Dupuis | 100.0%

Transcor | 95.2%

CLT-UFA

26.3% O&C

26.1% O&C

H. Charleroi | 50.0%

22.6% O&C

10.7% O&C

ACP | 28.3%

84.5% O&C

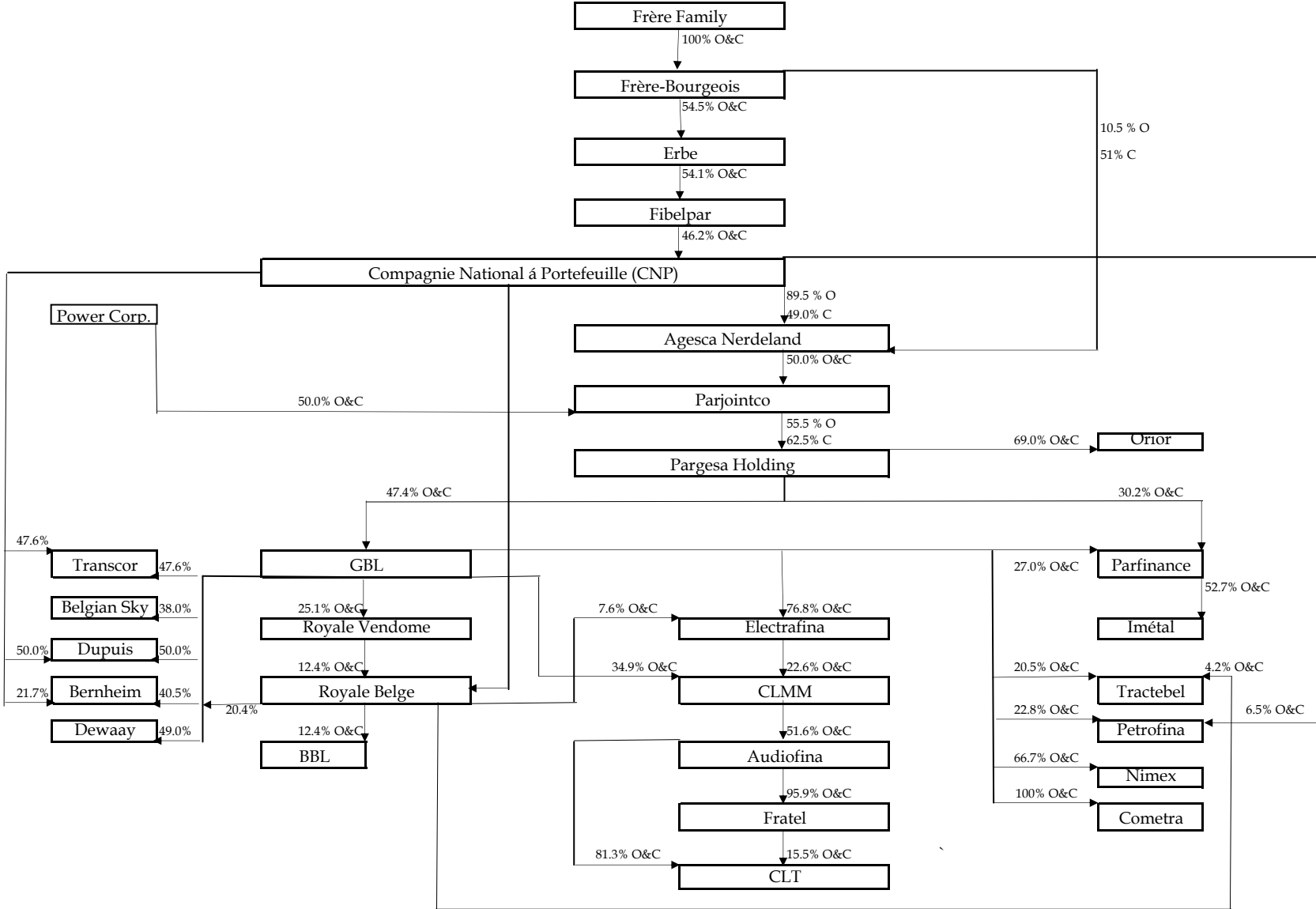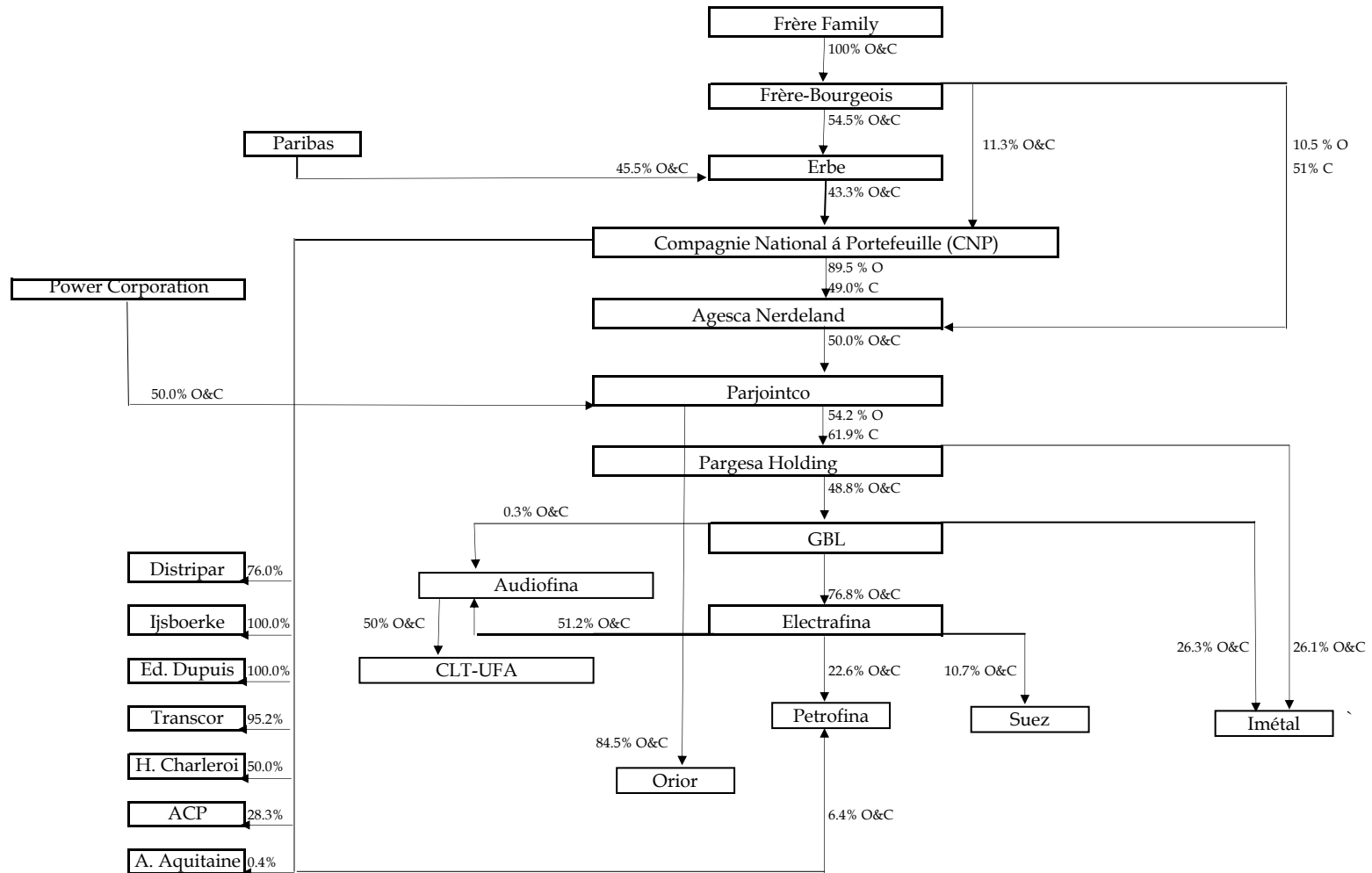Petrofina

