

Creditor Rights Protection, Ultimate Ownership and the Debt Financing Costs and Ratings: International Evidence

Narjess Boubakri
HEC Montréal
Finance Department
3000, Côte Sainte Catherine
Montréal, Québec, Canada H3T 2A7
Fax: 514 340 5632
Narjess.Boubakri@hec.ca

Hatem Ghouma
HEC Montréal
Finance Department,
3000, Côte Sainte Catherine
Montréal, Québec, Canada H3T 2A7
Phone : 514 340-6000 # 2838
Fax: 514 340 5632
Hatem.Ghouma@hec.ca

We would like to thank Maria Boutchkova, Jean-Claude Cosset, Georges Dionne, Donald Fraser, Nabil Ghaleb, Omrane Guedhami, Douglas Hodgson, Amrita Nain and Chen Zhian for their valuable comments and suggestions. We also thank seminar participants at the 2006 CIRPEE meetings in Val-Morin (Canada), the 2007 IFC4 in Tunisia and the 2007 EFMA Symposium on Corporate Governance and Shareholder Activism in Bocconi University (Italy) for their input, and Mohamed Jabir for research assistance. Financial support is acknowledged from SSRC and the Center of Research in E-Finance (HEC Montréal). Hatem Ghouma acknowledges financial support from the Tunisian Ministry of Higher Education, Scientific Research and Technology.

Creditor Rights Protection, Ultimate Ownership and the Debt Financing Costs and Ratings: International Evidence

Abstract

We explore the effect of governance on the costs and ratings of firms' bonds in a multi-national sample of firms. We find strong evidence that ultimate ownership (i.e., the voting/cash-flow rights wedge) and family control have a positive and significant effect on bond costs, and a negative and significant effect on bond ratings. Moreover, our results suggest that control in the hands of widely held financial firms has a positive effect on bond ratings *only*, and that State control has no effect on either bond costs or ratings. When we control for the institutional environment, we find that a higher protection of debtholders' rights generally reduces bond costs and increases corporate bond ratings. Our results also show that, for both bondholders and rating agencies, the enforcement of debt laws is crucially important.

Key Words: Debt Cost and Rating; Ultimate Ownership; Investor Protection; Debt Enforcement.

JEL Classification: G34; G38; F34

Creditor Rights Protection, Ultimate Ownership and the Debt Financing Costs and Ratings: International Evidence

I Introduction

Shleifer and Vishny (1997) define corporate governance as “*the ways through which suppliers of capital to corporations assure themselves of getting a return on their investment*”¹. A large body of empirical research links corporate governance (particularly ownership structure) to the managers-shareholders agency problems (Jensen, 1986; Morck et al., 1989; Walsh and Seward, 1990; Fluck, 1999; among others). However, little attention has been devoted to the shareholders-bondholders agency conflict. Indeed, Jensen and Meckling (1976) show that shareholders may expropriate wealth from bondholders by undertaking risky new projects that will allow them to reap most of the gains, while bondholders bear most of the cost (Klock, Mansi and Maxwell, 2005).

In this paper, we focus on the link between the ultimate ownership of the firm and its debt cost and rating. We look at ultimate ownership along two dimensions: (1) the discrepancy between voting and cash-flow rights of major shareholders, and (2) ultimate shareholder identity. The voting/cash-flow rights wedge measures the extent and the likelihood of expropriation by majority shareholders (Claessens et al., 2000; Faccio and Lang, 2002). Although bondholders may also face the risk that managers behave opportunistically, we choose to focus on the conflict between controlling shareholders and bondholders based on the following rationale: The literature to date shows that, outside the U.S., ownership structure is highly

¹ Shleifer and Vishny (1997), p. 737.

concentrated (Denis and McConnell, 2003).² This evidence makes expropriation by major shareholders more likely in an international setting such as ours. Moreover, managers' opportunistic behaviour is tackled to a large extent by the fact that controlling shareholders usually appoint managers among their relatives (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002), thus aligning both parties' interests. This situation in fact increases the likelihood that expropriation by controlling shareholders occurs. Assuming that bondholders anticipate such behaviour, they will require a higher premium, resulting in a higher debt cost.

Previous studies also suggest that the identity of the firms' (ultimate) owners is important to both bondholders and rating agencies. For example, families usually appoint managers among their relatives (see for example Faccio et al., 2001). This collusion may be perceived by bondholders as an increased risk of expropriation. Their rational response will be to require higher yields. In the same vein, rating agencies will award lower ratings to family firms. However, one could also argue that families are more likely to adopt value-maximizing strategies to ensure the firm's survival given that they intend to pass it on to subsequent generations (Anderson et al., 2003). Such behaviour may benefit bondholders and other stakeholders, and results in lower debt costs and higher ratings. Which of these two effects will dominate remains an open empirical question that only few studies tried to address (see for example Anderson et al. (2003) on controlling families and Bhojraj and Sengupta (2003) on the impact of institutional ownership, both set in the US context). The common ground of these studies is that they use ownership-based measures (generally the direct ownership stake) to assess the power of the main shareholder. In this paper, we use control-based rather than ownership-based measures. The data on the identity of ultimate owners allows us to determine

² Non-US studies that analyze ownership structure include, among others : Prowse (1992) in Japan, Franks and Mayer (2001) in Germany, Xu and Wang (1997) in China, Valadares and Leal (2000) in Brazil, Faccio and Lang (2002) in West Europe, and Claessens et al. (2000) in East Asia. Denis and McConnell (2003) offer an excellent literature review of this evidence.

who is perceived by bondholders and rating agencies as representing a potential risk of expropriation.

Using a multinational sample of debt issuing firms from developed and developing countries, we assess how the quality of the institutional environment conditions the agency cost of debt and credit rating across institutionally diverse environments. To our knowledge, our analysis is the first multinational study that addresses this question. Our study thus contributes to the scarce academic literature on the link between governance mechanisms and the cost of debt financing, and contributes to our understanding of the functioning of fixed income securities' markets around the world. As Shleifer and Vishny (1997) note, empirical research on creditor governance is indeed an under researched area in the corporate governance literature.

While some recent studies analyze the relationship between governance mechanisms and debt yields and ratings, (Sengupta, 1998; Bhojraj and Sengupta, 2003; Anderson et al., 2003; Ashbaugh et al., 2006), their evidence is drawn from the US, and thus cannot be generalized to other countries with less favourable legal environments. The lack of evidence on this issue is puzzling since debt constitutes an important external source of financing for publicly traded firms around the globe.

This paper also contributes to the literature on international corporate governance on other grounds: for instance, the available literature focuses primarily on direct ownership. Our analysis relies instead on ultimate ownership and allows us to control for the extent and likelihood of expropriation by controlling shareholders (i.e., extent of agency conflicts within the firm). Moreover, no other previous study looked at the potential impact of investor protection and overall quality of institutions in the country on the firms' cost of debt financing. A recent study by Ellul et al. (2005) provides the first preliminary evidence of the impact of these institutions by analyzing U.S firms and foreign firms that issue ADRs in the U.S. However, such

an approach is likely to suffer from a selection bias problem since ADR firms have to comply with (internal) corporate governance standards that are generally imposed by the American legislator and the Securities Exchange Commission (SEC). As a consequence, the firms used in Ellul et al (2005)'s study are more likely to exhibit a better governance than their local counterparts that do not issue ADRs. Finally, our framework provides us with a valuable opportunity to identify the set of institutions that the legislator needs to adjust to foster the development and well functioning of financial debt markets.

Based on a sample of corporate bond issues in 19 countries from East Asia and Western Europe, we find that the wedge between ownership and control (i.e., our proxy for expropriation) affects significantly both the debt cost and rating. With respect to the controlling shareholder's identity, we find that family control is perceived as a potential risk of expropriation by both bondholders and rating agencies as it loads a positive statistical effect on bond costs and a negative statistical effect on bond ratings. Thus, contrary to Anderson et al. (2003), who show that U.S. family firms are seen as a protector of bondholders' rights, our finding suggests instead that this type of owner is more likely to harm bondholders in other markets. By taking advantage from their controlling position, families are able to extract private benefits that are costly to all stakeholders, including bondholders. Furthermore, families often avoid ownership dilution in order to keep a tight control over the firm, which leads them to prefer debt to equity financing, hence the higher leverage of such firms. Finally, we find that control in the hands of widely held financial firms affects positively bond ratings (*only*), while State control affects neither bond costs nor ratings.

Next, we analyze the effect of the institutional environment on corporate bond costs and ratings. We consider a large set of national governance mechanisms that encompasses regulatory institutions that previous studies (e.g., La Porta et al., 1998; Dyck and Zingales, 2004;

Djankov et al., 2006; and Djankov et al., 2007) have shown to play a significant role in preserving investors' rights. Our results show that higher investors' (and essentially debt-holders') protection generally reduces bond costs (i.e., spreads), and increases corporate bond ratings. However, we document that the creditor rights index (i.e. restrictions that directly protect their rights) does not matter for bond costs and ratings, while most debt enforcement measures load statistically and economically significant coefficients. This suggests that both debtholders and rating agencies value debt enforcement rather than the mere existence of debt laws. Thus, *ceteris paribus*, authorities who are seeking to develop bond markets should put more emphasis on the enforcement of laws protecting creditors (for example, by creating credit registries) rather than seek to create and enact new laws for the book.

The remainder of this paper is organized as follows. Section II presents the theoretical framework by describing the relation between corporate governance and the debt yields (costs) and ratings. In section III we describe our models, the variable measurements, the sample and data sources, and we provide descriptive statistics. Section IV discusses our empirical evidence and Section V concludes.

II. Corporate Governance and the Agency Cost of Debt: Hypothesis Development

A. Theoretical Framework: The Agency Cost of Debt

Recent studies show that lenders do not only rely on the firm's past profitability and on the issue characteristics in order to infer the expected cash flows (and default probability). In fact, investors also price the firm's corporate governance structure. This is essentially due to the fact that the firm's success (and hence its ability to pay back its bondholders) is closely related to the extent of agency conflicts within the firm. Specifically, debtholders face essentially two major problems: i) the managers' opportunistic behaviour, and ii) the controlling shareholders' expropriation.

In financial theory, management behaviour can exacerbate the default probability of the firm. The “managerial” firm defined by Berle and Means (1932) is characterized by a separation between ownership and control, and is later defined by Jensen and Meckling (1976) as being “*a nexus for a set of contracting relationships*”³ among a number of individuals with conflicting objectives. Within this firm, managers are not a perfect agent for shareholders because they may adopt a non value-maximizing behaviour, and engage in self-serving activities such as empire building and perquisite consumption at the expense of shareholders. Moreover, since they invest their human capital in the firm, managers are less willing to engage in risky activities. This, in turn, harms shareholders that seek to have a well-diversified portfolio. Also, because of their limited horizon in the firm, managers have incentives to favour short-run projects rather than projects that ensure a continuity of the firm in the long run. In order to resolve these conflicts, Jensen and Meckling (1976) claim that the firm will support some agency costs that might reduce its value. Of course, from the creditors’, and particularly the bondholders’, point of view, this results in a higher likelihood of default. Thus, rationality encourages bondholders to require larger yields (i.e., higher costs) for firms with less disciplined managers.

Beyond managers’ opportunistic behaviour, debtholders need also worry about being expropriated by the firm’s owners. Stockholders, especially controlling shareholders, could be induced to operate wealth transfers from bondholders in their favour, especially by undertaking riskier projects that are rewarding to shareholders but costly to bondholders. According to the option theory (Black and Scholes, 1973), shareholders possess a call option on the assets of the firm. The riskier are these assets, the more valuable is their option. Obviously, debt claimants will bear all the cost, while shareholders capture most of the gain if the investment does well. Jensen and Meckling (1976) provide an extensive analysis of this wealth expropriation and risk

³ Jensen and Meckling (1976), p. 310.

shifting conflict. Their main conclusion is that such a situation cannot be completely tackled by contract provisions, and gives rise to what we commonly call the agency costs of debt. In some instances, relatively straightforward contractual covenants, such as restrictions on mergers or on additional financing, can solve these agency costs of debt, but many other contingencies, such as overinvestment, are difficult to solve with such provisions. Consequently, and by anticipating this potential wealth expropriation, debtholders will require a higher premium, thus a higher cost of debt financing to firms.

