

The Impact of Internal and External Governance on Debt Financing Costs and Ratings: International Evidence

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Abstract

Using a multinational-sample, we explore the effect of governance (internal and external) on the cost and rating of firms' bonds. The strength of internal governance mechanisms is measured by the ultimate ownership of the firm, more specifically by the wedge between the voting and cash-flow rights of ultimate owners. While family control does not affect bond costs, the level of voting/cash-flow rights wedge affects them positively. In contrast, bond ratings are negatively affected by the existence of such a wedge, and by the presence of a controlling family. We also find that West European (but not East Asian) bondholders charge higher interest rates from firms with wider observed discrepancy. When we control for national governance systems, we show that the preservation of the creditor rights, the existence of public credit registries and the extent of newspapers' circulations are important determinants of debt costs. As for debt ratings, they are essentially affected by the existence of public and private registries, the number of days to resolve a payment dispute through courts, and newspapers' circulations.

JEL Classification; G34; G38; F34

Keywords: Debt Cost and Rating; Internal Governance; Ultimate Ownership; Investor protection

The Impact of Internal and External Governance on Debt Financing Costs and Ratings: International Evidence

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. In order to discipline managers, monitoring mechanisms such as ownership structure, the board of directors and managerial compensation, are put in place.

A large body of empirical research looked into the link between corporate governance (particularly ownership structure) and the managers-shareholders agency problems (Jensen, 1986; Morck et al., 1989; Walsh and Seward, 1990; Fluck, 1999; among others), but little attention has been devoted to the shareholders-bondholders agency conflict. Indeed, as suggested by the pioneering work of Jensen and Meckling (1976), 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, 2006). Assuming that bondholders anticipate such behaviour, they will charge a higher premium, resulting in higher debt financing costs.

Some recent studies focus on the link between corporate governance and the cost of debt capital. For instance, Bhojraj and Sengupta (2003), and Ashbaugh et al. (2004) investigate whether there exists an empirical relation between credit ratings and corporate governance mechanisms within the US bond market. Results point to the existence of a positive relation between corporate disclosure, board of directors and institutional ownership on the one hand, and credit ratings on the other. This suggests that rating agencies incorporate the quality of a given firm’s governance in their score of the firm’s default probability (creditworthiness).² According to several authors, debtholders price credit ratings when they set the premium they require for holding the firms’ debt (e.g., Hand et al., 1992; Ellis, 1998). Firms’ credit ratings are largely determined by the likelihood of default and the degree of protection afforded to

¹ Shleifer and Vishny (1997), p. 737.

² Standard & Poor’s defines a rating as “*a current opinion of the creditworthiness of an obligor with respect to a specific financial obligation, a specific class of financial obligations, or a specific financial program.*”

creditors through restrictions on how firms' resources are spent in the event of default (Bhoraj and Sengupta, 2003; Ashbaugh et al, 2005). To some extent, these ratings reflect the firm's corporate governance structure, as shown by Anderson et al. (2003) (for the existence of controlling families), and Bhoraj and Sengupta (2003) (for institutional ownership and outside directors).

In this paper, we hypothesize that the strength of internal corporate governance can be fully captured by the ultimate ownership of the firm, and more precisely by the discrepancy between voting and cash-flow rights of major shareholders. 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 theoretically may face the risk of management opportunistic behaviour, and that of expropriation by controlling shareholders, we focus on the latter conflict by considering the voting/cash-flow rights discrepancy. The rationale behind this choice is that, outside the U.S., ownership structure is highly concentrated (Denis and McConnell, 2003).³ Thus, expropriation by major shareholders is more likely to be observed in an international setting such as ours. Moreover, the risk of managers' opportunistic behaviour is tackled to a large extent since controlling shareholders usually appoint managers among their relatives (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002), which results in an alignment of managers' and controlling owners' interests. This situation in fact increases the likelihood that expropriation by controlling shareholders occurs.

Using a multinational sample of debt issuing firms from developed and developing countries, we assess how external governance condition the agency cost of debt across institutionally diverse environments. To our knowledge, our analysis is the first multinational study on the impact of national governance mechanisms on debt costs and ratings. We particularly conjecture that, in addition to the quality of internal corporate governance, the relative strength of the institutional environment provides bondholders with information that condition the amount of premium they require from issuing firms. Our study thus contributes to the scarce academic literature on the link between governance (internal and external) on the cost of debt financing, and contributes to our understanding of the functioning of fixed income securities' markets. The lack of evidence on this issue is puzzling since debt constitutes an important external source of financing for publicly traded firms around the world.

³ 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) give an excellent literature review for these researches.

This paper makes several contributions to the literature on corporate governance. First, some recent studies analyze the relationship between governance mechanisms and debt yield and ratings (Sengupta, 1998; Bhojraj and Sengupta, 2003; Ashbaugh et al., 2004; Anderson et al., 2003). However, their results are drawn from the US context, and thus cannot be generalized to other countries with less favourable legal environments. Our study provides an out of sample evidence by considering a large number of corporate bond issuers from a cross section of firms in both developing and developed countries. Second, the extant literature examines the singular effect of a given mechanism or a limited set of internal corporate governance mechanisms. With respect to ownership structure, the available evidence 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). Finally, 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 such institutions by analyzing U.S firms and foreign firms that issue ADRs in the U.S. However, such an approach is more 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.

After collecting data on corporate bond issues in 19 countries from East Asia and Western Europe, we first explore the impact of the potential expropriation by controlling shareholders on corporate debt costs and ratings. We find that such expropriation affects significantly both variables. Specifically, our results show that spreads (i.e. costs) are determined by the *level* of the voting and cash-flow rights discrepancy. Also, we find that, outside the US, family control has no impact on debt costs, which contradicts the finding of Anderson et al. (2003) who report a negative relation between the concentration of ownership in the hand of a founding family, and the agency cost of debt (in the US). Furthermore, we document that bond ratings are negatively related to the *existence* of expropriation, and by the presence of a controlling family.

We then analyze the effect of national governance systems on corporate bond costs and ratings. We consider a large set of national governance mechanisms that encompasses some regulatory institutions that previous studies (e.g., La Porta et al., 1998; Djankov et al., 2005; and Dyck and Zingales, 2004) 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. Specifically, bondholders price restrictions that directly protect their rights, the existence of credit public registry, the public pressure on controlling shareholders (reflected by the daily newspapers' circulation), and the country GDP growth. As for rating agencies, they increase their corporate bond ratings for firms in countries that have public and private credit registries, a high public pressure on controlling shareholders, and more developed debt market, and decrease their ratings for firms in countries with longer contract enforcement days.