Suez

Imétal

A. Aquitaine | 0.4%

Orior

6.4% O&C

Figure 2. Frère Family and Ownership (O) and Control (C) structure of Groupe Bruxelles Lambert (GBL) in 1999
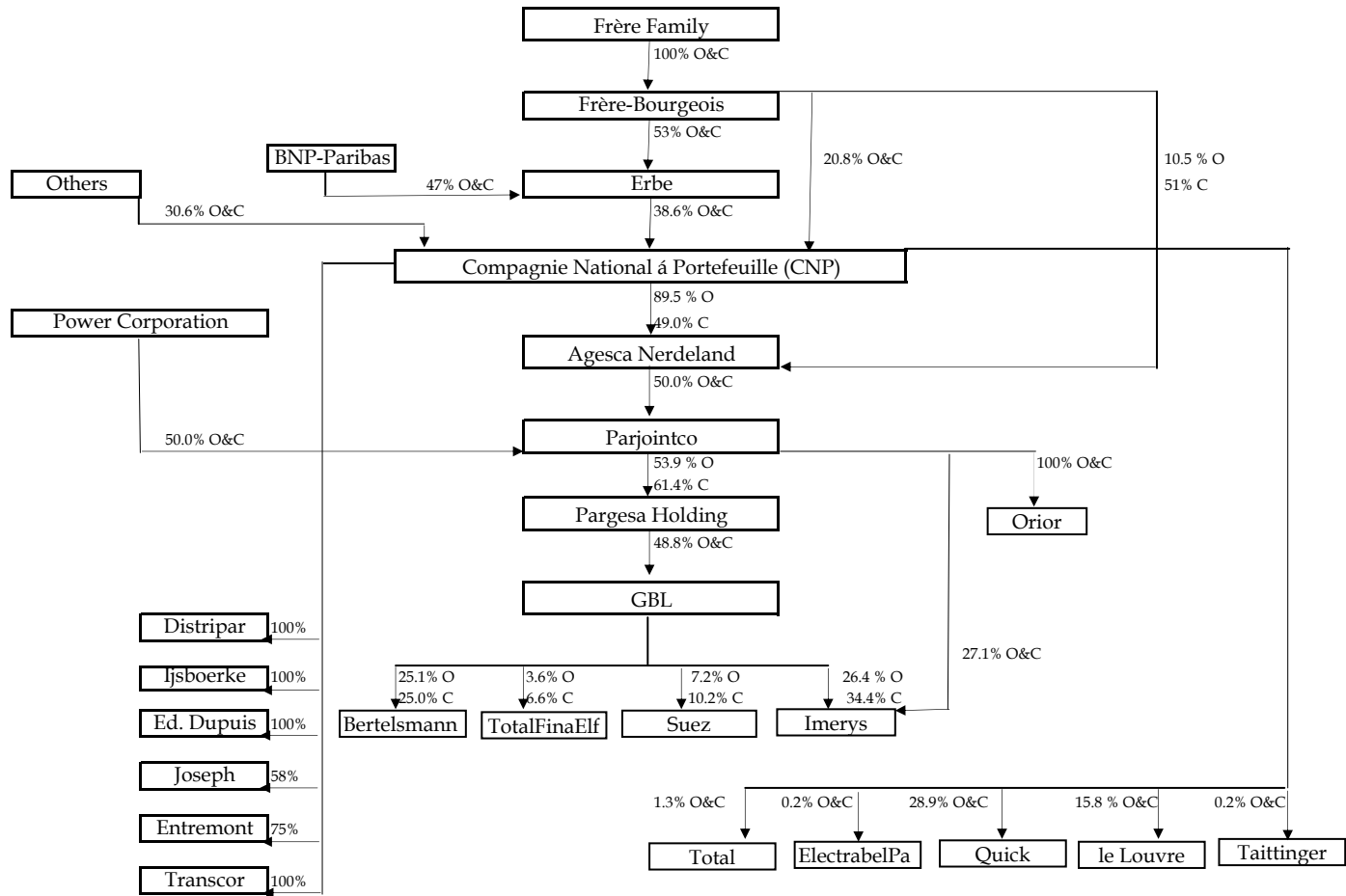
Figure 3. Frère Family and Ownership (O) and Control (C) structure of Groupe Bruxelles Lambert (GBL) in 2005