We discuss in the next two sections, the empirical literature that relates corporate governance to debt costs and credit ratings. We then derive our main hypotheses.

B. Corporate Governance, Ultimate Ownership, Debt Cost and Credit Rating

Few recent studies investigate the relation between internal corporate governance mechanisms and debt costs and ratings. All available evidence is based on US markets, and the variables related to corporate governance differ across studies, which makes general inferences more difficult. For example, Sengupta (1998) analyzes the association between the firm's corporate disclosure quality and the cost of its debt. Disclosure quality is measured by a score that reflects the analysts' evaluation of the timeliness, clarity and detail of the information published by the firm. The author shows that the cost of debt is negatively related to disclosure quality, and that this relation is more pronounced for firms exhibiting higher variances in stock returns (as a proxy for market uncertainty). Hence, lenders and underwriters seem to value a higher disclosure in annual and quarterly reports because it allows them to better assess the firm's default risk, especially for those firms that exhibit a higher market uncertainty.

Anderson, Mansi, and Reeb (2003) analyze another aspect of the firm's corporate governance, namely ownership structure. Specifically, they observe that ownership concentration in the hands of the founding family is negatively associated to the agency cost of

debt. In fact, family controlled firms enjoy a lower cost of debt financing of about 32 basis points than non-family firms. They argue that this type of investors, with undiversified holdings, are concerned, not only with wealth maximization, but also (and probably more likely) with the firm's survival, in order to pass it onto subsequent generations. Because of their large undiversified ownership stakes, they avoid risky projects hence alleviating any incentive to expropriate bondholders. As a result, debt claimants price family ownership because it protects their interests (against managers). The authors also examine the impact of institutional ownership, but find no significant relation between institutional investors' participation and the cost of debt.

Another important study that also features US firms, by Bhojraj and Sengupta (2003), explores the effect of governance mechanisms (in this case, institutional ownership and outside directors) on bond ratings and yields. The authors argue that these governance mechanisms could reduce the likelihood of default of the firm through a reduction of the agency problems and the information asymmetry between the firm and its lenders. This would normally result in a lower cost of debt financing and a higher credit rating. Their empirical results support this conjecture: firms with greater institutional ownership and a large proportion of outside directors indeed enjoy lower bond yields and higher credit ratings. Furthermore, these two mechanisms are more effective in reducing the cost of debt and increasing the bond rating for firms with poor governance quality. Finally, they point out that concentrated institutional ownership has an adverse effect on debt costs and bond ratings. More recently, Ashbaugh et al. (2006) examine, as in Bhojraj and Sengupta (2003), the relationship between corporate governance and credit ratings. They focus on four governance features (i.e. ownership structure and influence, financial stakeholder rights and relations, financial transparency and information disclosure,

and board structure and process)⁴. They document that credit ratings are positively affected by the quality of financial transparency and by board independence, ownership and expertise. Moreover, credit ratings are negatively related to shareholder rights, to the CEO being also Chief of the board, and to ownership concentration (as measured by the number of blockholders owning 5% or more of the firm).

Other recent studies that examine the impact of shareholder control on bondholders are Cremers, Nair, and Wei (2004) and Klock et al (2005). Using institutional ownership to proxy for shareholder control and firms' takeover defenses to proxy for takeover vulnerability, Cremers et al. (2004) document that shareholders' control is associated with lower yields for well protected firms (against takeovers). Shareholders' control is related to higher yields for less protected firms. Klock et al. (2005) extend the study of Gompers, Ishii and Metrick (2003) to analyze the impact of anti-takeover provisions on the cost of debt. Their analysis shows that anti-takeover governance provisions, while (not) beneficial to (shareholders) managers, are priced by debtholders. They find that firms with strong anti-takeover provisions are associated with a lower cost of debt financing of about 34 basis points relative to firms with weak anti-takeover provisions.⁵

Overall, the prior literature suggests that management opportunism and shareholders' expropriation lead debt claimants to require a higher premium against any opportunistic behaviour from management and/or controlling shareholders. In the same perspective, rating agencies are more likely to assign lower ratings to those firms that face one or both of these problems. This literature review on the effect of corporate governance on debt yields and

⁴ As the authors argue, these components are drawn from S&P Corporate Governance Scoring. For more information on these governance dimensions, see Ashbaugh, Collins, and LaFond (2006).

⁵ Some other studies analyze the impact on bondholders' wealth around some major corporate events that directly affect the firm's governance structure such as Leverage Buyouts (eg. Lehn and Poulsen, 1988; Marais, Schipper and Smith, 1989; Warga and Welch, 1993) and Mergers & Acquisitions (eg. Dennis and McConnell, 1986; Maqueira, Megginson, and Nail, 1998; Billett et al., 2004).

ratings is, however, country specific since all studies analyze U.S. data. Furthermore, these studies restrict their analysis to a variable number of corporate governance mechanisms. Some of them (e.g. Billett, King, and Mauer (2004)) use an event-study analysis to compute abnormal returns (yields) bearing the risk that the main conclusions may be contaminated by other events. All these factors make the generalization of the available evidence to other countries outside the United States, unfit.

Our study tries to tackle this issue and provides a cross-country evidence for a sample of 19 countries. Our proxy for the quality of corporate governance is the likelihood of expropriation by controlling shareholders (i.e., extent of agency conflict within the firm). The above arguments lead to the formulation of the following hypothesis:

H1: *The extent of expropriation is positively (negatively) related to debt costs (ratings)*

Also, as suggested by the previous studies, we use data on the identity of the ultimate owner to identify which type of controlling shareholder represents a potential risk of expropriation to bondholders and rating agencies. Specifically, we analyze the effect of different types of controlling shareholders (not only families) on bond costs and ratings, using control-based rather than ownership-based measures (unlike Anderson et al. (2003) and Bhojraj and Sengupta (2003)).

C. Creditor Rights Protection, Debt Cost and Credit Rating

Debt holders' rights are remarkably heterogeneous around the world, particularly between developing and developed countries. In some countries (such as Greece), laws that prevent automatic liquidation and encourage the reorganization of the defaulting company actually protect non-senior debt claimants against senior debt claimants, while in some other countries, senior debt claimants have the prerogative to hold up the collateral even in the case of reorganization. Further, the role of managers in defaulting companies varies from one country

to another. For instance, under Chapter 11 in the US, managers may ask law enforcers to protect them from creditors while in other countries, such protection is conditioned by the consent of creditors. Also, in some countries such as Malaysia, laws require that the management team is replaced before any reorganization plan of the firm is approved. In some other countries, management turnover is not necessary (e.g. U.S., Canada, and France). However, in these cases, the existing management must be supervised by an administrator during the reorganization process. In some countries (e.g. France), laws favour reorganization plans in order to preserve jobs, while in others, like the U.K. for instance, laws focus primarily on the enforcement of financial contracts between management and creditors, and allow these latter to choose between liquidation and reorganization.

The first formal work that examines investors' protection in an international framework is by La Porta et al. (1998). In addition to shareholders' rights, the authors explore the extent to which debtholders (and more generally creditors) are protected in 49 developed and emerging countries. Based on two strategies available to deal with a defaulting firm, namely reorganization and liquidation, the authors produce cross-country scores of creditor rights, and show that the legal origin of the country determines the extent of these rights: The authors observe that Common-law countries offer a stronger legal protection for debtholders compared to French-civil-law countries. More recently, Djankov et al. (2007) document a significant relation between the development of private credit (claims on the private sector by banks) and legal creditor rights. In their study, legal creditor rights are measured by the creditor rights index (in the spirit of La Porta et al. (1998)), and by the existence of public and private registries (as proxies for the level of information sharing). Well protected debt claimants would normally require lower interest rates. Finally, the unique study, that we are aware of, that considers an international sample is by Ellul et al. (2005). The authors report that family firms benefit from

lower debt costs in countries where investor protection is better (measured by the legal environment, the judicial efficiency, the rule of law and the creditor rights index). This evidence is drawn from a sample of firms that issued ADRs in the US market, which could eventually lead, as discussed previously, to a selection bias since these firms must normally comply with corporate governance standards imposed by the SEC.

Based on this literature, we expect that cross-country differences in the level of debtholders' protection will lead (1) debtholders to require higher (risk) premia (i. e. higher yields), and (2) rating agencies to assign lower credit ratings to firms from countries where debtholders are the least protected. Thus, we can formulate our second testable hypothesis as follows:

H2: *A better creditor rights protection is negatively (positively) related to debt costs (ratings)*

To establish the relation between investor protection and the debt cost and rating, we consider two aspects: laws on the books and the extent of its enforcement. This issue is related to recent evidence on law existence and enforcement. For instance, La Porta et al. (2006) find that the existence of laws that facilitate private contracting is a stronger determinant of financial markets development than the public regulatory enforcement. Bhattacharya and Daouk (2002) study insider trading laws around the world, and find that the initial enactment of laws that prohibit insider trading does not affect the cost of equity, while the first time these laws are enforced reduces it by about 5%. Another study, more related to ours, by Esty and Megginson (2003) analyzes the impact of creditor rights and legal enforcement on the debt ownership structure for a sample of global syndicated loans. Their results suggest that in countries with high investor protection level and a strong legal enforcement, banks tend to be organized in smaller and more concentrated syndicates in order to assure monitoring and low cost contracting. On the contrary, they prefer larger and more diffuse syndicates' structures to deter

voluntary default in countries with poor legal enforcement mechanisms. In another context, Mansi et al. (2007), analyze the impact of some American States laws (particularly dividend payout restriction) on bonds characteristics, and finds that bond ratings and yields are significantly associated to the existence of State payout restrictions. Based on this evidence, we control for variables that reflect both the quality of debt laws and the extent of their enforcement in the country.

III. Methodology and Descriptive Statistics

A. Specifications

To test the relation between governance mechanisms and bond yields and ratings, we use the two following general specifications:

(1) *Bond costs* = $f(\text{ultimate ownership variables, creditor protection variables, control variables})$

(2) *Bond ratings* = $f(\text{ultimate ownership variables, creditor protection variables, control variables})$

The first model (bond costs) is estimated using the OLS method. The second model (bond ratings) is estimated using an ordered probit model, since the dependent variable is ordinal (S&P ratings are classified in seven ordering categories). (See **Appendix I**).

Our models include three major potential groups of determinants of bond yields and ratings (i. e., ultimate ownership variables, creditor rights protection variables, and control variables). In the subsequent sections, we will examine the effect (on bond costs and ratings) of the ultimate ownership structure and the legal environment variables separately, and then we will run a general model (for each dependent variable) that regroups both of them as specified in equations (1) and (2)⁶.

⁶ In order to tackle the presence of multicollinearity between our variables, we proceed as follows. First, we test for multicollinearity in each regression we run. To do so, we use the regression collinearity diagnostic procedures of Belsley, Kuh, and Welsch (1980) that examine the “conditioning” of the matrix of explanatory variables. This procedure consists in the computation of the condition number (the largest singular value of the matrix). Belsley et al. (1980) suggest that a value of 30 (or higher) implies collinearity problems. Second, and for each regression with a condition number of 30 or more, we use the Gram-Schmidt orthogonalization technique, which produces a set of new orthogonal variables from the original ones. Each new variable is

B. Variables

B.1. Debt Costs and Ratings

We measure corporate bond costs (COST) by subtracting the yield to maturity on a US treasury bond from the yield to maturity on the corporate debt issue. Both the US treasury and corporate bonds should (ideally) have similar maturities.⁷

As credit rating measures, we use the S&P credit ratings (RATING). These ratings assess the creditworthiness of the obligor with respect to its debt obligations. There are 22 ratings ranging from highest (AAA) to lowest (D). To facilitate the analysis, and following Ashbaugh et al. (2006), we transform these ratings into seven ordering numerical categories as presented in **Appendix I**.

B.2. Ultimate Ownership and the Likelihood of Expropriation

Many recent studies analyze the conflicts between minority and controlling shareholders. In such a situation, expropriation could take place, and conflicts between minority and controlling shareholders (and affiliated managers) could arise. For instance, these latter can stop paying dividends, pursue a non-profit-maximizing strategies, transfer cash to other firms in which they have interests, etc.