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

I. Corporate Governance and The Agency Cost of Debt: Hypothesis Development

A. Theoretical Framework: The Agency Cost of Debt

Some 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.

It is commonly argued that management behaviour can exacerbate the default probability of the firm. In their famous book, Berle and Means (1932) emphasize the emergence of a new organisational form of the firm that is characterized by a separation between ownership and control. They conclude that this kind of firm structure, which they call "managerial firm", is the most efficient. Later, in 1976, Jensen and Meckling develop Berle and Means's thesis and define the firm as being "*a nexus for a set of contracting relationships*"⁴ among a number of individuals with conflicting objectives. 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

⁴ Jensen and Meckling (1976), p. 310.

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 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. Recently, Cremers, Nair, and Wei (2004) investigate the impact of shareholder control on bondholders. Using institutional ownership to proxy for shareholder control and firm's takeover defense to proxy for takeover vulnerability, they document that shareholder control is associated with lower yields for well protected firms (against takeovers). However, shareholder control is related to higher yields for less protected firms. Klock et al. (2005) extend the study of Gompers, Ishii and Metrick (2003) to analyse the impact of the antitakeover provisions on the cost of debt. Their analysis shows that antitakeover governance provisions, while (not) beneficial to (shareholders) managers, are priced by the debt-holders. They found that firms with strong antitakeover provisions are associated with a lower cost of debt financing of about 34 basis points relative to firms with weak antitakeover provisions.⁵

Overall, the prior literature suggests that these two problems (management opportunism and shareholders expropriation) lead debt claimants to charge a higher premium in order to be protected against any opportunistic behaviour from management and/or controlling shareholders. In the same

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

perspective, rating agencies are more likely to downgrade their ratings for firms facing one or both of these problems.

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

B. Internal Corporate Governance, Debt Cost and Credit Rating

Few recent studies investigate the relation between internal corporate governance mechanisms and debt costs and ratings. However, all available evidence is based on US markets, and the variables related to corporate governance are not exhaustive in that the focus is generally given to one set of mechanisms that differs across studies, and 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 on to 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. (2004) 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)⁶. 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).

Finally, the unique study that we are aware of that considers an international sample is by Ellul et al. (2005). However, the authors limit their sample to firms that issued ADRs in the US market. As discussed above, this could eventually lead to a selection bias since those firms must normally comply with corporate governance standards imposed by the SEC.

In a nutshell, this literature review on the effect of corporate governance on debt yields and ratings is 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. Sengupta (1998) and Bhojraj and Sengupta (2003)) use a relatively old dataset. Some others (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.

⁶ As the authors argue, these components are drawn from S&P Corporate Governance Scoring. For more information on these governance features, see Ashbaugh, Collins, and LaFond (2004).

Our study tries to tackle this issue and provides a cross-country evidence for a sample of 19 countries. Our principal proxy for the strength of internal corporate governance is the likelihood of expropriation by controlling shareholders (i.e., extent of agency conflict within the firm). Hence, we disregard the risk of management opportunistic behaviour that is faced by debtholders, and we focus on the risk of expropriation by large stockholders for two main reasons: (1) ownership structure seems to be highly concentrated outside the U.S. as documented by Denis and McConnell (2003). Thus, expropriation by major shareholders is more likely outside the U.S. (2) Controlling shareholders usually appoint managers among their relatives (La Porta et al., 1999; Claessens et al., 2000; Faccio and Lang, 2002), which results in an alignment of managers' and controlling owners' interests. This situation increases the likelihood that expropriation occurs.

All the above arguments lead to the formulation of the following hypothesis:

H1: *The presence and the extent of expropriation are positively (negatively) related to debt costs (ratings)*

C. External Governance, Debt Cost and Credit Rating

Debtholders' rights are remarkably heterogeneous around the world, particularly between developing and developed countries. In some countries (such as Greece), there exist rules that protect non-senior debt claimants against senior debt claimants by preventing automatic liquidation and encouraging reorganization of the defaulting company. In some other countries, senior debt claimants have the valuable right of taking possession of the collateral even in the case of reorganization. Additionally, managers in some countries can ask law enforcers to protect them from creditors (e.g., Chapter 11 in the U.S.), 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 the U.K., managers are replaced by the new administrator that is appointed by the creditors themselves. This ensures that the existing management does not waste the remaining assets of the firm. For some other countries, management turnover is not necessary (e.g. U.S., Canada, and France). However, in Canada and France, 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. In some other countries, 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 (i.e., reorganization and liquidation), the authors produce cross-country scores of creditor rights, and show that legal origin matters in preserving debtholders' rights. The authors observe that Common-law countries exhibit a stronger legal protection for debtholders, while French-civil-law countries offer the weakest protection.

More recently, Djankov et al. (2005) 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. Ellul et al. (2005) investigate the impact of the firm's debt costs in different investor protection environments by analyzing a sample of ADR firms, and confirm to some extent this claim. Indeed, the authors report that family firms in good investors' protection environments benefit from lower debt costs. In their study, external governance (investor protection environment) is measured by the legal environment, the judicial efficiency, the rule of law and a creditor rights index.

Our study goes beyond Ellul et al. (2005) and seeks to determine whether, beyond the effect of internal governance, external governance and the extent of debtholders' rights also affect the yields required by bondholders, and the scores issued by rating agencies.

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

H2: *Better external governance (i. e. higher investor protection) is negatively (positively) related to debt costs (ratings)*

It is obvious that investors' decision as to whether to invest or not in a given country depends, among other things, on the local financial system development and the country's overall economic

situation. Hence, in riskier countries (i. e., economically in trouble), we expect investors to require a higher premium, and international rating agencies to downgrade credit ratings. This leads us to add a third testable hypothesis stating that:

H3: *A better economic situation will affect negatively corporate debt costs and positively corporate debt ratings*

II. 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(internal governance variables, external governance variables, control variables)*

(2) *Bond ratings = f(internal governance variables, external governance 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. internal corporate governance variables, external governance variables, and control variables). We examine the effect (on bond costs and ratings) of each group separately in order to determine the most influential variables. Then, we run a general model as specified in equations (1) and (2)⁷.

B. Variables

B.1. Debt Costs and Ratings

⁷ 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 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.