Table 1. Descriptive Statistics for Key Loan and Ownership Characteristics

This table provides the sample averages of some salient loan and ownership characteristics for the study sample, consisting of non-financial and non-public sector corporations between 1996 and 2007 from 13 European and 9 East Asian countries. *Maturity* is the average loan term (in months), *all-in spread* is the average spread above benchmark. *CashFlow Rights* are the equity ownership rights. *Control rights* is the voting rights held by the dominant blockholder. *Second Controller* is a dummy which equals one if there is another blockholder with at least 10% of voting rights. *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *MktCap* is the value of equity. The scores onp *Creditor Rights* indexes are presented in the last column.

Country	Number of loans	Number of lenders	Loan Maturity (months)	Loan All-in Spread (bps)	Loan Size (millions of dollars)	MktCap (millions of dollars)	Control Rights	CashFlow rights	Control > Cash-flow	Second Controller	Market	Creditor Rights
Austria	6	11.33	71.8	23.75	683.45	5,745.73	0.43	0.43	0.00	0.67	0	3.0
Belgium	24	10.04	45.7	39.33	952.65	9,158.12	0.40	0.28	0.83	0.13	0	2.0
Finland	53	10.28	64.4	36.12	868.06	2,868.68	0.44	0.38	0.51	0.35	0	1.0
France	446	13.28	61.8	115.53	1,466.04	8,940.12	0.58	0.57	0.08	0.05	0	0.0
Germany	306	15.14	61.2	131.46	3,633.59	15,275.52	0.47	0.42	0.33	0.17	0	3.0
Hong Kong	665	3.97	52.3	59.85	82.94	5,467.73	0.25	0.24	0.11	0.84	1	4.0
Indonesia	33	10.01	54.9	206.25	493.02	5,163,443.75	0.26	0.14	0.81	0.79	0	2.0
Ireland	60	7.79	63.2	220.56	2,018.12	1,905.39	0.41	0.40	0.01	0.00	0	1.0
Italy	93	14.61	47.1	85.59	5,473.40	14,181.72	0.52	0.32	0.74	0.08	0	2.0
Japan	1838	6.19	40.2	38.99	269.12	141,029.35	0.09	0.06	0.61	0.35	0	2.0
Korea (South)	591	5.36	60.2	70.76	257.92	2,605,101.08	0.23	0.19	0.26	0.44	1	3.0
Malaysia	201	4.06	67.3	78.94	102.29	33,261.90	0.38	0.33	0.23	0.96	1	3.0
Norway	136	6.76	64.9	112.99	407.85	9,574.75	0.46	0.36	0.42	0.20	0	2.0
Philippines	190	5.69	67.7	185.21	318.83	42,649.57	0.28	0.22	0.47	0.89	1	1.0
Portugal	9	14.40	28.8	43.50	644.72	7,296.86	0.35	0.35	0.00	0.22	0	1.0
Singapore	183	3.96	49.1	77.33	160.46	938.53	0.28	0.19	0.71	0.86	1	3.0
Spain	127	14.31	63.7	104.40	2,085.73	10.188.65	0.42	0.41	0.06	0.06	0	2.0
Sweden	133	9.65	63.9	113.08	509.40	21,273.16	0.24	0.17	0.38	0.02	1	1.0
Switzerland	57	11.92	48.3	91.88	1,106.92	32,658.79	0.31	0.27	0.24	0.25	0	1.0
Taiwan	346	7.69	61.3	93.50	11.18	7,750.48	0.22	0.19	0.35	0.68	1	2.0
Thailand	243	6.05	72.3	24.66	173.91	14,276.68	0.45	0.45	0.03	0.79	1	2.0
United Kingdom	1474	8.75	58.5	138.70	1,773.94	5,845.44	0.24	0.21	0.22	0.01	1	4.0

