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The effect of capital structure when expected agency costs are extreme

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Abstract

This paper conducts powerful new tests of whether debt can mitigate the effects of agency and information problems. We focus on emerging market firms for which pyramid ownership structures create potentially extreme managerial agency costs. Our tests incorporate both traditional financial statement data and new data on global debt contracts. Our analysis is mindful of the potential endogeneity between debt, ownership structure, and value, and it takes into account differences in the debt capacity of a firm's assets in place and future growth opportunities. The results indicate that the incremental benefit of debt is concentrated in firms with high expected managerial agency costs that are also most likely to have overinvestment problems resulting from high levels of assets in place or limited future growth opportunities. Subsequent internationally syndicated term loans are particularly effective at creating value for these firms. Our results support the recontracting hypothesis that equity holders value compliance with monitored covenants, particularly when firms are likely to overinvest.

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1. Introduction

Can debt capital create value in firms suspected of having extreme agency problems? Emerging markets provide an excellent laboratory to test the governance potential of debt given that shareholders of emerging market firms typically suffer from misaligned managerial incentives, ineffective legal protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1998), and underdeveloped markets for corporate control.[1] Debt should create value for firms with high expected agency costs if the use of debt directly reduces overinvestment or allows firms to signal that they do not or will not overinvest.

In emerging markets, managers and families routinely employ pyramid ownership structures to give themselves control rights that far exceed their proportional cash flow ownership. Research shows that investors recognize these misaligned managerial incentives and discount firms with a separation of managerial control rights and cash flow rights.[2] We test whether debt mitigates the loss in value from these misaligned incentives.

Our investigation of the role of debt as a governance mechanism is unique because our data have wide variation in both expected agency costs and the types of debt

[1] The international investment community is also aware of these governance shortcomings. Mark Mobius, manager since 1991 of the $1.2 billion Templeton Developing Markets Trust, comments that "corporate governance is not improving so why fight it? ... It's too Herculean a task and it's too embedded in the culture." (*Wall Street Journal*, 2000). Similarly, L. Nivatpumin and K. Parnsoonthorn (*Bangkok Post*, 2001) report that the U.S.-based Association of Certified Fraud Examiners estimates the agency costs of governance failures within Asia to be about 10% of annual sales.

[2] See Claessens, Djankov, Fan, and Lang (2002), La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2002), and Lins (2003) for non–U.S. evidence, and Morck, Shleifer, and Vishny (1988) and McConnell and Servaes (1990) for evidence on U.S. firms for which formal control rights equal cash flow rights, yet informal control rights could be greater because of management entrenchment. Dyck and Zingales (2003),

contracts. In some firms, the separation between managerial control rights and cash flow rights is extreme – in others, there is no separation. Differences in financial disclosure standards, creditor rights, creditor base, and contract terms across debt markets result in different incentives to monitor borrowers and different costs to both managers and shareholders of entering a debt market. We also explicitly consider a firm's potential for overinvestment problems as measured by high levels of assets in place or limited future growth opportunities.

Cross-sectional tests using financial accounting data show that leverage helps mitigate the loss in firm value attributable to the separation of management control and ownership. Further, we find that this beneficial effect of debt is concentrated in firms that have either a relatively high percentage of assets in place or few growth opportunities.

Event-study tests show significant differences in the abnormal returns associated with debt issued in different markets. Internationally syndicated term loan issues, which place implicit limitations on operating activity as a result of covenants and monitoring, have positive cumulative abnormal returns. The positive abnormal returns, in general, are associated with subsequent, not initial, loan issues. Moreover, the abnormal returns associated with these loans are positively correlated with management's separation of control and ownership and with the extent of assets in place. Initial issues of international public bonds, both Yankee bonds and Eurobonds, also lead to significant

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Nenova (2003), and Doidge (2003) find that private control benefits are larger for firms from less-developed capital markets.

abnormal returns, but these returns are not correlated with management ownership structures.

Overall, our paper suggests that actively monitored debt creates value for shareholders of firms that face potentially extreme agency costs associated with misaligned managerial incentives and overinvestment problems. The rest of the paper is organized as follows. Section 2 summarizes the relation between debt, value, and agency costs. Details on the sample construction and some summary statistics for our firms are presented in Section 3. Section 4 contains the empirical tests that examine the relation between debt capital, ownership structure, and firm value. Some concluding remarks are offered in Section 5.

2. Debt, value, and the separation of management ownership and control

Our investigation of the relation between debt policy, management ownership structure, and firm value begins with a basic assumption: In equilibrium, a meaningful conflict exists between outside shareholders and management that results from the separation of ownership and control (Jensen and Meckling, 1976). In this agency setting, Jensen (1986, 1993), Stulz (1990), Hart and Moore (1995), and Zweibel (1996) suggest that debt servicing obligations help to discourage overinvestment of free cash flow by self-serving managers. Even if a particular management group does not have a meaningful conflict, information asymmetry between managers and outsiders allows debt to create value because it gives management the opportunity to signal its willingness to

pay out cash flows or be monitored by lenders or both (Leland and Pyle, 1977; Ross, 1977; Flannery, 1986; Diamond, 1991b).