As in Claessens et al. (2000), we first measure the likelihood of expropriation by the difference between the voting and cash-flow rights of the largest shareholders (C_O). This measure captures the level (extent) of the wedge, and hence the likelihood of expropriation, in the firm.

created in such a way that the effects of the other variables are removed. By using these orthogonal variables in our regression, we ensure that we are measuring the “right effect” of each variable.

⁷ An alternative measure could be the use of a domestic treasury bond for each country instead of US Treasury Bonds. We prefer using the US Treasury Bonds for essentially two reasons. Firstly, the computation of spreads and risk premium is usually done with reference to a risk free security. Since the U.S. government is unlikely to go bankrupt, we use its bonds as a risk free security. Secondly and most importantly, the use of the US treasury bonds makes the comparison across countries easier since it provides a common basis (or reference) to compare to. In spite of this, we conduct our analyses using the available data on domestic treasury bonds for each country. As discussed later in the text, our main results remain overall unchanged.

Previous studies suggest that the identity of the firms' (ultimate) owners is of interest for both bondholders and rating agencies. In fact, control concentration in the hands of few shareholders could enhance (or reduce) expropriation. To test whether the controlling shareholder's identity affects debt costs and ratings, we introduce the following dummy variables, FAMILY, STATE, and WHELDFIN, to capture the type of the ultimate owner (respectively for family, State, and widely held financial firms). Finally, we add another dummy variable, MANAGER, to determine whether the appointment of a manager among the family relatives has an impact on the bondholders/rating agencies perception of risk factors.

B.3. Creditor rights Protection

Several recent studies emphasize the role of regulatory institutions in preserving investor rights. The quality of this protection depends on two factors: the existence of the rights per se and the quality of their legal enforcement. According to Esty and Megginson ((2003), p. 41): *"In addition to ensuring they have legal rights, creditors must also ensure their rights are enforceable in the host country."*

Following La Porta et al., (1998), Dyck and Zingales (2004), Djankov et al., (2006), and Djankov et al., (2007), we choose the following indicators to assess the quality of investor (particularly creditors) protection in a given country:

i) Creditor rights (CREDRIGHTS); This index assesses the extent of creditor rights in the country. It ranges from zero (poor creditor protection) to four (strong creditor protection). We expect this index to be negatively (positively) associated with bond costs (ratings).

ii) Public registry (PUBREGIS); Public credit registries are databases managed by governments (e.g. through Central Banks or any other public agency). Their main function is to provide lenders with information (that they have already collected) on borrowers. The existence of a public credit registry should negatively (positively) affect debt costs (ratings).

iii) Estimated cost of insolvency proceedings (COST_INSLV); it consists on all kinds of costs borne by all parties as a percentage of the value of the insolvency estate. Costs include court and attorney fees, bankruptcy administrator fees, accountant fees, and publication fees. The cost of insolvency should have a positive effect on debt yields and a negative effect on debt ratings.

iv) Efficiency of the bankruptcy process (EFFDBTENFORC)⁸; It is measured by the present value of the terminal value of the firm after bankruptcy costs. It reflects the value preserved in debt enforcement proceedings. Higher values indicate higher efficiency of debt enforcement. Thus, we expect this variable to be negatively (positively) related to debt costs (ratings).

v) Contract enforcement days (ENFORCDYS); It is the number of days needed to resolve a payment dispute (through courts) that emerges from a simple debt contract, as a measure of the quality of law enforcement. This variable should normally be positively (negatively) related to debt costs (ratings).

vi) Newspaper circulation (NEWS); It is the ratio of daily newspapers divided by population. It reflects the public pressure on dominant shareholders. Since it is expected to reduce expropriation, it should also be negatively (positively) related to bond yields (ratings).

vii) Corruption (CORRUPTION); It is an assessment of corruption in government. Since lower scores are for higher levels of corruption, we expect this variable to have a negative (positive) effect on debt costs (ratings).

Note that the first variable, creditor rights index, indicates the quality of the laws that exist in the country, while the other variables (specifically, Public registry, Estimated cost of the

⁸ For more details on the computation of this variable, see Djankov et al. (2006).

insolvency proceeding, Efficiency of the bankruptcy process, and Contract enforcement days) measure the quality of debt laws' enforcement.

B.4. Control Variables

Typically, the cost of debt financing and credit ratings can be explained by three factors:

i) *The issuer characteristics* that allow lenders and underwriters to perceive the likelihood of default of the firm. These characteristics include leverage, the size of the firm, its profitability, its industry, its market risk,...

ii) *The issue characteristics* that include the maturity of the debt, the size of the amount raised, and some other special features such as the existence of call or conversion provision.

iii) *The country macroeconomic conditions* such as the business cycle of the economy.

We include the following control variables: At the firm level, we control for the issue characteristics (maturity, and the size of the issue)⁹, and for the issuer characteristics (the size of the firm, the leverage, the performance, the industry, and the risk). At the country level, we control essentially for the country inflation rate, and the level of economic and financial development (debt market size, and GDP growth).

A detailed description of the variables appears in Table 1.

[INSERT TABLE 1 ABOUT HERE]

The Cost model can thus be written as follows:

$$\begin{aligned}
 COST_i = & \alpha_0 + \alpha_1 \cdot LMAT_i + \alpha_2 \cdot LISIZE_i + \alpha_3 \cdot ASSET_i + \alpha_4 \cdot STDINC_i + \alpha_5 \cdot ROI_i + \alpha_6 \cdot LEVERAGE_i + \alpha_7 \cdot INFLATION_i \\
 & + \alpha_8 \cdot GDPGROTH_i + \alpha_9 \cdot DEBTMKT SIZE_i + \beta_1 \cdot C_O_i + \beta_2 \cdot FAMILY_i + \beta_3 \cdot MANAGER_i + \beta_4 \cdot STATE_i + \beta_5 \cdot WHELDFIN_i \\
 & + \delta_1 \cdot CREDRIGHTS_i + \delta_2 \cdot PUBREGIS_i + \delta_3 \cdot COST_INSLV_i + \delta_4 \cdot EFFDBTENFORC_i + \delta_5 \cdot ENFORCDYS_i + \delta_6 \cdot NEWS_i \\
 & + \delta_7 \cdot CORRUPTION_i + Country Dummies + Industry Dummies + Year Dummies + \varepsilon_i
 \end{aligned}$$

And the Rating model as follows:

⁹ In our sample, the absolute majority (more than 98%) of issues are not convertible and don't have any other special characteristic that could affect their yields or ratings.

$$\begin{aligned} \Pr(RATING_i = r) = & \Phi(\alpha_1 \cdot LMAT_i + \alpha_2 \cdot LISIZE_i + \alpha_3 \cdot ASSET_i + \alpha_4 \cdot STDINC_i + \alpha_5 \cdot ROI_i + \alpha_6 \cdot LEVERAGE_i + \alpha_7 \cdot INFLATION_i \\ & + \alpha_8 \cdot GDPGROTH_i + \alpha_9 \cdot DEBTMKT SIZE_i + \beta_1 \cdot C_O_i + \beta_2 \cdot FAMILY_i + \beta_3 \cdot MANAGER_i + \beta_4 \cdot STATE_i + \beta_5 \cdot WHELDFIN_i \\ & + \delta_1 \cdot CREDRIGHTS_i + \delta_2 \cdot PUBREGIS_i + \delta_3 \cdot COST_INSL V_i + \delta_4 \cdot EFFDBTEN FORC_i + \delta_5 \cdot ENFORCDYS_i + \delta_6 \cdot NEWS_i \\ & + \delta_7 \cdot CORRUPTION_i + \text{Country Dummies} + \text{Industry Dummies} + \text{Year Dummies} + \varepsilon_i) \end{aligned} \quad \text{where } r \in \{1, 2, 3, 4, 5, 6, 7\}$$

C. Sample and Data Sources

We first start by merging the samples of Faccio et al. (2002) for Western European corporations, and Claessens et al. (2000) for East Asian corporations for which the authors identify ultimate ownership. Our analysis is cross sectional in nature since ultimate ownership for European firms is for either one year between 1996 and 1999, and as of December 1996 for Asian firms. We consider all firms that have complete information on voting and cash-flow divergence, and on the identity of the ultimate owner. We obtain an initial database of more than 8,000 firms from 22 countries (Austria, Belgium, Finland, France, Germany, Ireland, Italy, Norway, Portugal, Spain, Sweden, Switzerland, UK, Hong Kong, Indonesia, South Korea, Japan, Malaysia, the Philippines, Singapore, Taiwan, and Thailand). We then match this database with bond data from *The Fixed Investment Securities Database*. We keep only issues between 1994 and 2002 that offer *fixed* interest rates. Since ultimate ownership does not change substantially over time (Faccio et al. (2002) and Claessens et al. (2000)), we believe that they remained relatively steady around the years they were collected at. So, we expect bond issues between 1994 and 2002 to exhibit the ownership data collected by Faccio et al. (2002) and Claessens et al. (2000). Only 568 issues survive the matching procedure between these samples and the *Fixed Investment Securities Database*.

Data on issuer characteristics (performance, risk, size, and leverage) are from *Worldscope*. Regulatory institutions are from La Porta et al. (1998) (Creditor rights and Corruption), Djankov et al. (2006) (Estimated cost of the insolvency proceeding, Efficiency of the bankruptcy process), Djankov et al. (2007) (Public registries and Contract enforcement days), and Dyck and Zingales (2004) (Newspaper circulation). Hand matching the data on bonds and ultimate ownership

with data on issuer characteristics and regulatory institutions results in a final sample of 256 issues for bond costs and 307 issues for bond ratings.¹⁰ **Table 2** reports the distribution of both samples across countries.¹¹

[INSERT TABLE 2 ABOUT HERE]

D. Descriptive statistics

Table 3 reports descriptive statistics of the variables used in the analysis. In our sample, the average spread is about 150.4 bps, while the average rating is 4.63, which falls between A- and BBB+ in our transformation scale. Moreover, the mean for the variable C_O is 3.6%. Around 28% of the firms are controlled by families. This proportion is about 19 and 20% for State and widely held financial firms, respectively. **Table 3** also presents Pearson correlations between our two key variables (COST and RATING), and all the other potential explanatory variables. In general (except for some variables), COST is positively and significantly correlated while RATING is negatively and significantly correlated with ultimate ownership variables. Furthermore, both variables are significantly correlated with most country variables, and generally in the expected directions.

We can note at this stage the high and significant correlation between RATING and most other variables. Since these variables will be introduced in our COST regressions, we choose (as in Sengupta (1998) and Bhojraj and Sengupta (2003)) to exclude the RATING variable from those models.

[INSERT TABLE 3 ABOUT HERE]

¹⁰ We do not have the same number of issues for both variables because, for some issues, we have only information on bond rating (and we lack information on the spread).

¹¹ Note that three countries are dropped from the analysis (Belgium, Spain and Taiwan) because of missing values.

IV. Empirical Results

A. The Impact of the Ultimate Ownership Structure on Bond Costs and Ratings

A.1. Ultimate Ownership Structure and Debt Costs

We first examine the effect of ultimate ownership structure on debt costs. Particularly, we use the wedge between cash-flow and control rights that reflects the level of expropriation (as measured by C_O) and the identity of the ultimate owner (FAMILY, STATE or WHELDFIN). **Table 4** reports the regression results. The statistical significances of the reported coefficients are calculated using robust standard errors (Huber-White-Sandwich estimator of variance).