Table 2. Loan Pricing, Ownership, and Control Rights

This table reports results from loan pricing regressions where the dependent variable is the all-in-drawn spread (in basis points) above benchmark. The explanatory variables include firm-specific, loan-specific and country specific variables. *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights. *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash,* Leverage is the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
CashFlow	-7.820**	(-2.07)	-6.344***	(-2.71)	-6.332***	(-2.62)
ControlCash	-	-	16.61***	(2.63)	16.31***	(4.22)
ControlCashHigh	-	-	-	-	22.05*	(1.77)
Log (Firm Size)	-25.45***	(-21.4)	-23.38***	(-16.03)	-23.12***	(-15.7)
Leverage	14.39***	(8.01)	10.84***	(5.75)	10.88***	(5.09)
Earnings	-21.58	(-0.84)	-11.60	(-0.22)	-13.07*	(-1.73)
Tangibles	-17.15***	(-7.65)	-19.66***	(-5.94)	-18.64***	(-5.77)
Type	21.52***	(5.00)	16.61***	(3.18)	16.49***	(3.14)
AltmanZ	-0.952***	(-3.42)	-0.714**	(-2.31)	-0.685**	(-2.20)
Market	-14.23***	(-4.20)	-20.12***	(-3.16)	-15.44***	(-4.10)
Stock Market Cap./GDP	-6.953	(-1.44)	-3.622*	(-1.99)	-6.875	(-1.55)
Private Bond Market Cap./GDP	-2.692***	(-3.19)	-2.598***	(-2.80)	-6.082***	(-2.85)
Public Bond Market Cap./GDP	-3.609***	(-4.07)	-2.324**	(-3.19)	-3.521***	(-3.43)
Creditor Rights	-3.059**	(-2.10)	-5.663***	(-3.13)	-7.006***	(-2.29)
Sharing	-0.770	(-1.57)	-8.719	(-1.52)	-7.851	(-1.55)
R-squared	0.48		0.48		0.51	
Number of observations used	3214		3214		3214	
firm fixed effects	yes		yes		yes	
year fixed effects	yes		yes		yes	
Country fixed effects	yes		yes		yes	

Table 3. Loan Maturity, Ownership, and Control Rights

This table reports results from loan pricing regressions where the dependent variable is logarithm of the maturity in months. The explanatory variables include firm-specific, loan-specific and country specific variables. *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash,* Leverage is the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
CashFlow	0.059***	(6.95)	0.068***	(6.71)	0.064***	(7.20)
ControlCash	-	-	-0.088***	(-3.77)	-0.094***	(-2.74)
ControlCashHigh	-	-	-	-	-0.213***	(-2.75)
Log (Firm Size)	0.011*	(1.73)	0.012*	(1.72)	0.013*	(1.89)
Leverage	-0.089***	(-3.32)	-0.044***	(-4.60)	-0.057***	(-3.78)
Earnings	0.020**	(2.13)	0.022**	(2.10)	0.022*	(1.89)
Tangibles	0.269***	(5.35)	0.274***	(4.92)	0.280***	(5.07)
Type	0.156***	(23.1)	0.164***	(21.8)	0.162***	(21.7)
AltmanZ	0.125**	(2.50)	0.139***	(2.80)	0.147***	(2.84)
Market	0.102***	(3.26)	0.116**	(2.06)	0.109**	(2.13)
Log (AssetMaturity)	0.019**	(2.19)	0.014*	(1.89)	0.018**	(2.27)
Stock Market Cap./GDP	-0.038	(-1.49)	-0.028	(-1.55)	-0.024	(-1.48)
Private Bond Market Cap./GDP	-0.068***	(-6.69)	-0.062***	(-6.01)	-0.060***	(-5.86)
Public Bond Market Cap./GDP	-0.047***	(-15.6)	-0.047***	(-13.7)	-0.048***	(-13.8)
Creditor Rights	0.065***	(5.34)	0.067***	(4.76)	0.066***	(4.68)
Sharing	0.025**	(2.03)	0.020**	(2.28)	0.017**	(2.02)
R-squared	0.36		0.36		0.38	
Number of observations used	5658		5658		5658	
firm fixed effects	yes		yes		yes	
year fixed effects	yes		yes		yes	
country fixed effects	yes		yes		yes	

Table 4. Syndicate Size, Ownership, and Control Rights

This table reports results from loan pricing regressions where the dependent variable is logarithm of the number of lenders. The explanatory variables include firm-specific, loan-specific and country specific variables. *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights. *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash,* Leverage is the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
CashFlow	-0.038***	(-3.53)	-0.044***	(-3.82)	-0.053***	(-4.23)
ControlCash	-	-	0.103*	(1.72)	0.076**	(2.09)
ControlCashHigh	-	-	-	-	0.120*	(1.84)
Log (Firm Size)	0.132***	(13.5)	0.131***	(13.2)	0.131***	(13.2)
Leverage	0.182*	(1.79)	0.192*	(1.87)	0.184*	(1.80)
Earnings	-0.952***	(-4.03)	-0.953***	(-4.03)	-0.948***	(-4.00)
Tangibles	-0.087***	(-11.5)	-0.086***	(-11.5)	-0.087***	(-11.4)
AltmanZ	-0.063	(-0.27)	-0.063	(-0.53)	-0.058	(-0.25)
Type	0.177***	(4.78)	0.178***	(4.75)	0.175***	(5.69)
Market	-0.087	(-1.16)	-0.091*	(-1.89)	-0.086	(-1.47)
Reputation	0.026**	(2.34)	0.016***	(2.87)	0.013*	(1.89)
Stock Market Cap./GDP	-0.071***	(-3.39)	-0.068***	(-3.26)	-0.062***	(-2.94)
Private Bond Market Cap./GDP	-0.148	(-1.09)	-0.127	(-0.93)	-0.133	(-0.98)
Public Bond Market Cap./GDP	0.032	(0.63)	0.027	(0.53)	0.019	(1.37)
Creditor Rights	-0.083***	(-4.32)	-0.077***	(-4.28)	-0.077***	(-4.23)
Sharing	-0.505***	(-5.21)	-0.516***	(-5.29)	-0.504***	(-5.16)
R-squared	0.41		0.44		0.44	
Number of observations used	6029		6029		6029	
firm fixed effects	yes		yes		yes	
year fixed effects	yes		yes		yes	
country fixed effects	yes		yes		yes	