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.⁸

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 the highest AAA to the lowest D. To facilitate the analysis, we transform these ratings into seven ordering numerical categories as presented in **Appendix I**.

B.2. Internal Governance

We use proxies for potential expropriation to measure the strength of internal corporate governance. Many recent studies analyze the conflicts between minority and controlling shareholders. In such a situation, expropriation could take place, and problems between minority and controlling shareholders (and affiliated managers) could arise. For instance, they 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. (2002), 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. We also use a dummy variable that indicates whether or not we observe a discrepancy between voting and cash-flow rights in the firm (DIVERDUMMY). Finally, and since control in the hands of families could lead (or enhance) expropriation (see for example Faccio et al. (2001)), we use a dummy variable that indicates whether or not the firm is controlled by a family (FAMILY).

B.3. External Governance

Several recent studies emphasize the role of some regulatory institutions in preserving investor rights. By referring to some previous studies (La Porta et al. (1998), Djankov et al. (2005), and Dyck and Zingales (2004)), we choose the following indicators to assess the quality of the investor protection in one country:

⁸ An alternative measure could be the use of a domestic treasury bill for each country instead of the US TBill. We prefer using the US treasury bill for essentially two reasons. Firstly, in finance, 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 TBill as a risk free security. Secondly and most importantly, the use of the US treasury bill makes the comparison across countries easier since it provides a common basis (or reference) to compare to.

i) Creditor rights (CREDRIGHTS); it is an index that assesses the 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 registries should negatively (positively) affect debt costs (i. e. yields).

iii) Private registry (PRIVREGIS); Private credit registries (or bureaus) are, by contrast, private firms or organisations that assume the same function as the public registries. They could or not be profit entities. The existence of such private registries should negatively (positively) affect debt costs (i. e. yields).

iv) Contract enforcement days (ENFORC); this measure gives 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).

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

B.4. Control Variables

Traditionally, scholars identify several explanatory variables of the cost of debt financing. Typically, the cost of debt could 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 (generally measured by the Beta or by the stock variance).

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

A detailed description of the variables used in this study is presented in Table 1.

[INSERT TABLE 1 ABOUT HERE]

C. Sample and Data Sources

We start with 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. The data for European firms are from 1996 to the end of 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 (family or not). We obtain a 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 governance variables do 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 that issues between 1994 and 2002 indeed exhibit the ownership data collected between 1996 and 1999 by Faccio et al. (2002) and Claessens et al. (2000). Only 568 issues survive the matching procedure between these samples and the *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), Djankov et al. (2005) (Public registries, private registries and Contract enforcement days), and from Dyck and Zingales (2004) (Newspaper circulation). Hand matching the data on bonds and internal corporate governance with data on issuer characteristics and external governance mechanisms results in a final sample of 261 issues for bond costs and 332 issues for bond ratings.⁹ **Table 2** reports the distribution of the samples across countries.¹⁰

[INSERT TABLE 2 ABOUT HERE]

D. Descriptive statistics

Table 3 reports descriptive statistics for the different variables used in this paper. In our sample, the average spread is about 150.4%, while the average rating is 4.63, which falls between A- and BBB+ in

⁹ 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 informations on the spread).

¹⁰ Note that three countries are dropped from the analysis (Belgium, Spain and Taiwan) because of missing values.

our transformation scale. Moreover, the mean for the variable C_O is 3.6%. Around 26.2% of the firms in our sample exhibit a voting/cash-flow rights divergence (mean of DIVERDUMMY), and only 9.5% of the firms are controlled by a family. **Table 3** also presents parametric (Pearson) and non-parametric (Spearman) correlations between our two key variables (COST and RATING), and all the other potential explanatory variables. In general, and as hypothesized, COST is positively and significantly correlated while RATING is negatively and significantly correlated with internal governance 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 to avoid multicollinearity problems.

[INSERT TABLE 3 ABOUT HERE]

III. Empirical Results

A. The Impact of Internal Governance on Bond Costs and Rating

A.1. Internal Governance and Debt Costs

We first examine the effect of internal corporate governance on debt costs. Three major proxies for internal corporate governance are used; the wedge between cash-flow and control rights (as measured by C_O), the existence or not of such divergence (as measured by DIVERDUMMY), and the existence of family control (FAMILY). **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).

Model (1) of **Table 4** shows that the level of (C_O) is positively and significantly related to bond costs. That is, an increase of 1% in the level of expropriation leads to an increase in the cost of debt by approximately 2.53% beyond the T bill spread. The other variables of the model are statistically significant, and have the expected sign. We note however that the maturity of the issue is insignificantly related to debt yields.

Columns (2) and (3) of Table 4 report models in which we use DIVERDUMMY and FAMILY, respectively, instead of (C_O). At the 10% level, only the DIVERDUMMY is significant with the expected sign. Family control seems to have no effect on debt costs. This means that debtholders don't anticipate the expropriation risk by families. This result do not confirm the finding of Anderson et al. (2003) who find that US family firms have a lower debt costs than non-family US firms. With respect to the other explanatory variables, we observe exactly the same pattern as in the first model. In column (4), we run the regression using the interaction between C_O and FAMILY, in order to test whether the increase of the voting/cash-flow rights wedge in the hands of a controlling family exacerbates the likelihood of expropriation (thus leading to a higher debt cost). This conjecture is therefore rejected, since the coefficient of the interaction is not significant at any conventional level. Finally, when we put all the expropriation measures together in the same model, only C_O remains significant.¹¹

Faccio et al. (2001) document 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. Indeed, 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. In the context of our study, we 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 divergence on spreads to be more prevalent in the West European sample. To test this hypothesis, we estimate model (1) for both West European and East Asian samples. The last two columns of **Table 4** show the results. As expected, bondholders in East Asian countries do not seem to anticipate expropriation by controlling shareholders.¹² In contrast, bondholders in countries from Western Europe countries require a significantly higher interest rate from issuing firms with a wider observed discrepancy.

[INSERT TABLE 4 ABOUT HERE]

A.2. Internal Governance and Debt Ratings

¹¹ Statistically, for models (5) and (6), we could not put C_O and DIVERDUMMY in the same regression since the latter is a direct transformation of the former.

¹² Note that the whole model for the East Asian Sample is insignificant. That is, all the explanatory variables, in particular the divergence wedge, do not matter for debt costs in this sample.