In the second column of **Table 4**, we report the basic model in which we do not control for corporate governance. All the issuer and issue characteristics' variables are significant (at 6% or better) with their expected sign. As expected, debt yields are negatively affected by the size of the debt market (DEBTMKTSIZE) and the level of economic growth (GDPGROWTH). This finding suggests that investors are sensitive to the size of secondary markets (where they could liquidate their assets), and to the economic situation of the country as a whole since it reflects, to some extent, the future potential of their investments. Finally, the coefficient of inflation is not significant although it has a positive sign. In columns (2) to (6) of the same table, we add the ultimate ownership measures, each one in a separate model. These regressions show that the level of expropriation and family control are positively and significantly related to bond costs. On the contrary, State control and widely held financial firms' control have the opposite effect. Appointing managers from the family relatives seems not to affect bond costs. In model (7), we include all the governance variables as well as an interaction term between C_O and the identity of the ultimate owner (FAMILY, STATE, or WHELDFIN). Results show that the expropriation measure remains significant and positive. That is, an increase of 1% in the level of expropriation leads to an increase in the cost of debt by approximately 15.95 basis points beyond the Treasury

bond spread. Among the three types of ultimate owners, only FAMILY is considered as a potential risk of expropriation by bondholders. This result goes against evidence in Anderson et al. (2003) who find that US family firms have lower debt costs than non-family US firms. This could be due to the fact that, in their study, the authors use an ownership-based measure rather than a control-based measure of the family holdings. Finally, as shown by the coefficients of the interaction terms, when the ultimate owner is a family or a widely held financial firm whose control stake exceeds its ownership stake, the effect on debt costs is more pronounced. Furthermore, bondholders do not seem to consider State control as a risk factor, even if the State has voting rights in excess of its cash-flow rights (the coefficient of STATExC_O being insignificant).

Faccio et al. (2001) argue that dividends can be used by controlling shareholders to expropriate outside shareholders' wealth. The authors suggest that if investors are aware of the risk of expropriation, they will use dividends to protect themselves. Using West European countries as a benchmark, the authors show that investors in East Asia are less alert to expropriation. Investors in West European countries, in contrast to their counterparts in East Asia, anticipate more strongly the risk of expropriation and, to offset their concerns, require higher dividends in firms where expropriation is more likely. If this is indeed the case, we should expect bondholders in Western Europe to require higher interest rates (i.e., bond spreads), compared to bondholders in East Asia, whenever there is a significant separation between the ownership and control stakes held by controlling shareholders. Put differently, we expect the (positive) effect of the cash-flow/voting rights divergence on spreads to be more prevalent in the West European sample. To test this hypothesis, we estimate model (7) for both West European and East Asian sub-samples. The last two columns of **Table 4** display the results. As expected, bondholders in East Asian countries do not seem to anticipate expropriation by

controlling shareholders (C_O is insignificant at any conventional level). In contrast, bondholders in countries from Western Europe countries require a significantly higher interest rate from issuing firms with a wider observed discrepancy. Moreover, it seems that both Asian and European bondholders fear family control, since the coefficient of FAMILY is positive and highly significant in both models. On the contrary, bond costs are negatively affected by STATE for the Asian sample and by WHELDFIN for the Western European sample. This shows, to some extent, the type of investor that Asian and European bondholders have most confidence in (since the presence of that particular type of investor reduces the cost of bonds).

[INSERT TABLE 4 ABOUT HERE]

A.2. Ultimate Ownership Structure and Debt Ratings

Table 5 reports the results of ordered probit models for the effect of expropriation measures on bond ratings. We keep all the control variables previously discussed. The unique difference is that instead of introducing dummies for the years, countries and industries, we choose to include dummies to control for three particular industries more likely to affect ratings (Finance, Utility and High-Tech), for three periods (before, during and after the 1997 Asian financial crisis), and for two regions (Asia or Europe). We do so because cross-tabulating the ordered dependent variable (RATING) with many dummy variables creates too many empty cells that prevent an ordered probit estimation. So, our solution for this technical problem consists in reducing the dummies instead of merging some categories of the dependent variable.

The first column presents the main model without including any proxies for governance. In columns (2) to (6), we test separately for the effect of each measure of ultimate ownership on bond ratings. At 10% level (or better), all the governance measures affect significantly bond ratings. The level of the cash-flow and voting rights discrepancy as well as the existence of

family control in the firm and the appointment of managers among the owner's family members lead rating agencies to assign *lower* ratings for these firms (the coefficients for C_O, FAMILY and MANAGER are negative). In contrast, State control or control by widely held financial firms do not seem to be considered by rating agencies as additional potential risk factors of expropriation (because their presence as controlling shareholders increases bond ratings as shown by the coefficients of STATE and WHELDFIN). When we consider all the governance proxies in the same model (column (7)), we still obtain the same results, except that STATE becomes insignificant while still keeping its positive sign. The interaction coefficients between C_O and both FAMILY and WHELDFIN are negative and highly significant, suggesting that rating agencies have a "negative" perception of the cash-flow/voting rights discrepancy. Overall, these findings shed some light on the effect of ultimate owner identity on credit ratings. Previous studies have argued that the concentration of *ownership* in the hands of institutions (Bhojraj and Sengupta (2003)) or in the hands of blockholders (Ashbaugh et al. (2006)) could enhance the private benefits hypothesis, leading rating agencies to downgrade their score for the firms that exhibit these features. Evidence from **Table 5** goes beyond this evidence and shows that controlling owners do not all have the same impact on debt credit ratings.

At this stage, we can compare the perceptions of bondholders and rating agencies regarding the firms' ownership features. By taking a glance at column (7) of tables 4 and 5, we can easily note that bondholders as well as rating agencies are able to assess the potential risk of expropriation (the cash flow and voting rights discrepancy). Both seem to consider the potential costs of family control (both FAMILY and C_OxFAMILY being economically and statistically significant in both models). This risk can materialize in two ways: *First*, families can take full advantage from their controlling position, and seek to extract (direct) private benefits that harm all stakeholders (especially minority shareholders and debtholders). *Second*, families often want

to keep control by avoiding the dilution of their ownership. Thus, family firms will normally prefer debt financing to equity to finance their projects, which translates in relatively higher leverage ratios.

[INSERT TABLE 5 ABOUT HERE]

B. The Impact of Regulatory Institutions on Bond Costs and Ratings

B.1. Regulatory Institutions and Bond Costs

We now turn to the effect of regulatory institutions on bond spreads. To proxy for the legal protection of investors' rights, we use, as discussed above, the following measures of regulatory institutions: creditor rights, public registry, estimated cost of insolvency proceedings, efficiency of the bankruptcy process, contract enforcement days, newspapers' circulation, and corruption. Models (1) to (7) in **Table 6** illustrate the effect of each factor on bond spreads. As one can see, among our set of institutions, only creditor rights and the efficiency of the bankruptcy process are insignificant at the 10% level. All the other institutions are significant with their expected signs. In the last column of the same table, we regress bond costs on all factors. The conclusions remain the same except that the efficiency of the bankruptcy process becomes significant, while corruption loses its significance once we take into account the effect of all other institutions. The existence of a credit public registry, the efficiency of the bankruptcy procedure, and the extent of newspapers' circulation affect, as expected, negatively and significantly, corporate bond costs. In contrast, higher insolvency costs and longer contract enforcement periods lead to significantly higher bond costs. These results lead us to a first conclusion: the legal environment is important to bondholders. This conclusion corroborates, to some extent, the finding of Ellul et al. (2005) that the presence of a founding family in less protective legal systems exacerbates the cost of debt (and vice versa). Their result indirectly

points to the role of the legal environment in encouraging (or forcing) founding families to preserve minority interests. Our findings suggest that, regardless of who is controlling the firm, legal regimes could protect debtholders and guarantee their rights.

We also note from **Table 6** that, contrary to the evidence on debt laws' enforcement measures discussed above, the existence of restrictions aimed at protecting creditor rights has no impact on debt cost. In fact, while variables related to the quality of debt laws' enforcement (i.e., PUBREGIS, COST_INSLV, EFFDBTENFORC, and ENFORCDYS) are significant, the creditor rights index (CREDRIGHTS) that captures the existence of these laws, is not significant at any conventional level. That is, to bondholders, *debt laws' enforcement* is more important than *the existence of these laws*.

[INSERT TABLE 6 ABOUT HERE]

B.2. Regulatory Institutions and Bond Ratings

Table 7 reports evidence on the effects of the regulatory institutions on bond ratings. As previously, we start by testing the impact of each isolated factor, and then we test the effect of all factors taken together in the same regression model. From columns (1) to (7), we can see that the existence of a credit public registry as well as an extensive newspapers' circulation lead to higher bond ratings, while a longer period to enforce a debt contract through courts reduces it. When we run our regression with all the institutional governance factors in the same model, we find that CREDRIGHTS, COST_INSLV, and CORRUPTION have no statistical effect on bond ratings. PUBREGIS, EFFDBTENFORC, ENFORCDYS, and NEWS are, in contrast, highly significant (at less than 1% level) and having their expected signs. Here also, we can conclude that, to rating agencies, debt laws' enforcement is more important than the existence of laws (CREDRIGHTS being insignificant). The final model leads to a pseudo-R² of 23.19%.

[INSERT TABLE 7 ABOUT HERE]

D. The Determinants of Debt Costs and Ratings

In order to construct our final models for both debt costs and ratings, we propose to introduce both ultimate ownership and creditor rights measures in the same regression. Results are reported in **Tables 8** and **9**.

D.1. The Determinants of Debt Costs

Column (1) of **Table 8** presents regression results for bond costs. All the control variables (firm-level and country-level variables) are significant and have the expected signs except for the inflation rate variable. With regard to ultimate ownership measures, we get mainly the same results as in **Table 4** (column (7)). Spreads are positively affected by both the discrepancy between cash flow and voting rights (C_O) and the existence of a controlling family (FAMILY). The interaction between C_O and FAMILY and WHELDFIN exacerbate that positive effect. Finally, State control is marginally significant at the 10% level, and seems to reduce debt costs. As for regulatory institutions, we also obtain similar results as in the last column of **Table 6**. Particularly, the creditor rights index is not as important to debtholders as debt enforcement (PUBREGIS, COST_INSLV, EFFDBTENFORC, and ENFORCDYS) (these measures being all statistically and economically significant while CREDRIGHTS is not). Moreover, the public pressure on controlling shareholders (as measured by NEWS) plays a positive role in reducing the cost of debt. The overall model explains more than 51% of corporate bond costs.

In this final model, we suppose that our set of explanatory variables (especially the ownership measures) is exogenous. Many previous studies suggest that this assumption may not hold (see for example Hermalin and Weisbach (2003) for the board of directors). Endogeneity may be caused by (i) omitted variables that are correlated with some explanatory

variables, (ii) by measurement error when measuring variables, or (iii) by simultaneity between the dependent variable and at least one independent variable. In our case, the cash flow/voting rights discrepancy (C_O) could imperfectly measure expropriation or eventually be correlated with an omitted variable. Furthermore, FAMILY, STATE, and WHELDFIN, reflect some features of the firms' ownership structure that could be simultaneously determined with bond costs (Bhojraj and Sengupta, 2003)¹², or correlated with some omitted variables. To control for this potential endogeneity, we use the two-stage least square (2SLS) technique that relies on instrumental variables, and that allows to solve endogeneity even without knowing its exact cause (as in our case). As instrumental variables, we propose to use the following variables from LaPorta et al. (1998); the proxy by mail possibility, shareholders' preemptive rights to buy new stock issues, antidirector rights¹³, and the legal origin. One can easily relate the proxy by mail, antidirector rights, and the preemptive rights with ownership structure patterns. The decision for controlling shareholders to hold (or not) stocks of firms is closely related to the existence of such provisions in the company charter. For example, we expect that large shareholders who seek to keep the control will avoid investing in firms where minority shareholders have the valuable right of mailing their proxy vote. As for the legal origin, LaPorta et al. (1998) suggest that ownership structure could be viewed as a substitute for poor investor protection environment. That is, the concentration of ownership in the hands of a controlling shareholder (and even his choice to get voting rights in excess of his capital stake) would be more prevalent in civil-law countries where investor rights are less protected. Finally, these candidate instruments are less likely to affect corporate bond yields (thus the model error terms).

¹² Bhojraj and Sengupta (2003) document that bond yields and institutional ownership are simultaneously determined. That is, the monitoring of the institutions reduces debt costs, and firms with lower debt costs are more attractive to these investors.

¹³ An index that aggregates the shareholder rights.

Column (2) of **Table 8** reports the results of the 2SLS regression. As we can see, we obtain qualitatively the same results as previously. The only difference is that STATE loses its significance (while it was marginally significant at 10% level), and so does the interaction between C_O and WHELDFIN.