Table 5. Loan Pricing, Maturity, Syndicate Size, Default Risk, Ownership and Control Rights

This table reports the analysis of the joint impact of the control and ownership rights along with default risk on bank loan terms. The dependent variable is the all-in-drawn spread (in basis points) above benchmark in Panel A, logarithm of the maturity in months in Panel B and logarithm of the number of lenders in Panel C. Control variables include *CashFlow* which is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights, *ControlCashHigh* is a dummy that takes the value 1 for higher than mean values of *ControlCash. AltmanZ* is constructed according to Altman (1968). *HighDefRisk* is a dummy that takes value of 1 for high-default risk companies based on median Altman Z measure, zero otherwise. Other controls (not shown) include *Leverage* which is defined as the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Panel A: Spread						
Cashflow	-5.416**	(-2.15)	-5.897***	(-2.66)	-5.124*	(-2.13)
ControlCash	-	-	16.22***	(3.48)	15.43***	(2.99)
ControlCashHigh	-	-	-	-	20.18**	(2.43)
AltmanZ	-1.180**	(-2.66)	-1.028**	(-2.55)	-0.923*	(-1.87)
Cashflow*HighDefRisk	1.277	(1.23)	1.334	(1.12)	1.105*	(1.76)
ControlCash*HighDefRisk	-	-	4.090**	(2.30)	3.494**	(2.11)
Panel B: Maturity						
Cashflow	0.073**	(2.45)	0.064***	(2.58)	0.069**	(2.20)
ControlCash	-	-	-0.180***	(-2.76)	-0.165**	(-2.33)
ControlCashHigh	-	-	-	-	-0.182***	(-3.76)
AltmanZ	0.129***	(2.83)	0.110***	(3.11)	0.112**	(2.16)
Cashflow*HighDefRisk	-0.053*	(-1.76)	-0.048	(-1.16)	-0.034	(-1.42)
ControlCash*HighDefRisk	-	-	-0.435**	(-2.35)	-0.628**	(-2.36)
Panel C: Lenders						
Cashflow	-0.010**	(-2.47)	-0.008**	(-2.44)	-0.009**	(-2.10)
ControlCash	-	-	0.043***	(3.76)	0.040***	(3.51)
ControlCashHigh	-	-	-	-	0.108***	(2.79)
AltmanZ	-0.059***	(-3.19)	-0.053***	(-3.55)	-0.044***	(-2.72)
Cashflow*HighDefRisk	-0.080	(-1.43)	-0.007	(-1.46)	-0.005	(-1.16)
ControlCash*HighDefRisk	-	-	0.020**	(2.38)	0.015*	(2.11)

Table 6. Loan Pricing, Maturity, Syndicate Size, Ownership and Control Rights by Region

This table reports results from regressions for Europe and East Asian sample countries separately. The dependent variables are the all-in-drawn spread (in basis points) above benchmark, logarithm of the maturity in months or logarithm of the number of lenders. Control variables include *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights, *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash.* Other controls (not shown) include *Leverage* which is defined as the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. *Family* is a dummy which equals one if the founding family owns shares in the firm, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Europe		East Asia	
Panel A: Spread	Model 2		Model 3	
Cashflow	-5.499**	-5.219**	-10.25***	-8.31***
	(-2.22)	(-2.23)	(-3.10)	(-3.88)
ControlCash	12.16**	12.01***	19.23***	17.55***
	(2.19)	(2.84)	(3.71)	(3.18)
ControlCashHigh		17.42***		26.17***
		(5.11)		(5.43)
Number of observations used	2189	2189	1025	1025
Panel B: Maturity	Model 2		Model 3	
Cashflow	0.032*	0.021*	0.134***	0.095***
	(1.87)	(1.78)	(3.82)	(2.85)
ControlCash	-0.074***	-0.071***	-0.158***	-0.152***
	(-3.43)	(-2.99)	(-2.89)	(-3.01)
ControlCashHigh		-0.149***		-0.234***
		(-3.72)		(-2.88)
Number of observations used	2501	2501	3157	3157
Panel C: Lenders	Model 2		Model 3	
Cashflow	-0.027**	-0.035**	-0.099***	-0.091***
	(-2.27)	(-2.23)	(-3.00)	(-4.22)
ControlCash	0.041*	0.044*	0.137**	0.129***
	(1.68)	(1.77)	(2.19)	(4.86)
ControlCashHigh		0.086***		0.155***
		(3.65)		(3.19)
Number of observations used	2382	2382	3647	3647