Table 5 reports the results of ordered probit models for the effect of the expropriation measures on bond ratings. We keep all the firm-level control variables as previously discussed. The first column presents the main model without including any proxies for governance mechanisms. In columns (2), (3) and (4), we test separately for the effect of each proxy of expropriation on bond ratings. The presence of the cash-flow and voting rights discrepancy, as well as the existence of family control in the firm leads rating agencies to assign lower ratings for these firms (the coefficients for DIVERDUMMY and FAMILY are negative and statistically significant at less than 1% level). In contrast, the level of divergence (C_O) is only significant at the 10% level (and has a negative sign as expected). A high divergence combined with family control has also a considerable negative effect on ratings (model (5)). When we consider all the internal governance proxies in the same model (column (6) and (7)),¹³ we find that rating agencies indeed value the *presence* (DIVERDUMMY) of potential expropriation rather than its *level* (C_O), and the presence of a family as a controlling shareholder. Thus, these results identify another type of investors (i.e. families) considered by rating agencies as a potential threaten for the debtholders' interests. Recall that some previous studies document that the concentration of ownership in the hands of institutions (Bhojraj and Sengupta (2003)) or in the hands of some blockholders (Ashbaugh et al. (2004)) could enhance the private benefits hypothesis leading rating agencies to downgrade their score for the firms that exhibit these features. At this stage, we should note that family control, as measured by FAMILY, is significant for bond rating model, while it has no apparent effect in bond costs model. That's mean that contrary to rating agencies, bondholders seem not to be aware of the potential risk of family control. This potential risk has two explanations. First, families can take full advantage from their controlling position and seek to extract (direct) private benefits that harm the other stakholders' (especially minority shareholders and debtholders) interests. Second, these families often want to keep control by avoiding the dilution of their ownerships. Thus, firms controlled by families should normally prefer debt financing rather than equity to finance their projects, which could probably result in a high leverage ratios. According to our findings, only rating agencies seem to be able to anticipate both (or at least one of the) explanations.

[INSERT TABLE 5 ABOUT HERE]

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

B.1. Regulatory Institutions and Bond Costs

¹³ See footnote 11 above.

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, private bureau, contract enforcement days, and newspapers' circulation. Models (1) to (5) in **Table 6** illustrate the effect of each factor on bond spreads.

As we can see from **Table 6**, among our set of institutions, only public registry, contract enforcement days, and news circulation affect significantly (at 5% level) bond spreads. Moreover, all the three variables have the expected signs. In model (6), we regress bond costs on all the factors. In this last model, the set of regressors explain more than 19% of COST. Public registry and news continue to be highly significant and keep the same expected signs, while contract enforcement days loses its significance once we take into account the effect of all other institutions. Instead, creditor rights index becomes significant and, as expected, affects spreads negatively. That is, bondholders price the existence of restrictions that directly protect their rights, the existence of public registry and the public pressure on controlling shareholders. This result corroborates the finding of Ellul et al. (2005), which consists on the fact that the presence of a founding family in a less protective legal system exacerbates the cost of debt, while its presence in a good legal environment reduces it. Thus, their result indirectly emphasizes the role of the legal environment in encouraging (or forcing) founding families to preserve minority interests. However, without specifying any type of shareholding, our finding from this section suggests that regardless of who is controlling the firm, investor protection regimes could protect debtholders and guarantee their rights. This leads them to ask for lower interest rates.

[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 before, we start by testing the impact of each isolated factor, and then we test the effect of all factors taken together in a same regression model. From columns (1) to (5), we can see that among the five factors, only the creditor rights index is not significant at any conventional level. Private registry (PRIVREGIS) is statistically and economically significant only at a 10% level. PUBREGIS, ENFORC, and NEWS are highly significant (1% level) and have the expected signs in the model. When we run our regression with all the governance factors in the same model, we find that in fact, the existence of both public and private registries, and the newspapers' circulation affect significantly and positively bond ratings, while the contract enforcement days has a negative and significant effect (as predicted). Finally, the pseudo- R^2 of this model is 17.47%.

[INSERT TABLE 7 ABOUT HERE]

C. The Economic Situation and Bond Costs and Ratings

We further control for additional macro-economic variables, namely the size of the debt market and the GDP growth.

C.1. Economic Environment and Debt Costs

As reported in columns (1) and (2) in **Table 8**, debt yields are negatively affected by the size of the debt market (DEBTMKTSIZE) and the level of economic growth (GDPGROWTH). This finding is quite obvious since investors are commonly known as very sensitive to the size of the second markets (where they could liquidate their assets) and to the economic situation of the whole country which reflects, to some extent, the future potential of their investments. These two variables keep their signs and their significances even if we put them together in the same model (last column of the same table). Furthermore, the final model leads to a respectable Adjusted R^2 of 18.18%.

[INSERT TABLE 8 ABOUT HERE]

C.2. Economic Environment and Debt Ratings

Using the same methodology as previously, we propose to test whether rating agencies take into account the economic situation of the country when assessing the creditworthiness of its companies. Columns (1) and (2) of **Table 9** report the impact of each factor (the size of the debt market (DEBTMKTSIZE) and economic growth (GDPGROWTH)) taken separately. The results reveal that the size of the debt market (DEBTMKTSIZE) has a statistically and economically positive effect on ratings. The other variable (GDPGROWTH) has no significant impact at this level. In the last column (3) of the same table, we run our regression with both factors and, as we can see, results remain unchanged. Thus, rating agencies seem to rely on the country's size of the debt market rather than its GDP growth when they rate the creditworthiness of its firms.

[INSERT TABLE 9 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 choose the most influential variables from each of the three sets of factors analyzed in the previous sections (internal governance, regulatory institutions, and macro-economic factors).

D.1. The Determinants of Debt Costs

For the debt costs final model, we add the level of voting and cash-flow rights divergence (C_O), the creditor rights index (CREDRIGHTS), public registry (PUBREGIS), newspapers' circulation (NEWS), debt market size (DEBTMKTSIZE), as well as GDP growth (GDPGROWTH) in addition to the firm-level control variables. Regression results are reported in column (1) of **Table 10**.

All the governance variables are highly significant (at the 1 or 5% level) in the final model, namely, C_O, CREDRIGHTS, PUBREGIS, and NEWS. Moreover, all of them have their expected signs. The size of the debt market seems to have no effect on the corporate debt costs once we take into account the effect of all other variables. Regarding GDPGROWTH, it has the expected sign and is significant at the 1% level. Finally, the firm-level control variables are significant at the 10% level or better, except for the issue size (LISIZE).