[INSERT TABLE 8 ABOUT HERE]

D.2. The Determinants of Bond Ratings

Lastly, we run our final model for bond ratings using both the ultimate ownership structure and the regulatory institutions.

As reported in column (1) of **Table 9**, conclusions drawn from the previous analyses on the effect of ultimate ownership structure and regulatory institutions on corporate bond ratings remain basically the same. Our expropriation proxy (C_O) is highly significant and negatively related to debt ratings. Family control and the appointment of the manager among the family relatives appear to reduce rating scores, while control in the hands of widely held financial firms seems to increase it. As for debt enforcement measures, they are still highly influential and keep the same signs as previously documented, namely the existence of public registries, the efficiency of the bankruptcy process, and the contract enforcement days. The coefficient of the creditor rights index remains insignificant at any conventional level which comforts our previous conclusion that rating agencies price *debt laws enforcement* rather than *the existence of laws*. The overall model generates a Pseudo R² of about 32.43%.

[INSERT TABLE 9 ABOUT HERE]

E. Robustness checks

E.1. An alternative measure for Spreads using the countries' treasury bonds

When computing bond spreads, we used US treasury bonds that share similar characteristics as corporate bond issues (especially in terms of maturity). Among other reasons discussed previously, we do so due to the difficulty to find data on each country treasury bond issues. We are aware that, by using US treasury bonds, we disregard some particular characteristics of the domestic country treasury bonds. For example, the inflation level, which is expected to have an impact on the country treasury bond yields, is not (fully) captured by US treasury bond yields. To overcome this potential shortcoming, we have already included in our model macroeconomic variables such as the country inflation rate, the GDP growth and the debt market size. However, and to assess the robustness of our previous results, we try to collect additional data from all possible available sources (*FISD*, *SDC Platinum Thomson Financial*, central banks' websites). Overall, we are able to obtain data on bond issues for the following countries: Austria, France, Germany, Norway, South Korea, Sweden, and UK. The final sample falls to 120 observations. The Pearson correlation between the Spreads using US treasury bonds and country treasury bonds is higher than 71% (significantly different from zero at less than 1% level). Column 3 of **Table 8** reports the results of our final model using domestic country treasury bonds. As we can see, our inferences remain the same. We still obtain an insignificant coefficient for the creditor rights index, while most measures of debt laws' enforcement yield economically and statistically significant coefficients, as in our original model. With regard to the ownership features, family control has the same effect as in our main model. There are however small differences with respect to the expropriation measure (*C_O* still has the expected sign but becomes insignificant) and the effect of *WHELDFIN* and *MANAGER* which become significant when we use domestic countries' treasury bonds. This may be due to the relatively small size of the new sample and probably to the fact that the largest portion of this sample

comes from European countries. Overall, the use of US treasury bonds has no considerable effect on the quality of our results.

E.2. Relaxing the hypothesis of independent residuals

In our regressions, we supposed that residuals are independent. However, our sample being multinational, debt yields (ratings) within each country may not be independent, which could result in residuals not being independent. In an unreported regression, we re-ran our analyses while relaxing this assumption (thus allowing for possible within-country dependence). Results are mainly similar to those reported for the final model for both bond costs and ratings.¹⁴ Thus, the assumption of independent residuals does not materially affect our conclusions.

E.3. Excluding bond issues by financial institutions

In our initial sample, we did not eliminate bond issues by banks and insurance companies. Because of the differences that could exist between financial and non-financial firms regarding debt financing and governance characteristics, our results could be influenced by the inclusion of the financial sector in our sample. After excluding financial institutions from the initial sample, we are left with 209 and 231 observations for the debt costs and the ratings model, respectively. When we re-run our costs and ratings models with these observations, we obtain almost similar results (unreported but available upon request) as in the final model with all bond issuers.

E.4. Excluding the U.K. sample

Issues from the U.K. account for close to 35% of our sample. To test whether such weight of UK issues has affected our results, we re-run our regressions excluding observations from the U.K. In unreported results, we find similar findings regarding all the legal variables except for

¹⁴ Results are available upon request.

debt enforcement days (ENFORCDYS) which loses its significance in the cost model, and for the cost of insolvency proceeding (COST_INSLV) which becomes significant and negative (as expected) in the ratings model. Particularly, for both the cost and ratings models, the creditor rights index remains insignificant while the debt enforcement measures still keep their significance and signs. However, for both bond costs and ratings models, the expropriation measure (C_O) is not significant while it keeps its expected sign. A possible explanation is provided by our previous result that only Western European debtholders anticipate expropriation, and are sensible to the voting/cash-flow rights divergence. Excluding around 35% of the European observations from our sample increases the likelihood that Asian observations become more influential (C_O is more likely to be insignificant as in the Asian sample).

E.5. Excluding the 1997 data

During the financial crisis of 1997, financial markets faced troubled times, especially in Asian countries. The data collected during that period could then be affected. To test whether our results are affected by such bias, we exclude all 1997 issues and we re-run our final models.¹⁵ Our unreported results are qualitatively the same as our original inferences.

E.6. Endogeneity issues

In our COST regressions, we did not include the rating as a potential explanatory variable. Some previous studies, however, argue that ratings may be a determinant for the cost of debt (see for example Chen et al., 2007; Yu, 2005 among others). In such a case, the results reported for the COST model would suffer from an endogeneity problem caused by the omission of the rating variable. We control for this situation in two ways: first, we re-run our final COST model (model (1), Table 8) by simply adding the rating as an extra control variable.

¹⁵ In unreported result we find similar findings when we exclude both 1997 and 1998 data from our sample.

Second, as in Anderson et al (2003), we re-run our final COST model and we add the residual values of the RATING where the predicted values are generated by regressing RATING on its control variables as in Table 9.¹⁶ This second alternative is motivated by the fact that our RATING and COST models have basically the same explanatory variables. Thus, simply adding the raw rating variable in the COST model, could bias results. Albeit the difference in these two approaches, the regression results (unreported but available upon request) are very similar, and broadly confirm the conclusions drawn from the main model of table 8.

V. Concluding Remarks

Our main goal in this study is to explore the combined effect of the ultimate ownership structure (hence the potential risk of expropriation by the controlling shareholders) and the quality of creditors' protection on the costs and ratings of corporate bonds in a large set of developed and developing countries. Using data on the ultimate ownership of firms around the world, we proxy for the likelihood of expropriation by controlling shareholders by the voting and cash-flow rights divergence. Our hypothesis is that large shareholders with voting rights in excess of their cash-flow rights could threaten the interests of minority stockholders as well as those of bondholders, essentially by undertaking less (or not) profitable projects that increase the likelihood of bankruptcy. We find that expropriation by controlling shareholders affects indeed debt costs and ratings. Using data on the identity of the ultimate owner, we find strong evidence that family control has a positive and significant effect on bond costs and a negative and significant effect on bond ratings. This result goes against evidence from U.S firms as documented by Anderson et al. (2003). The authors find indeed that family ownership

¹⁶ The unique difference compared to the regression reported in Table 9 is that the estimation is done using OLS technique instead of ordered probit. This is because we are seeking for numerical values of rating that would be subtracted from the real values to obtain the residuals.

concentration in the U.S. is negatively associated with the agency cost of debt, and they explain their result by the fact that founding families are concerned by their reputation, and by the firm survival. Our results can be rationalized as follows: First, when they are in a controlling position, families are more likely to extract private benefits that harm debtholders' interests. Second, these families avoid capital dilution to preserve their control, and are more likely to use debt financing as opposed to equity financing, hence higher leverage ratios. Control in the hands of widely held financial firms has a positive effect on bond ratings *only*, while State control affects neither bond costs nor bond ratings.

We also test whether debtholders in East Asian countries are less alert to expropriation by controlling shareholders than those in West European countries (as originally hypothesized by Faccio et al. (2001)). High fear of expropriation should result in a higher debt cost that is required by debtholders. As expected, East Asian bondholders do not seem to anticipate expropriation by controlling shareholders, while their West European counterparts are aware of such threat, and accordingly charge a higher interest rate for issuing firms with a wider discrepancy.

Finally, we adopt a large set of regulatory institutions to proxy for the quality of investor protection in the country, and examine their impact on the costs of debt financing and credit ratings. We find that a better debtholders' protection generally reduces bond costs and increases corporate bond ratings. More importantly, we find that, for both bondholders and rating agencies, *debt laws enforcement* is more important than the *existence of laws on the book*. Indeed, our results show that the creditor rights index has no significant effect on bond costs and ratings, while most measures of debt enforcement (the existence of a public credit registry, the estimated cost of insolvency proceedings, the efficiency of the bankruptcy process, and the number of contract enforcement days) are statistically and economically significant. This finding suggests

that both debtholders and rating agencies value the quality of debt enforcement, which is important for authorities who want to develop local debt markets: More efforts should be devoted to the enforcement of laws, such as creating credit registries and/or taking the appropriate measures to reduce the cost of insolvency proceedings, and the number of days it takes to resolve a payment dispute through courts, rather than the enactment of new laws.

These results are robust to several sensitivity checks such as the use of alternative benchmarks, the exclusion of issues by financial firms, those by British firms, and those during the Asian financial crisis of 1997.

References

- Anderson C. R., Mansi A. S. and Reeb, D. M., (2003), "Founding Family Ownership and the Agency Cost of Debt." *Journal of Financial Economics*, 68, pp. 263-285.
- Ashbaugh, H., Collins, D. W., and LaFond, R., (2006), "The effects of Corporate Governance on Firms' Credit Ratings." *Journal of Accounting and Economics*, vol. 42, issue 1-2, pp. 203-243.
- Black, F. and Scholes, M. S., (1973), "The Pricing of Options and Corporate Liabilities." *The Journal of Political Economy*, 81, 3, pp. 637-654.
- Belsley, D. A., Kuh, E. & Welsch, R. E. (1980). *Regression Diagnostics: Identifying influential data and sources of collinearity*. New York: John Wiley.
- Berle, A., and Means, G., (1932), *The Modern corporation and Private Property*, New York: Macmillan.
- Bhattacharya, U., and Daouk, H., (2002), "The world price of insider trading." *Journal of Finance*, 57, pp. 75-108.
- Bhojraj, S. and P. Sengupta, (2003), "Effect of Corporate Governance on Bond Ratings and Yields: The Role of Institutional Investors and the Outside Directors," *The Journal of Business*, 76, pp. 455-475.
- Billett, M., T. King, and D. Mauer, (2004), "Bondholder Wealth Effects in Mergers and Acquisitions: New Evidence from the 1980's and 1990's," *The Journal of Finance*, 59, pp. 107-135.
- Chen, L., D. Lesmond, and J. Wei. (2007), "Corporate yield spreads and bond liquidity." *Journal of Finance*, 62, 1 , pp.119-149.
- Claessens, S., Djankov, S. and Larry H. P. Lang, (2000), "The separation of ownership and control in East Asian Corporations." *Journal of Financial Economics*, 58, 1-2, pp 81-112.

- Cremers, M., V. Nair, and C. Wei, (2004), "The Impact of Shareholder Control on Bondholders." *Working paper*, Yale School of Management.
- Denis D. K., and McConnell J. J., (2003), "International Corporate Governance." *Journal of Financial and Quantitative Analysis*, 38, 1, pp. 1-36.
- Dennis, D., and J. J. McConnell, (1986), "Corporate mergers and security returns." *Journal of Financial Economics*, 16, pp. 143-187.
- Djankov, S., Hart, O., McLiesh, C., and Shleifer, A., (2006), "Debt Enforcement around the World." NBER Working Paper N°12807.
- Djankov, S., McLiesh, C., and Shleifer, A., (2007), "Private Credit in 129 Countries." *Journal of Financial Economics*, 84, 2, pp. 299-329.
- Dyck, A. and Zingales, L., (2004), "Private Benefits of Control: An International Comparison." *Journal of Finance* 59, pp. 537-600.
- Ellis, D., (1998), "Different Sides of the Same Story: Investors' and Issuers' Views of Rating Agencies." *The Journal of Fixed Income*, 7, 4, pp. 35-45.
- Ellul, A., Guntay, L., and Lel, U. (2005), "External Governance and Debt Agency Costs of Family Firms." *Working Paper*, Indiana University. Available at SSRN: <http://ssrn.com/abstract=687371>.
- Esty, B. C., and Megginson, W. L., (2003), "Creditor Rights, Enforcement, and Debt Ownership Structure: Evidence from the Global Syndicated Loan Market." *Journal of Financial and Quantitative Analysis*, 38, 1, pp. 37-59.
- Faccio, M., Larry H. P. Lang and Leslie Young, (2001), "Dividends and Expropriation." *American Economic Review*, 91, 1, pp. 54-78.
- Faccio, M. and Larry H. P. Lang, (2002), "The ultimate ownership of western European corporations." *Journal of Financial Economics*, 65, 3, pp. 365-395.