Table 7. Loan Pricing, Maturity, Syndicate Size, Ownership and Control Rights for Affiliated and Non-affiliated Companies

This table reports results from regressions of affiliated and non-affiliated firms where the dependent variable is the all-in-drawn spread (in basis points) above benchmark, logarithm of the maturity in months or logarithm of the number of lenders. A corporation is defined as affiliated if it belongs to a group that also controls a financial institution. Control variables include *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights, *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash*. *Leverage* is the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Non-affiliated Corporations			Affiliated Corporations		
	Spread	Maturity	Lenders	Spread	Maturity	Lenders
CashFlow	-7.957***	0.041***	-0.077***	-1.299	0.032	0.016**
	(-3.41)	(4.00)	(-2.60)	(-0.74)	(0.62)	(2.06)
ControlCash	17.10***	-0.118***	0.086***	6.275***	0.074**	0.025***
	(2.94)	(-2.88)	(2.95)	(3.12)	(2.44)	(2.90)
Log (Firm Size)	-26.41***	0.022**	0.166***	-9.509***	-0.013	0.075***
	(-17.1)	(2.39)	(14.0)	(-2.90)	(-0.84)	(3.78)
Leverage	20.67***	-0.026***	0.322***	11.21***	0.024	-0.038
	(5.56)	(-3.77)	(2.75)	(3.15)	(1.34)	(-0.17)
Earnings	-13.50	0.067***	-0.120***	7.510	0.079*	-0.049
	(-0.20)	(3.40)	(-2.85)	(1.11)	(1.69)	(-0.64)
Tangibles	-16.71***	0.127***	-0.153***	-14.08*	0.039*	0.021
	(-5.89)	(3.52)	(-10.4)	(-1.73)	(1.80)	(0.78)
AltmanZ	-0.064**	0.029***	0.017	0.341	-0.042	-0.125
	(-2.14)	(2.58)	(0.72)	(1.20)	(-0.59)	(-1.43)
Type	26.21***	0.201***	0.212***	-8.75***	0.010***	-0.012*
	(5.00)	(5.98)	(4.90)	(-4.86)	(9.44)	(-1.97)
Market	-15.73***	0.125***	-0.513	-10.49	0.025	0.133***
	(-3.26)	(2.76)	(-1.21)	(-1.02)	(0.87)	(3.72)
Log (AssetMaturity)	-	0.015**	-	-	0.001	-
	-	(2.11)	-	-	(1.16)	-
Reputation	-	-	0.001*	-	-	0.010**
	-	-	(1.77)	-	-	(2.20)
Stock Market Cap./GDP	-2.608**	-0.048***	-0.066***	0.007	0.038***	0.005***
	(-2.03)	(-2.83)	(-3.06)	(0.49)	(3.27)	(3.72)
Private Bond Market Cap./GDP	-1.388*	-0.043***	-0.051*	-0.838	0.064*	0.023***
	(-1.79)	(-3.67)	(-1.74)	(-1.24)	(1.85)	(2.90)
Public Bond Market Cap./GDP	-2.565	-0.058***	0.069*	-0.787	0.024***	-0.017
	(-1.52)	(-9.45)	(1.86)	(-0.80)	(2.65)	(-0.12)

Table 7 (continued). Loan Pricing, Maturity, Syndicate Size, Ownership and Control Rights for Affiliated and Non-affiliated Companies

Creditor Rights	-5.016**	0.070***	-0.088***	0.746	-0.074	0.036
	(-2.39)	(4.54)	(-4.54)	(1.03)	(-1.38)	(0.56)
Sharing	-8.119***	-0.044	-0.052***	-0.034	0.076	0.098
	(-3.10)	(-0.06)	(-5.02)	(-1.40)	(1.10)	(1.13)
R-squared	0.50	0.50	0.51	0.48	0.47	0.48
Number of observations used	2287	3363	3899	927	1562	2130
firm fixed effects	yes	yes	yes	Yes	yes	yes
year fixed effects	yes	yes	yes	Yes	yes	yes
country fixed effects	yes	yes	yes	Yes	yes	yes

Table 8. Loan Pricing, Collateralization, Ownership, and Control Rights

This table reports the analysis of the joint impact of the control and ownership rights, and individual bank covenants on the bank loan terms. The dependent variable is the all-in-drawn spread (in basis points) above benchmark in Panel A, logarithm of the maturity in months in Panel B and logarithm of the number of lenders in Panel C. Control variables include *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights, *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash*. *NotSecured* is a dummy variable that takes on 1 for loans not secured, 0 otherwise. Other controls (not shown) include *Leverage* which is defined as the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Panel A: Spread						
Cashflow	-8.122***	(-4.13)	-7.282*	(-1.74)	-6.829*	(-1.96)
ControlCash	-	-	14.98***	(3.03)	16.75**	(2.01)
ControlCashHigh	-	-	-	-	19.28***	(4.12)
NotSecured	-9.293***	(-3.98)	-8.110**	(-2.26)	-8.274***	(-3.33)
Cashflow*NotSecured	-1.726**	(-2.16)	-1.008**	(-2.33)	-1.129***	(-3.98)
ControlCash*NotSecured	-	-	3.726***	(3.24)	4.288***	(4.76)
Panel B: Maturity						
Cashflow	0.060***	(6.68)	0.058***	(3.19)	0.064***	(3.77)
ControlCash	-	-	-0.103***	(-3.26)	-0.119***	(-4.66)
ControlCashHigh	-	-	-	-	-0.198*	(-1.79)
NotSecured	0.161**	(2.17)	0.188***	(3.14)	0.176**	(2.11)
Cashflow*NotSecured	0.004***	(4.25)	0.004***	(4.50)	0.002***	(3.73)
ControlCash*NotSecured	-	-	-0.067***	(-3.22)	-0.066***	(-3.09)
Panel C: Lenders						
Cashflow	-0.012***	(-7.03)	-0.007***	(-4.08)	-0.005***	(-2.99)
ControlCash	-	-	0.076***	(3.67)	0.095***	(3.43)
ControlCashHigh	-	-	-	-	0.115***	(2.63)
NotSecured	-0.044**	(-2.33)	-0.031**	(-2.16)	-0.048**	(-2.32)
Cashflow*NotSecured	-0.016***	(-8.84)	-0.016***	(-8.09)	-0.013***	(-7.61)
ControlCash*NotSecured	-	-	0.021	(1.14)	0.038	(0.46)