Overall, and beyond the typical issue and issuer characteristics, bond costs are determined by four governance variables (the level of expropriation, the creditor rights index, the presence of public registry, and the circulation of daily newspapers), and one macro economic variable (GDP growth). The final model explains 26.20% of bond spreads (costs).

[INSERT TABLE 10 ABOUT HERE]

D.2. The Determinants of Bond Ratings

Lastly, we run our final model using all the influential variables selected from the bond ratings models. These variables are DIVERDUMMY and FAMILY for internal corporate governance, PUBREGIS, PRIVREGIS, ENFORC, and NEWS for external governance mechanisms, and DEBTMKTSIZE for macro-economic variables.

As reported in column (1) of **Table 11**, both expropriation proxies are highly significant (DIVERDUMMY and FAMILY) and negatively related to debt ratings. Moreover, the remaining four regulatory factors are still highly influential, and keep the same signs as previously documented, namely public and private registries, contract enforcement days, and newspapers' circulation. The unique macro-economic variable, the debt market size, affects positively (as expected) corporate debt ratings, but it is

significant only at 10% level. Finally, the estimation is quite robust with a model's *Chi2* of 160.17 and a Pseudo-R² of 19.36%.

[INSERT TABLE 11 ABOUT HERE]

E. Robustness checks

E.1. 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 heavily influenced by the inclusion of the financial sector in our sample. The regression results for the bond costs without financial firms are reported in **Table 10** column (2). The regression leads to almost identical results as in our final model. With respect to bond ratings, we re-run the regression excluding financial firms and we report the results in column (2) of **Table 11**. Broadly speaking, we obtain almost similar results as in the final model with all bond issuers.

E.2. Excluding the U.K. sample

Issues from the U.K. account for close to 35% of our sample. To test whether this effect has an impact on our two final models (for debt costs and ratings), we re-run our regressions excluding observations from the U.K. For bond yields, column (3) of **Table 10** shows similar findings regarding all the external governance variables and the economic variables. However, the internal governance measure is not significant (the *p-Value* for C_O is 0.290). A potential explanation is provided by our previous result that only Western European debtholders anticipate expropriation, and are sensible to the voting and 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).

For the bond ratings model, excluding the U.K. data leads to qualitatively similar results. Column (3) of **Table 11** shows that the two internal corporate governance variables are still negative and significant (at 10% level or better). For the external governance factors, the unique remarkable difference (with respect to our final model) is that ENFORC becomes insignificant if we exclude U.K. issues. All the other governance and economic variables keep the same significance and effect in the model.

E.3. 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.¹⁴ Results reported in column (4) of **Table 10** (for bond yields) and in column (4) of **Table 11** (for bond ratings) show that our findings are mainly the same. For bond yields model, all the governance and macro-economic variables keep the same signs and significance (at the 10% level or better). Finally, for the bond ratings model, we obtain exactly the same conclusion except that the debt market size becomes insignificantly related to corporate debt ratings when we exclude the 1997's issues.

IV. Concluding Remarks

Our main goal in this study is to explore the combined effect of internal and external governance on the cost and rating of firms' 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 strength of internal governance mechanisms with the likelihood of expropriation by controlling shareholders. This is reflected in 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. Bond spreads are significantly related to the level of the voting and cash-flow rights discrepancy, while family control is not. This latter result is at odds with the finding of Anderson et al. (2003) that family ownership concentration in the U.S. is negatively associated with the agency cost of debt. We also show that bond ratings are negatively related to the existence of expropriation and by the presence of a controlling family.

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 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.

¹⁴ In unreported result we find similar findings when we exclude both 1997 and 1998 data from our sample.

Finally, we adopt a large set of regulatory institutions to proxy for national governance systems, and examine their impact on the cost of debt financing and credit ratings. We find that a higher creditor rights protection index, the existence of a public registry, a higher daily newspapers' circulation, and a higher GDP growth reduce the cost of bonds. With respect to debt ratings, we find that rating agencies increase their corporate bond ratings for firms in countries that have public credit registries, private credit registries, with high public pressure on controlling shareholders (as reflected in the daily newspapers' circulation) and more developed debt market. In contrast, they downgrade their ratings for firms set in countries with longer contract enforcement days. Finally, our results are robust to several checks such as the exclusion of issues by financial firms, those by British firms, and those during the Asian financial crisis of 1997.

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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.	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)
DIVERDUMMY	A dummy variable equals to 1 if there is a separation between voting and cash-flow rights (i. e. C_O different from 0), 0 otherwise.	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)
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)
Newspaper circulation / population (NEWS)	Circulation of daily newspapers divided by population.	Dyck and Zingales (2004)
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. (2005)
Private bureau (PRIVREGIS)	A dummy variable equals 1 if a private credit bureau operates in the country, 0 otherwise. A private bureau is defined as a private commercial firm or non profit organization that maintains a database on the standing of borrowers in the financial system, and its primary role is to facilitate exchange of information amongst banks and financial institutions. Private credit reporting firms, which collect information from public sources but not banks and financial institutions, operate in several other countries but are not considered here. The variable is constructed as at January for every year from 1978 to 2003.	Djankov et al. (2005)
Contract enforcement days (ENFORC)	The number of days to resolve a payment dispute through courts. The data are based on the methodology in Djankov and others (2003) but describe 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. (2005)
Debt Market size (DEBTMKTSIZE)	It is the ratio of the sum of bank debt of private sector and outstanding non-financial bonds to GNP in 1994 or last available.	La Porta et al. (1997)
Economic development (GDPGROWTH)	Average annual percent growth of per capita gross domestic product for the period 1970-1993.	La Porta et al. (1997)
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.	Fixed Investment Securities Database

Firm size (ASSET)	The annual total assets for the year preceding the bond issue, or last available.	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

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

The variables' description appears in table 1. The significance levels of correlations with COST and RATING are given into parentheses.