- Fluck, Zsuzsanna, (1999), "The Dynamics of the Management-Shareholder Conflict." *The Review of Financial Studies*, 12, 2, pp. 379-404.
- Franks, J. R., and C. Mayer, (2001), "Ownership and Control of German Corporations." *The Review of Financial Studies*, 14, pp. 943-977.
- Gompers, P., Ishii J., and A. Metrick, (2003), "Corporate Governance and Equity Prices." *Quarterly Journal of Economics*, 118, pp. 107-155.
- Hand J. R. M., Holthausen R. W., Leftwich R. W., (1992), "The Effect of Bond Rating Agency Announcements on Bond and Stock Prices." *The Journal of Finance*, XLVII, 2, pp. 733-752.
- Hermalin B. E., Weisbach M. S., (2003), "Boards of directors as an endogenously determined institution: A survey of the economic literature." *Economic Policy Review*, 9, 1, pp. 7-26.
- Jensen, M., (1986), "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers." *The American Economic Review*, 76, 2, pp. 323-329.
- Jensen, M. and W. Meckling, (1976), "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure." *Journal of Financial Economics*, 3, pp. 305-360.
- Klock, M., S. Mansi and W. Maxwell, (2005), "Does corporate governance matter to bondholders." *Journal of Financial and Quantitative Analysis*, 40, 4, pp. 693-720.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., et Vishny, R., (1997), "Legal Determinants of External Finance." *The Journal of Finance*, 52, 3, pp. 1131-1150.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., et Vishny, R., (1998), "Law and Finance." *Journal of Political Economy*, 106, pp. 1113-1154.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., (1999), "Corporate Ownership Around the World." *The Journal of Finance*, 54, 2, pp. 471-517.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., (2006), "What Works in Securities Laws." *The Journal of Finance*, 61, 1, pp. 1-32.

- Lehn, K., and Poulsen, A., (1988), "Leveraged Buyouts: Wealth Created or Wealth Redistributed?" In: M. Weidenbaum and K. Chilton, eds., *Public Policy Toward Corporate Takeovers*, pp. 46-62.
- Mansi, S. A., Maxwell, W. F. and Wald, J. K., "Do State Laws Matter for Bondholders?" (2007), 1st Annual Conference on Empirical Legal Studies. Paper Available at SSRN : <http://ssrn.com/abstract=892808>.
- Maquieira, C. P., W. L. Megginson, and L. Nail, (1998), "Wealth creation versus wealth redistributions in pure stock-for-stock mergers." *Journal of Financial Economics*, 48, pp. 3-33.
- Marais, L., Schipper, K., and Smith, A., (1989), "Wealth Effects of Going Private for Senior Securities." *Journal of Financial Economics*, 23, pp. 155-191.
- Morck, R., Shleifer, A., and Vishny, R. W., (1989), "Alternative Mechanisms for Corporate Control." *The American Economic Review*, 79, 4, pp. 842-852.
- Prowse, S. D., (1992), "The Structure of Corporate Ownership in Japan." *Journal of Finance*, 47, pp. 1121-1141
- Sengupta, P., (1998), "Corporate Disclosure Quality and the Cost of Debt." *The Accounting Review*, 73, pp. 459-474.
- Shleifer, A. and R. Vishny, (1997), "A Survey of Corporate Governance." *The Journal of Finance*, 52, pp. 737-783.
- Stigler, G., (1964), "Public Regulation of the Securities Market." *Journal of Business*, 37, pp. 117-142.
- Valadares, S. M., and R. P. C. Leal, (2000), "Ownership and Control Structure of Brazilian Companies." *Working Paper*, Universidade Federal do Rio de Janeiro.
- Walsh, J., and Seward, J., (1990), "On the Efficiency of Internal and External Corporate Control Mechanisms." *The Academy of Management Review*, 15, 3, pp. 421-458.

- Warga, A., and I. Welch, (1993), "Bondholder Losses in Leveraged Buyouts." *The Review of Financial Studies*, 6, 4, pp. 959-982.
- Xu, X., and Y Wang, (1997), "Ownership Structure, Corporate Governance, and Firms' Performance: The Case of Chinese Stock Companies." *World Bank Policy Research Working Paper No. 1794*. Available at SSRN: <http://ssrn.com/abstract=45303>.
- Yu, F. (2005), "Accounting transparency and the term structure of credit spreads." *Journal of Financial Economics* 75, 1, pp. 53-84.

Table 1: Variables Description and Data Sources

Variable	Description	Source
COST	Yield to maturity on the bond issues minus the yield to maturity on a US treasury bond of similar maturity (in basis points).	Fixed Investment Securities Database
RATING	Ordinal variable taking on value from 1 to 7 that represent the S&P bond ratings. For more details on the transformation procedure, see APPENDIX I.	Fixed Investment Securities Database
C_O	A measure of the likelihood of expropriation by excess control. It is the difference between voting and cash-flow rights of the largest shareholders at a 10% level.	Claessens et al. (2000) & Faccio and Lang (2002)
FAMILY	A dummy variable equals to 1 if the controlling shareholder is a family.	Claessens et al. (2000) & Faccio and Lang (2002)
MANAGER	A dummy variable equals to 1 if a member of the controlling family is a CEO, Honorary Chairman, Chairman, or Vice-Chairman	Claessens et al. (2000) & Faccio and Lang (2002)
STATE	A dummy variable equals to 1 if the controlling shareholder is a State.	Claessens et al. (2000) & Faccio and Lang (2002)
WHELDFIN	A dummy variable equals to 1 if the controlling shareholder is a Widely held financial firm.	Claessens et al. (2000) & Faccio and Lang (2002)
Creditor rights (CREDRIGHTS)	An index reflecting creditor rights. It is formed by adding 1 when (1) the country imposes restrictions , such as creditors consent or minimum dividends to file for reorganization; (2) secured creditors are able to gain possession of their security once the reorganization petition has been approved (no automatic stay); (3) secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; and (4) the debtor does not retain the administration of its property pending the resolution of the reorganization. The index ranges from zero to four.	La Porta et al. (1998)
Public registry (PUBREGIS)	A dummy variable equals 1 if a public credit registry operates in the country, 0 otherwise. A public registry is defined as a database owned by public authorities (usually the Central Bank or Banking Supervisory Authority), that collects information on the standing of borrowers in the financial system and makes it available to financial institutions. The variable is constructed as at January for every year from 1978 to 2003.	Djankov et al. (2006)
Cost of the Insolvency (COST_INSLV)	The estimated cost of the bankruptcy proceeding for a firm. It is the ratio of all kinds of costs (authority costs, accountant fees, inspector fees, bankruptcy administrator fees,...) to the value of the insolvency estate.	Djankov et al. (2006)
Efficiency of the bankruptcy process (EFFDBTENFORC)	It is the present value of the terminal value of the firm after bankruptcy costs. It reflects the value preserved in debt enforcement proceedings. Higher values indicate higher efficiency of the debt enforcement.	Djankov et al. (2006)
Contract enforcement days (ENFORCDYS)	The number of days to resolve a payment dispute through courts. It is the number of calendar days to enforce a contract of unpaid debt worth 50% of the country's GDP per capita. The variable is constructed as at January 2003.	Djankov et al. (2006)

Newspaper circulation / population (NEWS)	Circulation of daily newspapers divided by population.	Dyck and Zingales (2004)
Corruption (CORRUPTION)	An index (ranges from 0 to 10) that indicates the level of corruption in the government. Low ratings indicate higher corruption levels.	International Country Risk Guide (ICR)
Inflation Rate (INFLATION)	Annual percentage changes of the country Consumer Price Index.	International Financial Statistics (IFM)
Debt Market Size (DEBTMKT SIZE)	It is the ratio of the sum of bank debt of private sector and outstanding non-financial bonds to GNP.	International Financial Statistics
Economic Development (GDPGROWTH)	Average annual growth of per capita GDP.	International Financial Statistics
Maturity (LMAT)	The logarithm of the years to maturity.	Fixed Investment Securities Database
Issue size (LISIZE)	The logarithm of the size (offering amount) of the issue (in US \$ 1,000).	Fixed Investment Securities Database
Firm size (ASSET)	The annual total assets for the year preceding the bond issue, or last available (in US \$ 1,000).	Worldscope
Risk (STDNINC)	The operational risk as measured by the standard deviation of the net annual incomes for the five years before the bond issue, or last available.	Worldscope
Performance (ROI)	The Return On Investments as of the year before the bond issue, or last available.	Worldscope
Leverage (LEVERAGE)	The ratio of total debts to total assets for the year preceding the bond issue, or last available.	Worldscope
(FINANCE)	A dummy variable that equals 1 if the firm operates in the financial sector; 0 otherwise.	Fixed Investment Securities Database
(UTILITY)	A dummy variable that equals 1 if the firm operates in the utility sector; 0 otherwise	Fixed Investment Securities Database
(HIGHTEC)	A dummy variable that equals 1 if the firm operates in the high-technology industry; 0 otherwise	American Electronics Association (AeA) website
(BFRCRISIS)	A dummy variable that equals 1 if the bond was issued before 1997; 0 otherwise	Fixed Investment Securities Database
(YRS9798)	A dummy variable that equals 1 if the bond was issued between 1997 and 1998; 0 otherwise	Fixed Investment Securities Database
(POSTCRISIS)	A dummy variable that equals 1 if the bond was issued after 1998; 0 otherwise	Fixed Investment Securities Database
(ASIA)	A dummy variable that equals 1 if the firm is from Asia; 0 otherwise	Claessens et al. (2000) & Faccio and Lang (2002)
(EUROPE)	A dummy variable that equals 1 if the firm is from Europe; 0 otherwise	Claessens et al. (2000) & Faccio and Lang (2002)

Table 2: Data Distribution

This table provides a description of the distribution of bond yields' and bond ratings' data across countries in our sample.

Country	Initial Data available on bond yields and ratings	Bond yield data after eliminating all missing values		Bond rating data after eliminating all missing values	
		Raw	%	Raw	%
Austria	26	3	1.15	4	1.20
Belgium	1	0	0.00	0	0.00
Finland	2	1	0.38	1	0.30
France	65	47	18.01	58	17.47
Germany	115	10	3.83	32	9.64
Hong Kong	9	2	0.77	4	1.20
Indonesia	1	1	0.38	1	0.30
Ireland	4	2	0.77	3	0.90
Italy	6	5	1.92	3	0.90
Japan	12	5	1.92	7	2.11
Malaysia	10	9	3.45	7	2.11
Norway	25	18	6.90	15	4.52
The Philippines	19	13	4.98	16	4.82
Portugal	1	1	0.38	1	0.30
Singapore	11	7	2.68	6	1.81
South Korea	26	16	6.13	20	6.02
Spain	2	0	0.00	0	0.00
Sweden	19	15	5.75	16	4.82
Switzerland	32	0	0.00	21	6.33
Thailand	17	10	3.83	7	2.11
Taiwan	7	0	0.00	0	0.00
UK	158	96	36.78	110	33.13
Total	568	261	100.00	332	100.00

Table 3: Summary Statistics

This table reports summary statistics. The variables' descriptions appear in Table 1. The significance levels of correlations with COST and RATING are given into parentheses.