Table 9. Loan Pricing, Presence of Second Blockholder, Ownership, and Control Rights

This table reports the analysis of the joint impact of the control and ownership rights along with second controller on the bank loan terms. The dependent variable is the all-in-drawn spread (in basis points) above benchmark in Panel A, logarithm of the maturity in months in Panel B and logarithm of the number of lenders in Panel C. Control variables include *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights, *ControlCashHigh* is a dummy variable that takes the value 1 for higher than mean values of *ControlCash*. *SecondController* is a dummy which equals one if there is another blockholder with at least 10% of voting rights. Other controls (not shown) include *Leverage* which is defined as the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Panel A: Spread						
Cashflow	-5.198	(-1.49)	-6.254***	(-3.56)	-8.023***	(-2.98)
ControlCash	-	-	16.53***	(4.49)	17.29**	(2.16)
ControlCashHigh	-	-	-	-	-20.73*	(-1.89)
SecondController	-9.182**	(-2.15)	-8.282	(-1.21)	-7.839	(-0.66)
Cashflow*SecondController	-1.267***	(-4.12)	-1.425***	(-3.06)	-1.665***	(-3.19)
ControlCash*SecondController	-	-	-3.029**	(-2.14)	-3.926**	(-2.21)
Panel B: Maturity						
Cashflow	0.076***	(10.2)	0.080***	(9.29)	0.077***	(9.16)
ControlCash	-	-	-0.112***	(-3.77)	-0.119***	(-3.29)
ControlCashHigh	-	-	-	-	0.198***	(4.56)
SecondController	0.031***	(5.44)	0.044***	(4.11)	0.044***	(4.82)
Cashflow*SecondController	0.029	(1.56)	0.042	(0.55)	0.053	(1.17)
ControlCash*SecondController	-	-	0.038*	(1.72)	0.042*	(1.68)
Panel C: Lenders						
Cashflow	-0.007	(-1.17)	-0.007***	(-7.21)	-0.009***	(-9.19)
ControlCash	-	-	0.076***	(6.80)	0.083***	(5.22)
ControlCashHigh	-	-	-	-	0.068***	(5.15)
SecondController	-0.019***	(-4.11)	-0.034**	(-2.29)	-0.076***	(-3.76)
Cashflow*SecondController	-0.006	(-1.33)	-0.003	(-0.52)	-0.005*	(-1.91)
ControlCash*SecondController	-	-	-0.038**	(-2.18)	-0.056***	(-2.76)

Table 10. Loan Pricing, Maturity, Syndicate Size, Family Founders, Ownership and Control Rights

This table examines the joint impact of control and ownership rights along with family existence on the bank loan terms. The dependent variable is the all-in-drawn spread (in basis points) above benchmark in Panel A, logarithm of the maturity in months in Panel B and logarithm of the number of lenders in Panel C. *Family* is a dummy equals 1 if the founding family is involved, zero otherwise. *CashFlow* is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights, *ControlCashHigh* is a dummy that takes the value 1 for higher than mean values of *ControlCash*. Other controls (not shown) include *Leverage* which is defined as the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock market cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

	Model 1		Model 2		Model 3	
	Estimate	t-stat	Estimate	t-stat	Estimate	t-stat
Panel A: Spread						
Cashflow	-6.201*	(-1.98)	-5.292**	(-2.30)	-7.380*	(-1.76)
ControlCash	-	-	18.15**	(2.33)	17.40***	(3.61)
ControlCashHigh	-	-	-	-	23.32***	(3.22)
Family	4.115*	(1.72)	3.083*	(1.91)	3.089	(1.25)
Cashflow*Family	1.126	(0.43)	1.109	(0.98)	1.007	(1.01)
ControlCash*Family	-	-	4.325**	(2.19)	3.262**	(2.07)
Panel B: Maturity						
Cashflow	0.065*	(1.76)	0.072**	(2.36)	0.054***	(3.73)
ControlCash	-	-	-0.161***	(-3.19)	-0.143**	(-2.21)
ControlCashHigh	-	-	-	-	-0.205***	(-2.80)
Family	-0.072**	(-2.19)	-0.063**	(-2.07)	-0.065*	(-1.93)
Cashflow*Family	0.010	(1.03)	0.011	(1.48)	0.014	(1.19)
ControlCash*Family	-	-	-0.019**	(-2.43)	-0.011**	(-2.16)
Panel C: Lenders						
Cashflow	-0.008*	(-1.93)	-0.010**	(-2.09)	-0.009**	(-2.00)
ControlCash	-	-	0.034***	(3.17)	0.033***	(2.86)
ControlCashHigh	-	-	-	-	0.090***	(4.44)
Family	0.076**	(2.17)	0.071	(1.08)	0.064*	(1.72)
Cashflow*Family	-0.012	(-1.43)	-0.014	(-1.46)	-0.013	(-1.16)
ControlCash*Family	-	-	0.035*	(1.72)	0.047*	(1.88)