Variable	N	Mean	Std. Dev.	Min	Max	Correlation with COST		Correlation with RATING	
						Pearson	Spearman	Pearson	Spearman
COST	343	150.403	125.848	0	816	-	-	-0.562 (0.000)	-0.546 (0.000)
RATING	469	4.637	1.351	1	7	-0.562 (0.000)	-0.546 (0.000)	-	-
LMAT	557	9.192	7.814	0.9611	99.9972	0.029 (0.587)	0.246 (0.000)	-0.134 (0.003)	-0.306 (0.000)
LISIZE	568	770 664.6	4 993 362	1000	1.00E+08	-0.071 (0.158)	-0.072 (0.182)	0.068 (0.139)	-0.046 (0.317)
ASSET	495	1.08E+08	1.86E+08	57714	7.54E+08	-0.227 (0.000)	-0.340 (0.000)	0.468 (0.000)	0.680 (0.000)
STDNINC	495	418 900.6	929 542.2	0	5843265	0.016 (0.776)	-0.057 (0.320)	0.066 (0.183)	0.135 (0.006)
ROI	420	7.490	20.576	-43.89	252.45	-0.094 (0.122)	-0.130 (0.033)	-0.029 (0.595)	-0.124 (0.021)
LEVERAGE	487	42.788	23.941	0	206.38	0.068 (0.237)	0.022 (0.704)	0.222 (0.000)	0.214 (0.000)
C_O	568	3.601	8.493	0	54.36	0.129 (0.016)	0.125 (0.020)	-0.145 (0.001)	-0.223 (0.000)
DIVERDUMMY	568	0.262	0.4406	0	1	0.134 (0.012)	0.122 (0.024)	-0.257 (0.000)	-0.234 (0.000)
FAMILY	568	0.095	0.293	0	1	0.098 (0.070)	0.078 (0.149)	-0.278 (0.000)	-0.294 (0.000)
CREDRIGHTS	568	2.625	1.388	0	4	-0.055 (0.307)	0.089 (0.098)	-0.008 (0.863)	-0.087 (0.060)
PUBREGIS	568	0.412	0.492	0	1	-0.262 (0.000)	-0.331 (0.000)	0.343 (0.000)	0.324 (0.000)
PRIVREGIS	568	0.884	0.321	0	1	0.019 (0.728)	0.023 (0.672)	0.126 (0.006)	0.157 (0.000)
ENFORC	568	224.482	156.504	60	1 390	0.086 (0.111)	0.132 (0.014)	-0.161 (0.000)	-0.204 (0.000)
NEWS	563	3.099	1.284	0	8	-0.079 (0.143)	-0.061 (0.259)	0.100 (0.030)	0.159 (0.000)
DEBTMKTSIZE	520	0.947	0.259	0.1	1.22	-0.214 (0.000)	-0.026 (0.643)	0.247 (0.000)	0.090 (0.061)
GDPGROWTH	568	3.132	2.211	0.3	11.56	-0.145 (0.007)	-0.281 (0.000)	-0.117 (0.011)	0.147 (0.001)

Table 4: Internal Governance and Debt Cost

This table reports the OLS regression results for the debt costs on internal governance and firm- and issue- control variables. The variables' description is 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)	East Asian sample	West European sample
Constant	394.188 (0.012)**	366.483 (0.017)**	339.980 (0.033)**	349.970 (0.027)**	352.757 (0.029)**	326.164 (0.039)**	349.014 (0.393)	398.131 (0.023)**
LMAT	14.567 (0.150)	16.712 (0.101)	14.115 (0.163)	14.248 (0.164)	15.646 (0.125)	17.465 (0.086)*	-23.460 (0.308)	24.951 (0.026)**
LISIZE	-25.162 (0.024)**	-23.485 (0.031)**	-20.553 (0.065)*	-21.036 (0.059)*	-22.631 (0.048)**	-20.877 (0.063)*	-12.083 (0.680)	-27.376 (0.026)**
ASSET	-9.36e-08 (0.044)**	-1.02e-07 (0.037)**	-1.01e-07 (0.020)**	-1.07e-07 (0.013)**	-8.60e-08 (0.066)*	-9.51e-08 (0.048)**	-2.95e-07 (0.246)	-9.86e-08 (0.022)**
STDNINC	1.55E-005 (0.019)**	1.52E-005 (0.020)**	1.22E-005 (0.041)**	1.24E-005 (0.048)**	1.51E-005 (0.018)**	1.45E-005 (0.22)**	5.17E-005 (0.260)	1.61E-005 (0.009)**
ROI	-1.023 (0.006)**	-1.030 (0.006)**	-1.137 (0.003)**	-1.120 (0.003)**	-1.077 (0.005)**	-1.090 (0.004)**	-4.823 (0.163)	-0.921 (0.016)**
LEVERAGE	1.569 (0.000)**	1.607 (0.000)**	1.636 (0.000)**	1.591 (0.000)**	1.662 (0.000)**	1.691 (0.000)**	1.614 (0.210)	1.513 (0.000)**
C_O	2.529 (0.030)**				2.354 (0.039)**	-	5.238 (0.291)	2.435 (0.027)**
DIVERDUMMY		35.297 (0.071)*			-	29.725 (0.113)		
FAMILY			41.126 (0.193)		34.917 (0.239)	29.726 (0.314)		
C_O x FAMILY				4.483 (0.374)	0.794 (0.880)	1.844 (0.712)		
N	261	261	261	261	261	261	63	198
Adjusted R-Square (%)	12.14	11.24	10.86	10.92	12.37	11.53	0.30	17.78
F	6.26	6.08	6.26	6.20	4.99	4.88	0.97	7.21
Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.465	0.000

Table 5: Internal Governance and Debt Ratings

This table presents the Probit results of debt ratings on internal governance, as well as firm- and issue- control variables. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : RATING	(1)	(2)	(3)	(4)	(5)	(6)	(7)
LMAT	-0.228 (0.005) ***	-0.25 (0.003) ***	-0.26 (0.002) ***	-0.207 (0.011) **	-0.228 (0.005) ***	-0.229 (0.006) ***	-0.236 (0.004) ***
LISIZE	0.12 (0.025) **	0.125 (0.020) **	0.130 (0.017) **	0.09 (0.087) *	0.104 (0.051) *	0.094 (0.075) *	0.102 (0.058) *
ASSET	2.80E-09 (0.000) ***	2.75E-09 (0.000) ***	2.79E-09 (0.000) ***	2.65E-09 (0.000) ***	2.73E-09 (0.000) ***	2.61e-09 (0.000) ***	2.65e-09 (0.000) ***
STDNINC	-1.20E-07 (0.012) **	-1.38E-07 (0.006) ***	-1.61E-07 (0.002) ***	-1.24E-07 (0.007) ***	-1.23E-07 (0.010) ***	-1.40e-07 (0.003) ***	-1.61e-07 (0.001) ***
ROI	-1.66E-04 (0.945)	-8.75E-04 (0.719)	1.30E-03 (0.595)	-4.85E-04 (0.840)	-1.21E-04 (0.961)	-1.06E-003 (0.658)	-1.51E-003 (0.528)
LEVERAGE	0.001 (0.723)	1.57E-03 (0.595)	6.66E-04 (0.821)	6.99E-04 (0.816)	2.69E-04 (0.928)	-2.49E-004 (0.934)	-9.32E-005 (0.757)
C_O		-0.012 (0.086) *				-0.011 (0.156)	- -
DIVERDUMMY			-0.504 (0.002) ***			- -	-0.460 (0.009) ***
FAMILY				-0.876 (0.000) ***		-0.799 (0.000) ***	-0.836 (0.000) ***
C_O x FAMILY					-0.07 (0.000) ***	-0.014 (0.447)	3.78E-003 (0.849)
N	332	332	332	332	332	332	332
Pseudo R-Square (%)	7.8	8.15	9.04	9.64	8.75	9.96	10.64
Model Chi2	82.77	86.84	95.96	102.3	92.79	105.72	112.86
Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Table 6: Regulatory Institutions and Debt Costs