Variable	Mean	Std. Dev.	Min	Max	Pearson Correlation with COST	Pearson Correlation with RATING
COST	150.403	125.848	0	816	-	-0.527 (0.000)
RATING	4.637	1.351	1	7	-0.527 (0.000)	-
LMAT	9.192	7.814	0.961	99.997	0.065 (0.299)	-0.130 (0.022)
LISIZE	12.458	1.154	6.910	18.420	-0.208 (0.000)	0.171 (0.002)
ASSET (in US\$ millions)	108	186	0.058	754	-0.15 (0.0167)	0.271 (0.000)
STDNINC (in US\$ millions)	0.419	0.930	0.000	5.843	-0.007 (0.903)	0.027 (0.633)
ROI	7.49	20.576	-43.89	252.45	-0.082 (0.187)	-0.006 (0.906)
LEVERAGE	42.788	23.941	0	206.38	0.213 (0.000)	-0.016 (0.773)
C_O	3.601	8.493	0	54.36	0.139 (0.025)	-0.107 (0.061)
FAMILY	0.278	0.448	0	1	0.231 (0.000)	-0.435 (0.000)
MANAGER	0.028	0.165	0	1	0.084 (0.180)	-0.157 (0.005)
STATE	0.188	0.391	0	1	-0.137 (0.005)	0.162 (0.004)
WHELDFIN	0.197	0.398	0	1	0.072 (0.247)	0.253 (0.000)
INFLATION	2.226	1.446	-1.583	8.844	0.15 (0.016)	-0.372 (0.000)
GDPGROWTH	3.132	2.211	0.3	11.56	-0.204 (0.001)	-0.010 (0.849)
DEBTMKTSIZE	0.947	0.259	0.1	1.22	-0.211 (0.000)	0.235 (0.000)
CREDRIGHTS	2.625	1.388	0	4	-0.097 (0.122)	0.059 (0.302)
PUBREGIS	0.412	0.492	0	1	-0.159 (0.010)	0.277 (0.000)
COST_INSLV	9.221	8.167	1	38	0.271 (0.000)	-0.245 (0.000)
EFFDBTENFORC	72.918	20.219	17.5	96.1	-0.157 (0.011)	0.070 (0.218)
ENFORCDYS	224.482	156.504	60	1 390	0.111 (0.075)	-0.159 (0.005)
NEWS	3.099	1.284	0	8	-0.166 (0.007)	0.223 (0.000)
CORRUPTION	8.5	1.627	2	10	-0.21 (0.000)	0.310 (0.000)

Table 4: Ultimate Ownership Structure and Debt Cost

This table reports the OLS regression results for the debt costs on the ultimate ownership structure and firm- and issue- control variables. The variables' descriptions are presented in Table 1. ***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable: COST	(1)	(2)	(3)	(4)	(5)	(6)	(7)	East Asian	West European
Constant	165.197 (0.000)***	155.911 (0.000)***	142.350 (0.000)***	162.140 (0.000)***	182.342 (0.000)***	174.442 (0.000)***	163.072 (0.000)***	200.904 (0.000)***	155.529 (0.000)***
LMAT	13.965 (0.028)**	16.692 (0.012)**	15.703 (0.008)***	14.507 (0.023)**	16.762 (0.006)***	10.975 (0.082)*	20.344 (0.001)***	1.795 (0.908)	22.805 (0.003)***
LISIZE	-21.877 (0.005)***	-20.806 (0.007)***	-16.950 (0.020)**	-20.638 (0.008)***	-14.358 (0.057)*	-26.125 (0.001)***	-20.176 (0.006)***	-25.017 (0.100)*	-18.772 (0.025)**
ASSET	-15.533 (0.003)***	-14.710 (0.005)***	-9.791 (0.050)**	-14.992 (0.004)***	-14.903 (0.002)***	-12.840 (0.022)**	-20.406 (0.000)***	-5.765 (0.518)	-21.465 (0.000)***
STDINC	17.028 (0.007)***	19.661 (0.003)***	18.855 (0.002)***	17.385 (0.005)***	21.420 (0.003)***	20.782 (0.001)***	17.839 (0.002)***	20.886 (0.099)*	19.965 (0.000)***
ROI	-11.372 (0.017)**	-9.323 (0.051)*	-14.006 (0.003)***	-11.241 (0.020)**	-13.593 (0.007)***	-12.006 (0.010)***	-12.116 (0.021)**	-36.149 (0.106)	-11.663 (0.089)*
LEVERAGE	24.774 (0.001)***	23.265 (0.003)***	20.719 (0.004)***	25.070 (0.001)***	26.549 (0.000)***	22.109 (0.004)***	21.186 (0.003)***	16.532 (0.331)	19.775 (0.016)**
INFLATION	5.590 (0.354)	8.029 (0.200)	7.862 (0.158)	6.887 (0.250)	7.179 (0.215)	9.814 (0.129)	9.064 (0.124)	7.904 (0.702)	13.122 (0.136)
GDPGROWTH	-35.793 (0.000)***	-33.923 (0.000)***	-33.903 (0.000)***	-34.643 (0.000)***	-23.904 (0.002)***	-41.754 (0.000)***	-35.411 (0.000)***	-71.786 (0.000)***	-30.638 (0.000)***
DEBTMKTSIZE	-13.373 (0.058)*	-11.569 (0.117)	-19.103 (0.009)***	-13.604 (0.056)**	-20.423 (0.006)***	-15.251 (0.030)**	-14.662 (0.044)**	-50.137 (0.010)**	-2.548 (0.711)
C_O		2.418 (0.064)*					15.959 (0.030)**	18.265 (0.133)	26.249 (0.001)***
FAMILY			65.791 (0.000)***				34.536 (0.000)***	37.017 (0.012)**	30.279 (0.000)***
MANAGER				55.746 (0.153)			-4.237 (0.620)	-19.858 (0.001)***	0.745 (0.933)
STATE					-73.467 (0.000)***		-8.410 (0.131)	-30.579 (0.069)*	1.184 (0.818)
WHELDFIN						-62.667 (0.005)***	-8.329 (0.230)	26.491 (0.366)	-24.061 (0.001)***
FAMILYxC_O							23.118 (0.000)***	4.591 (0.740)	17.631 (0.013)**
STATExC_O							-2.371 (0.671)	--- (a)	-10.702 (0.050)**
WHELDFINxC_O							8.836 (0.061)*	--- (a)	13.489 (0.027)**
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	256	256	256	256	256	256	256	58	198
F	5.63	5.77	6.55	5.63	6.04	5.82	6.37	5.77	4.51
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Adj. R-Square (%)	40.83	42.18	45.92	41.47	43.51	42.41	49.2	73.41	40.99

(a) Variable dropped because of lack of variability.

Table 5: Ultimate Ownership Structure and Debt Ratings

This table presents the Ordered Probit regression results of debt ratings on ultimate ownership structure, as well as firm- and issue- control variables. The variables' descriptions are presented in Table 1. ***, **, and * refer to significance at the 1, 5, and 10% level respectively. (Coefficients are multiplied by 100)

Dependent variable: RATING	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LMAT	-19.700 (0.001)***	-21.700 (0.000)***	-14.900 (0.012)**	-17.300 (0.005)***	-20.700 (0.001)***	-9.200 (0.144)	-20.300 (0.001)***
LISIZE	21.508 (0.000)***	21.045 (0.000)***	16.076 (0.004)***	21.262 (0.000)***	18.632 (0.002)***	31.515 (0.000)***	29.036 (0.000)***
ASSET	30.400 (0.000)***	29.883 (0.000)***	23.106 (0.000)***	29.768 (0.000)***	28.812 (0.000)***	30.003 (0.000)***	38.278 (0.000)***
STDINC	-13.976 (0.002)***	-15.366 (0.001)***	-18.246 (0.000)***	-15.667 (0.001)***	-16.803 (0.003)***	-18.874 (0.000)***	-16.083 (0.000)***
ROI	-0.954 (0.839)	-2.266 (0.637)	3.937 (0.374)	-3.376 (0.459)	-0.377 (0.935)	2.569 (0.607)	0.044 (0.993)
LEVERAGE	0.044 (0.994)	1.451 (0.821)	3.174 (0.605)	-1.841 (0.774)	-0.547 (0.932)	-4.669 (0.450)	0.909 (0.878)
INFLATION	-39.009 (0.000)***	-39.938 (0.000)***	-43.173 (0.000)***	-43.720 (0.000)***	-40.714 (0.000)***	-44.916 (0.000)***	-47.542 (0.000)***
GDPGROWTH	10.375 (0.062)*	10.225 (0.074)*	10.662 (0.058)*	7.789 (0.181)	4.757 (0.475)	21.254 (0.001)***	17.863 (0.005)***
DEBTMKTSIZE	1.937 (0.750)	0.633 (0.920)	13.308 (0.044)**	3.514 (0.543)	5.746 (0.369)	6.852 (0.268)	6.162 (0.359)
FINANCE	33.607 (0.000)***	34.463 (0.000)***	29.389 (0.000)***	39.732 (0.000)***	35.714 (0.000)***	27.397 (0.000)***	41.716 (0.000)***
UTILITY	1.148 (0.851)	1.892 (0.756)	-2.304 (0.728)	2.740 (0.659)	-3.485 (0.609)	-0.806 (0.896)	4.243 (0.507)
HIGHTEC	-32.181 (0.000)***	-30.924 (0.000)***	-28.036 (0.000)***	-34.126 (0.000)***	-29.516 (0.000)***	-32.121 (0.000)***	-34.564 (0.000)***
YRS9798	0.364 (0.957)	-0.694 (0.918)	3.394 (0.632)	-0.144 (0.983)	0.442 (0.948)	5.104 (0.450)	-4.662 (0.493)
POSTCRISIS	-8.341 (0.239)	-8.322 (0.244)	-7.630 (0.262)	-9.079 (0.184)	-6.440 (0.362)	-8.304 (0.267)	-11.593 (0.091)*
EUROPE	7.387 (0.280)	8.082 (0.243)	9.765 (0.148)	9.883 (0.155)	7.324 (0.278)	16.155 (0.041)**	9.603 (0.230)
C_O		-1.424 (0.058)*					-18.848 (0.008)***
FAMILY			-107.535 (0.000)***				-49.737 (0.000)***
MANAGER				-152.480 (0.000)***			-20.914 (0.002)***
STATE					38.922 (0.052)*		2.531 (0.702)
WHELDFIN						119.893 (0.000)***	35.082 (0.000)***
FAMILYxC_O							-24.048 (0.000)***
STATExC_O							10.472 (0.245)
WHELDFINxC_O							-7.856 (0.030)**
N	307	307	307	307	307	307	307
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Model Chi2	161.78	160.3	190.65	165.62	192.77	133.46	158.14
Pseudo R-Square (%)	13.54	13.98	18.67	15.67	14.01	17.78	24.29