Table 11. Simultaneous Estimation of the Impact of Ownership and Control Rights on Loan Pricing, Maturity, and Syndicate Size

This table reports results from of simultaneous system of equations to estimate the impact of wedge between controlling blockholder's control and cash-flow rights on loan pricing, maturity, lenders.

$$\begin{cases} y_1 = b_{12} y_2 + \lambda_1 x_1 + u_1 \\ y_2 = b_{21} y_1 + \lambda_2 x_2 + u_2 \\ y_3 = b_{31} y_1 + b_{32} y_2 + \lambda_3 x_3 + u_3 \end{cases}$$

Endogenous variables denoted by y_1, y_2, y_3 are the *Spread* which is the all-in-drawn spread (in basis points) above benchmark, *Maturity* which is the logarithm of the maturity in months and *Lenders* which is logarithm of the number of lenders in a syndicate. x_1, x_2 and x_3 are the vectors of exogenous variables; b and λ are the structural parameters. Control variables include *CashFlow* which is the equity ownership rights. *ControlCash* is the ratio of control rights to cash-flow rights. Leverage is the total debt (long-term plus short-term) divided by total assets of the firm. *Earnings* is the ratio of EBITDA of the firm to total assets of the firm. *Tangibles* is the ratio of net property, plant and equipment to total assets. *Type* is a dummy variable equal to one if loan is a term loan and zero otherwise. *AltmanZ* is constructed according to Altman (1968), *Market* is a dummy variable that takes on the value 1 for market-based financial systems and 0 for bank-based systems. *AssetMaturity* is the weighted average of current assets divided by the cost of goods sold, and net property, plant, and equipment divided by depreciation and amortization. *Reputation* is a measure of repeat-transaction activity between the lead bank and the observed syndicate participants. *Stock Market Cap./GDP* is Stock market capitalization as a percentage to GDP, *Private Bond Market Cap./GDP* (*Public Bond Market Cap./GDP*) is the private (public) domestic debt securities issued by financial institutions and corporations as a share of GDP. *GDP* is the logarithm of gross domestic product per capita. *Creditor Rights* is an index aggregating different creditor rights adding a score of 1 when there are restrictions, such as creditor consent or minimum dividends, for a debtor to file for reorganization; when secured creditors are able to seize their collateral after the reorganization petition is approved; if secured creditors are paid first out of the proceeds of liquidating a bankrupt firm, as opposed to other creditors such as government or workers; if management does not retain administration of its property pending the resolution of the reorganization. The index ranges from 0 (weak creditor rights) to 4 (strong creditor rights). *Sharing* is a dummy variable equal to one if either a public registry or a private bureau operates in the country, zero otherwise. (*), (**) and (***) indicate significance at the 10%, 5% and 1% levels.

Table 11 (continued). Simultaneous Estimation of the Impact of Ownership and Control Rights on Loan Pricing, Maturity, and Syndicate Size

	Two-Stage Least Squares					
	Spread		Maturity		Lenders	
CashFlow	-9.671*	(-1.98)	0.117***	(2.83)	-0.005***	(-2.66)
ControlCash	24.10***	(3.76)	-0.162***	(-3.26)	0.116***	(4.12)
Log (Firm Size)	-21.73***	(-8.32)	0.051***	(8.19)	0.231***	(8.44)
Leverage	25.19***	(4.33)	-0.123**	(-2.18)	0.502***	(2.60)
Earnings	-16.20	(-0.98)	0.150**	(2.25)	-0.276	(-1.07)
Tangibles	-25.42***	(-3.55)	0.109**	(2.13)	0.098	(0.66)
AltmanZ	-1.342***	(-2.77)	0.152**	(2.46)	-0.109***	(3.82)
LnMaturity	7.633**	(2.19)	-	-	-0.054	(-1.14)
LnLenders	1.282	(1.38)	0.033	(0.61)	-	-
Log (AssetMaturity)	-	-	0.086***	(3.04)	-	-
Reputation	-	-	-	-	0.019**	(2.09)
Type	15.29***	(2.91)	0.173***	(4.19)	-0.010	(-1.29)
Market	-11.67***	(-5.00)	0.032*	(1.99)	-0.011***	(-2.75)
Stock Market Cap./GDP	-3.409	(-1.16)	0.016	(1.09)	0.004	(0.55)
Private Bond Market Cap./GDP	-8.280***	(-2.88)	0.130	(0.54)	-0.003	(-1.41)
Public Bond Market Cap./GDP	-2.839**	(-2.01)	0.081***	(5.08)	-0.005***	(-3.38)
Creditor Rights	-4.261***	(-3.51)	0.054**	(2.33)	-0.011***	(-3.00)
Sharing	-5.292	(-0.88)	-0.076	(-0.51)	-0.015	(-1.19)
R-squared	0.63		0.61		0.60	
firm fixed effects	yes		yes		yes	
year fixed effects	yes		yes		yes	
country-fixed-effects	yes		yes		yes	