This table reports the OLS results of debt costs on regulatory institutions, as well as firm- and issue- control variables. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : COST	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)
Constant	?	410.527 (0.013)**	333.198 (0.042)**	355.693 (0.042)**	342.747 (0.034)**	407.715 (0.011)**	355.828 (0.048)**
LMAT	+	16.081 (0.104)	8.577 (0.387)	11.408 (0.242)	13.615 (0.177)	15.014 (0.139)	15.062 (0.117)
LISIZE	-	-24.353 (0.032)**	-17.452 (0.139)	-21.686 (0.067)*	-21.278 (0.057)*	-22.579 (0.041)**	-11.316 (0.355)
ASSET	-	-9.51e-08 (0.043)**	-1.29e-07 (0.001)***	-1.17e-07 (0.009)***	-1.12e-07 (0.010)***	-1.06e-07 (0.021)**	-1.07e-07 (0.006)***
STDNINC	+	1.11e-05 (0.069)*	1.37e-05 (0.038)**	1.37e-05 (0.035)**	1.35e-05 (0.038)**	1.13E-005 (0.079)*	1.06E-05 (0.098)*
ROI	-	-1.002 (0.009)***	-1.224 (0.001)***	-1.120 (0.003)***	-1.120 (0.002)***	-1.067 (0.004)**	-1.185 (0.001)***
LEVERAGE	+	1.513 (0.000)***	1.586 (0.000)***	1.547 (0.000)***	1.554 (0.000)***	1.466 (0.000)***	1.489 (0.000)***
CREDRIGHTS	-	-7.205 (0.227)					-22.554 (0.018)**
PUBREGIS	-		-43.368 (0.014)**				-103.736 (0.000)***
PRIVREGIS	-			15.341 (0.497)			16.247 (0.718)
ENFORC	+				0.064 (0.029)**		0.0409 (0.172)
NEWS	-					-10.879 (0.047)**	-19.467 (0.013)**
N		261	261	261	261	259	259
Ad R-Square		10.95	14.06	10.01	10.82	11.19	19.89
F		5.95	7.31	6.02	6.52	5.87	6.01
Sig.		0.000	0.000	0.000	0.000	0.000	0.000

Table 7: Regulatory Institutions and Debt Ratings

This Table reports the Probit results of debt ratings on the regulatory institutions, firm- and issue-control variables. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : RATING	Predicted sign	(1)	(2)	(3)	(4)	(5)	(6)
LMAT	-	-0.24 (0.003) ***	-0.168 (0.044) **	-0.245 (0.003) ***	-0.222 (0.007) ***	-0.235 (0.004) ***	-0.164 (0.067)*
LISIZE	+	0.117 (0.028) **	0.057 (0.302)	0.134 (0.015) **	0.124 (0.023) **	0.0131 (0.019) **	-0.169 (0.428)
ASSET	+	2.79E-09 (0.000) ***	3.01E-09 (0.000) ***	2.71E-09 (0.000) ***	2.82E-09 (0.000) ***	2.81E-09 (0.000) ***	2.86e-09 (0.000)***
STDNINC	-	-1.06E-07 (0.022) **	-1.33E-07 (0.017) **	-9.46E-08 (0.038) **	-1.42E-07 (0.009) ***	-9.95E-08 (0.034) **	1.00e-08 (0.837)
ROI	+	-4.99E-04 (0.843)	2.41E-03 (0.310)	-4.72E-04 (0.848)	3.93E-04 (0.871)	-5.74E-05 (0.818)	6.28E-003 (0.011)
LEVERAGE	-	9.59E-04 (0.746)	-1.38E-03 (0.617)	8.43E-04 (0.775)	7.89E-04 (0.789)	2.25E-03 (0.458)	-7.24E-003 (0.007)***
CREDRIGHTS	+	0.042 (0.212)					-0.026 (0.586)
PUBREGIS	+		0.591 (0.000) ***				1.882 (0.000)***
PRIVREGIS	+			0.254 (0.071) *			1.960 (0.000)***
ENFORC	-				-1.02E-03 (0.003) ***		-1.58E-003 (0.000)***
NEWS	+					0.175 (0.000) ***	0.183 (0.001)***
N		332	332	332	332	329	329
Pseudo R-Square (%)		7.92	9.56	8.03	8.47	9.19	17.47
Model Chi2 Sig.		83.99 0.000	101.45 0.000	85.19 0.000	89.88 0.000	96.47 0.000	183.44 0.000

Table 8: Macro-Economic Determinants of Debt Costs

This table reports the OLS results of debt costs on macro-economic variables, as well as firm- and issue control variables. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : COST	Predicted sign	(1)	(2)	(3)
Constant	?	407.831 (0.010)***	505.281 (0.001)***	533.137 (0.001)***
LMAT	+	13.151 (0.199)	14.080 (0.162)	14.180 (0.160)
LISIZE	-	-19.924 (0.066)*	-29.275 (0.007)***	-26.530 (0.014)**
ASSET	-	-7.53e-08 (0.103)	-1.12e-07 (0.013)**	-7.69e-08 (0.102)
STDNINC	+	1.33e-05 (0.028)**	1.4e-05 (0.054)*	1.48e-05 (0.033)**
ROI	-	-1.029 (0.007)***	-1.055 (0.004)***	-1.00 (0.008)***
LEVERAGE	+	1.576 (0.000)***	1.444 (0.000)***	1.493 (0.000)***
DEBTMKTSIZE	-	-77.699 (0.045)**		-74.850 (0.037)**
GDPGROWTH	-		-13.493 (0.000)***	-13.744 (0.000)***
N		259	261	259
Adjusted R-Square (%)		12.71	15.56	18.18
F		6.17	7.47	8.96
Sig.		0.000	0.000	0.000