Table 6: Regulatory Institutions and Debt Costs

This table reports the OLS regression results of debt costs on regulatory institutions, as well as firm- and issue- control variables. The variables' descriptions are presented in Table 1. ***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable: COST	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Constant	165.663 (0.000)***	165.614 (0.000)***	165.408 (0.000)***	165.890 (0.000)***	165.336 (0.000)***	166.117 (0.000)***	165.596 (0.000)***	165.67 (0.000)***
LMAT	12.295 (0.047)**	12.247 (0.049)**	13.149 (0.039)**	12.261 (0.048)**	12.063 (0.050)**	10.963 (0.092)*	13.011 (0.036)**	10.669 (0.115)
LISIZE	-22.507 (0.003)***	-22.509 (0.003)***	-22.130 (0.005)***	-22.476 (0.003)***	-22.208 (0.003)***	-22.850 (0.003)***	-22.665 (0.003)***	-21.940 (0.004)***
ASSET	-14.748 (0.004)***	-14.784 (0.004)***	-15.471 (0.004)***	-14.894 (0.003)***	-14.620 (0.005)***	-14.837 (0.004)***	-15.075 (0.004)***	-15.030 (0.004)***
STDINC	16.971 (0.007)***	16.936 (0.007)***	17.001 (0.006)***	16.893 (0.006)***	16.789 (0.007)***	16.820 (0.006)***	17.081 (0.007)***	16.651 (0.006)***
ROI	-11.494 (0.018)**	-11.420 (0.018)**	-11.328 (0.019)**	-11.566 (0.016)**	-11.085 (0.024)**	-11.598 (0.016)**	-11.161 (0.021)**	-11.639 (0.015)**
LEVERAGE	24.946 (0.001)***	25.065 (0.001)***	24.959 (0.001)***	25.031 (0.001)***	25.186 (0.001)***	24.639 (0.001)***	25.182 (0.001)***	24.520 (0.001)***
INFLATION	4.718 (0.454)	4.864 (0.437)	5.185 (0.400)	5.072 (0.414)	5.365 (0.382)	5.203 (0.410)	5.695 (0.353)	4.179 (0.512)
GDPGROWTH	-36.427 (0.000)***	-36.731 (0.000)***	-36.370 (0.000)***	-36.250 (0.000)***	-37.236 (0.000)***	-36.646 (0.000)***	-36.303 (0.000)***	-36.886 (0.000)***
DEBTMKTSIZE	-13.838 (0.050)**	-13.695 (0.055)*	-13.339 (0.065)*	-13.819 (0.054)*	-13.319 (0.065)*	-13.787 (0.058)*	-13.414 (0.060)*	-13.712 (0.054)*
CREDRIGHTS	-0.125 (0.986)							-0.083 (0.990)
PUBREGIS		-19.728 (0.003)***						-24.017 (0.000)***
COST_INSLV			19.134 (0.006)***					21.844 (0.003)***
EFFDBTENFORC				-3.319 (0.631)				-16.067 (0.000)***
ENFORCDYS					7.048 (0.091)*			9.294 (0.001)***
NEWS						-15.933 (0.020)**		-22.062 (0.000)***
CORRUPTION							-31.111 (0.000)***	-2.247 (0.684)
<i>Country Dummies</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Industry Dummies</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>Year Dummies</i>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	256	256	256	256	256	254	256	254
F	5.48	5.51	5.46	5.49	5.54	5.38	5.57	4.8
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Adjusted R-Square (%)	40.05	40.41	39.95	40.08	40.43	39.68	40.5	39.77

Table 7: Regulatory Institutions and Debt Ratings

This Table reports the Ordred Probit regression results of debt ratings on the regulatory institutions, firm- and issue-control variables. The variables' descriptions are presented in Table 1. ***, **, and * refer to significance at the 1, 5, and 10% level respectively. (Coefficients are multiplied by 100)

Dependent variable: RATING	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LMAT	-19.700 (0.001)***	-20.400 (0.001)***	-19.800 (0.001)***	-19.700 (0.001)***	-19.700 (0.001)***	-18.900 (0.001)***	-19.700 (0.001)***	-26.200 (0.000)***
LISIZE	21.500 (0.000)***	21.800 (0.000)***	21.800 (0.000)***	21.500 (0.000)***	22.900 (0.000)***	22.200 (0.000)***	21.900 (0.000)***	25.500 (0.000)***
ASSET	30.400 (0.000)***	30.900 (0.000)***	30.500 (0.000)***	30.300 (0.000)***	31.000 (0.000)***	31.100 (0.000)***	30.600 (0.000)***	37.600 (0.000)***
STDINC	-13.900 (0.002)***	-14.400 (0.005)***	-13.900 (0.002)***	-14.000 (0.003)***	-14.100 (0.005)***	-14.100 (0.001)***	-14.100 (0.002)***	-19.300 (0.000)***
ROI	-0.943 (0.840)	-0.862 (0.852)	-1.091 (0.815)	-0.788 (0.866)	-0.766 (0.869)	-1.378 (0.775)	-0.924 (0.844)	-3.252 (0.554)
LEVERAGE	0.014 (0.998)	-0.984 (0.873)	0.201 (0.975)	-0.360 (0.954)	-0.064 (0.992)	1.291 (0.843)	0.066 (0.992)	1.673 (0.795)
INFLATION	-38.990 (0.001)***	-39.224 (0.001)***	-39.839 (0.001)***	-38.619 (0.001)***	-39.848 (0.001)***	-42.362 (0.001)***	-39.339 (0.001)***	-49.727 (0.001)***
GDPGROWTH	10.398 (0.063)*	10.185 (0.064)*	10.094 (0.073)*	10.421 (0.065)*	10.221 (0.064)*	11.047 (0.045)**	11.011 (0.040)**	10.055 (0.068)*
DEBTMKTSIZE	1.957 (0.747)	1.721 (0.776)	1.618 (0.792)	2.140 (0.725)	2.648 (0.658)	2.660 (0.662)	2.176 (0.720)	4.290 (0.491)
FINANCE	33.663 (0.000)***	35.771 (0.000)***	33.589 (0.000)***	34.178 (0.000)***	33.944 (0.000)***	32.676 (0.000)***	33.187 (0.000)***	42.219 (0.000)***
UTILITY	1.200 (0.842)	2.024 (0.740)	0.960 (0.875)	1.520 (0.802)	1.458 (0.811)	0.455 (0.942)	1.385 (0.820)	1.253 (0.845)
HIGHTEC	-32.166 (0.001)***	-32.075 (0.001)***	-32.349 (0.001)***	-31.992 (0.001)***	-32.277 (0.001)***	-33.279 (0.001)***	-32.309 (0.001)***	-37.487 (0.001)***
YRS9798	0.385 (0.954)	0.995 (0.884)	0.639 (0.925)	0.485 (0.943)	0.783 (0.907)	0.104 (0.988)	0.210 (0.975)	-0.570 (0.932)
POSTCRISIS	-8.343 (0.240)	-8.987 (0.215)	-7.983 (0.262)	-8.639 (0.229)	-7.901 (0.275)	-7.559 (0.288)	-8.829 (0.207)	-7.449 (0.299)
EUROPE	7.363 (0.282)	8.348 (0.234)	7.240 (0.289)	7.792 (0.262)	6.330 (0.352)	6.254 (0.356)	6.044 (0.374)	9.992 (0.164)
CREDRIGHTS	-0.851 (0.876)							-0.238 (0.970)
PUBREGIS		18.299 (0.004)***						33.103 (0.000)***
COST_INSLV			-4.610 (0.597)					-9.222 (0.282)
EFFDBTENFORC				-7.337 (0.264)				26.805 (0.000)***
ENFORCDYS					-16.066 (0.003)***			-33.080 (0.000)***
NEWS						14.390 (0.032)**		55.860 (0.000)***
CORRUPTION							11.074 (0.101)	-4.890 (0.476)
N	307	307	307	307	307	304	307	304
Model Chi2	169.48	172.59	179.85	185.81	177.26	174.59	204.22	304.45
Sig.	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Pseudo R-Square	13.54	14.46	13.59	13.69	14.04	14.3	13.86	23.19

Table 8: The Determinants of Debt Costs

This table reports the OLS estimates of the final model of debt costs. The variables' descriptions are presented in Table 1. ***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable: COST	Expected Sign	(1) Basic model	(2) 2SLS	(3)
Constant	?	163.024 (0.000)***	162.590 (0.000)***	142.566 (0.000)
LMAT	+	18.328 (0.006)***	14.730 (0.035)**	3.998 (0.443)
LISIZE	?	-19.184 (0.007)***	-18.306 (0.014)**	2.994 (0.587)
ASSET	?	-21.701 (0.000)***	-19.257 (0.000)***	-5.721 (0.519)
STDINC	+	17.814 (0.001)***	16.632 (0.002)***	9.224 (0.228)
ROI	-	-12.669 (0.015)**	-12.653 (0.029)**	0.380 (0.957)
LEVERAGE	+	20.938 (0.004)***	22.887 (0.001)***	14.441 (0.016)**
INFLATION	+	7.460 (0.200)	7.707 (0.193)	-0.271 (0.958)
GDPGROWTH	-	-35.315 (0.000)***	-37.037 (0.000)***	-10.133 (0.000)***
DEBTMKTSIZE	-	-14.632 (0.037)**	-12.903 (0.071)*	-13.668 (0.000)***
C_O	+	19.172 (0.007)***	18.564 (0.011)**	7.270 (0.194)
FAMILY	?	33.119 (0.000)***	31.894 (0.000)***	17.477 (0.001)***
MANAGER	?	-3.276 (0.689)	-8.253 (0.375)	16.034 (0.002)***
STATE	?	-8.513 (0.100)*	2.147 (0.695)	-0.935 (0.870)
WHELDFIN	?	-8.056 (0.228)	12.570 (0.115)	-8.669 (0.093)*
FAMILYxC_O	?	19.567 (0.003)***	13.615 (0.036)**	-6.562 (0.144)
STATExC_O	?	-5.110 (0.374)	-8.421 (0.224)	-0.039 (0.996)
WHELDFINxC_O	?	11.376 (0.017)**	-2.675 (0.631)	-3.614 (0.115)
CREDRIGHTS	-	0.140 (0.981)	6.343 (0.290)	-6.764 (0.171)
PUBREGIS	-	-27.886 (0.000)***	-25.141 (0.000)***	-8.333 (0.019)**
COST_INSLV	+	24.267 (0.000)***	22.876 (0.000)***	10.033 (0.000)***
EFFDBTENFORC	-	-17.156 (0.000)***	-15.680 (0.000)***	-20.831 (0.000)***
ENFORCDYS	+	9.040 (0.010)***	14.269 (0.000)***	7.420 (0.128)
NEWS	-	-19.021 (0.000)***	-13.073 (0.003)***	-5.624 (0.206)
CORRUPTION	-	-2.449 (0.626)	-9.258 (0.133)	1.935 (0.699)
<i>Country Dummies</i>		Yes	Yes	Yes
<i>Industry Dummies</i>		Yes	Yes	Yes
<i>Year Dummies</i>		Yes	Yes	Yes
N		254	254	120
F		6.16	5.19	2.98
Sig.		(0.000)***	(0.000)***	(0.000)***
Adjusted R-Square (%)		51.48	46.25	39.91

Table 9: The Determinants of Debt Ratings

This table reports the Probit estimates of the final model of debt ratings. The variables' descriptions are presented in Table 1. ***, **, and * refer to significance at the 1, 5, and 10% level respectively. (Coefficients are multiplied by 100).

Dependent variable: RATING	Expected Sign	(1) Final model
LMAT	-	-25.758 (0.000)***
LISIZE	?	34.079 (0.000)***
ASSET	?	45.400 (0.000)***
STDINC	-	-21.648 (0.000)***
ROI	+	-2.124 (0.737)
LEVERAGE	-	5.043 (0.435)
INFLATION	-	-57.054 (0.000)***
GDPGROWTH	+	18.653 (0.004)***
DEBTMKTSIZE	+	9.733 (0.161)
FINANCE	?	49.654 (0.000)***
UTILITY	?	4.080 (0.537)
HIGHTEC	?	-40.622 (0.000)***
YRS9798	?	-7.208 (0.315)
POSTCRISIS	?	-10.344 (0.123)
EUROPE	?	11.104 (0.175)
C_O	-	-17.922 (0.002)***
FAMILY	?	-55.421 (0.000)***
MANAGER	?	-27.219 (0.000)***
STATE	?	3.886 (0.593)
WHELDFIN	?	44.018 (0.000)***
FAMILYxC_O	?	-24.504 (0.000)***
STATExC_O	?	17.829 (0.002)***
WHELDFINxC_O	?	-9.041 (0.032)**
CREDRIGHTS	+	1.056 (0.879)
PUBREGIS	+	14.743 (0.051)*
COST_INSLV	-	-12.529 (0.170)
EFFDBTENFORC	+	25.455 (0.001)***
ENFORCDYS	-	-51.289 (0.000)***
NEWS	+	44.239 (0.000)***

CORRUPTION	+	-6.649 (0.328)
<hr/>		
N		304
Model Chi2		250.26
Sig.		(0.000)***
Pseudo R-Square		32.43
<hr/>		

APPENDIX I: S&P credit rating transformations

S&P Initial Ratings	Transformation
AAA	7
AA+	6
AA	6
AA-	6
A+	5
A	5
A-	5
BBB+	4
BBB	4
BBB-	4
BB+	3
BB	3
BB-	3
B+	2
B	2
B-	2
CCC+	1
CCC	1
CCC-	1
CC	1
C	1
D	1