Table 9: Macro Economic Determinants of Debt Ratings

This table reports the Probit results of debt ratings on macro-economic variables, as well as firm- and issue-control variables. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : RATING	Predicted sign	(1)	(2)	(3)
LMAT	-	-0.168 (0.050) **	-0.228 (0.005) ***	-0.171 (0.049)**
LISIZE	+	0.158 (0.019) **	0.120 (0.026) **	0.160 (0.019)**
ASSET	+	2.03E-09 (0.000) ***	2.80E-09 (0.000) ***	2.04e-09 (0.000)***
STDNINC	-	-1.46E-07 (0.004) ***	-1.20E-07 (0.012) **	-1.46e-07 (0.004)***
ROI	+	-4.33E-04 (0.866)	-1.62E-04 (0.947)	-4.18E-004 (0.871)
LEVERAGE	-	-8.11E-04 (0.780)	1.06E-03 (0.720)	-7.73E-004 (0.789)
DEBTMKTSIZE	+	0.736 (0.000) ***		0.734 (0.000)***
GDPGROWTH	+		1.5E-03 (0.946)	7.27E-003 (0.729)
N		307	332	307
Pseudo R-Square (%)		5	7.8	5.01
Model Chi2		66.12	82.77	66.10
Sig.		0.000	0.000	0.000

Table 10: The Determinants of Debt Costs

This table reports the OLS estimates of the final model of debt costs. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : COST	Predicted sign	(1)	(2) Non Financial	(3) Without UK Data	(4) Without 1997 Data
Constant	?	485.249 (0.004)***	618.038 (0.002)***	785.231 (0.001)***	491.209 (0.006)***
LMAT	+	16.523 (0.096)*	10.258 (0.368)	7.566 (0.520)	20.798 (0.046)**
LISIZE	-	-17.994 (0.140)	-27.963 (0.058)*	-36.220 (0.037)**	-16.007 (0.205)
ASSET	-	-8.44e-08 (0.045)**	-6.98e-07 (0.009)***	-5.28e-08 (0.641)	-7.62e-08 (0.083)*
STDNINC	+	1.44E-005 (0.048)**	3.21E-005 (0.007)***	3.17E-005 (0.014)**	1.13E-005 (0.093)*
ROI	-	-1.103 (0.001)***	-1.165 (0.002)***	-2.534 (0.105)	-1.265 (0.001)***
LEVERAGE	+	1.491 (0.000)***	1.688 (0.000)***	0.685 (0.261)	1.843 (0.000)***
C_O	+	2.921 (0.009)***	3.311 (0.004)***	1.150 (0.290)	2.916 (0.010)*
CREDRIGHTS	-	-16.880 (0.023)**	-19.569 (0.023)**	-13.214 (0.099)*	-20.101 (0.014)**
PUBREGIS	-	-109.504 (0.000)***	-100.417 (0.000)***	-72.753 (0.020)**	-131.192 (0.000)***
NEWS	-	-22.811 (0.000)***	-21.996 (0.003)***	-18.082 (0.017)**	-27.792 (0.000)***
DEBTMKTSIZE	-	-13.593 (0.738)	6.783 (0.885)	-86.851 (0.135)	-32.348 (0.442)
GDPGROWTH	-	-8.986 (0.009)***	-10.916 (0.010)***	-7.755 (0.076)*	-7.525 (0.075)*
N		257	211	161	234
Adjusted R-Square (%)		26.20	31.54	28.14	31.11
F		6.41	7.58	4.13	8.02
Sig.		0.000	0.000	0.000	0.000

Table 11: The Determinants of Debt Ratings

This table reports the Probit estimates of the final model of debt ratings. The variables' description is presented in table 1.

***, **, and * refer to significance at the 1, 5, and 10% level respectively.

Dependent Variable : RATING	Predicted sign	(1)	(2) Non Financial	(3) Without UK	(4) Without 1997 Data
LMAT	-	-0.075 (0.442)	0.017 (0.885)	0.089 (0.551)	-0.118 (0.262)
LISIZE	+	0.145 (0.042)*	0.171 (0.084)*	0.267 (0.009)***	0.134 (0.067)*
ASSET	+	1.63e-09 (0.010)*	1.42e-08 (0.000)***	4.68e-10 (0.635)	1.36e-09 (0.027)**
STDNINC	-	-7.99e-08 (0.156)	-3.16e-07 (0.000)***	-3.51e-07 (0.000)***	-7.16e-08 (0.189)
ROI	+	4.28E-003 (0.115)	9.56E-003 (0.003)***	0.018 (0.239)	4.47E-003 (0.115)
LEVERAGE	-	-0.011 (0.000)***	-0.016 (0.000)***	0.008 (0.054)*	-0.013 (0.000)***
DIVERDUMMY	-	-0.651 (0.001)***	-0.427 (0.049)**	-0.441 (0.056)*	-0.775 (0.000)***
FAMILY	-	-0.737 (0.000)***	-0.747 (0.000)***	-1.071 (0.001)***	-0.814 (0.000)***
PUBREGIS	+	2.105 (0.000)***	1.643 (0.000)***	1.69 (0.000)***	2.276 (0.000)***
PRIVREGIS	+	1.984 (0.000)***	1.723 (0.000)***	1.271 (0.000)***	2.291 (0.000)***
ENFORC	-	-1.15E-003 (0.001)***	-1.23E-003 (0.002)***	-5.76E-004 (0.109)	-1.30E-003 (0.000)***
NEWS	+	0.257 (0.000)***	0.286 (0.000)***	0.344 (0.000)***	0.229 (0.000)***
DEBTMKTSIZE	+	0.380 (0.065)*	0.064 (0.781)	1.348 (0.001)***	0.325 (0.142)
N		304	231	194	279
Pseudo R-Square (%)		19.36	21.84	28.18	20.48
Model Chi2		160.17	170.61	137.53	145.50
Sig.		0.000	0.000	0.000	0.000

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
CC	1
C	1
D	1