The benefits to debt are greater if management has a large base of assets in place that it can exploit. Assets in place generate cash flow that can lead to either overinvestment or the outright diversion of corporate funds (Jensen, 1986; Bolton and Scharfstein, 1990; Hart and Moore, 1998). If a firm has expected future growth opportunities, however, debt servicing requirements can limit management's ability to pursue positive net present value projects, leading to ex-post underinvestment (Myers, 1977). Because the relation between leverage and value is affected by a firm's debt capacity, we control for assets in place and growth opportunities in our analysis (Myers and Majluf, 1984; Smith and Watts, 1992; Hovakimian, Opler, and Titman, 2001; Barclay, Morellec, and Smith, 2003; Lemmon and Zender, 2003).

Not all forms of debt are equally likely to curtail overinvestment. For instance, with short-term debt, managers must frequently face the scrutiny of the capital markets to refinance principal. However, this type of debt allows managers to signal firm quality by adding to the information exchange between management and external capital markets (Hart and Moore, 1995; Flannery, 1986; Diamond, 1984, 1991a; Lummer and McConnell, 1989).[3] In emerging markets, a domestically issued short-maturity debt contract is less likely to discourage overinvestment, because family groups or governments typically control the banks and can use them for their own purposes (La Porta, Lopez-de-Silanes, and Zamarripa, 2003; La Porta, Lopez-de-Silanes, and Shleifer, 2002).

International debt markets, however, can provide emerging market firms with contracts that have higher financial disclosure standards, offer more effective creditor rights, and provide a better environment for monitoring. If domestic banks are unable to provide adequate debt capital, self-interested managers could be forced to borrow in international debt markets, subjecting themselves to increased monitoring or stricter reporting standards that should lessen minority shareholder expropriation. Alternatively, a well-managed firm whose value is discounted because of expected agency costs can issue debt in international markets to send a credible signal of managerial quality (Titman and Trueman, 1986; Cantale, 1996). Either way, international debt markets can create value through the resolution of expected agency costs.

While our research question is focused, the analysis relates to several large and often disjoint strands of literature. Many scholars seek to identify whether, after accounting for potential endogeneity, the internal governance associated with a firm's ownership structure can influence firm value (Demsetz and Lehn, 1985; Cho, 1998; Himmelberg, Hubbard, and Palia, 1999; Demsetz and Villalonga, 2001; Coles, Lemmon, and Meschke, 2002; Lins, 2003; Lemmon and Lins, 2003). We examine whether a complementary governance mechanism — debt policy — can also create value.

Other research has examined whether certain types of debt issues lead to abnormal returns (Smith, 1986; Mikkelson and Partch, 1986; James, 1987; Kim and Stulz, 1988; Lummer and McConnell, 1989; Chaplinsky and Ramchand, 2003; Miller and Puthenpurackal, 2002). We examine relative abnormal returns across debt markets and within debt markets, conditioning on firm-specific factors that suggest expected agency

[3] For an empirical study of short-term debt for U.S. firms, see Barclay and Smith (1995).

problems. This approach allows us to comment on specific hypotheses about whether and how debt creates value. For instance, if debt creates value when there is a separation of managerial control and cash flow rights, the extent of the abnormal return should be positively correlated with the degree of this separation.

Finally, several scholars argue that the direct and indirect disclosure costs borne by a firm's shareholders when it issues securities in international capital markets are linked to the benefits of increased investor recognition and liquidity (Foerster and Karolyi, 1999; Miller, 1999; Chaplinsky and Ramchand, 2000; Miller and Puthenpurackal, 2002). In addition, disclosure can be costly to managers, but beneficial for other shareholders, if it makes engaging in perquisite consumption, asset transfers, or the outright theft of earnings more difficult for managers. These managerial costs of disclosure lead to an additional motivation for issuing in international capital markets. Emerging market firms can use private international debt markets to assure investors that managers' actions will be monitored without incurring the direct and indirect costs associated with increased public disclosure.

The ownership and capital structure study of McConnell and Servaes (1995) is the most closely related to ours. They investigate, for U.S. firms, whether the relation between debt and value depends upon the investment opportunity set of a firm. They find that book leverage is positively correlated with firm value when investment opportunities are scarce, which is consistent with the hypothesis that debt lessens the agency problem

of overinvestment.[4] The root of the agency problem, however, lies in the separation of insider control and ownership, and not in the investment opportunity set. We provide a direct test of whether debt creates value when managerial incentives are misaligned.

3. Data

We use several different samples that incorporate our multiple sources of data. This section describes the procedures used to obtain our samples and provides descriptive statistics for these samples.

3.1. Sample selection

We begin our analysis with a cross-sectional sample that consists of 1,014 exchange-listed non-financial firms in 18 emerging markets with both ultimate ownership data for 1995 – 1996 from Lins (2003) and monthly stock return data over the previous five years from Datastream. The countries are Argentina, Brazil, Chile, the Czech Republic, Hong Kong, Indonesia, Israel, Malaysia, Peru, the Philippines, Portugal, Singapore, South Africa, South Korea, Sri Lanka, Taiwan, Thailand, and Turkey.

Our measure of the degree of separation between managerial cash flow rights ownership and control, called cash flow rights leverage, is the ratio of the management group's control rights to its cash flow rights. This measure incorporates both direct and indirect holdings of a firm's top managers and their family members. Indirect holdings refer to pyramid structures in which control rights to Firm A (i.e., the sample firm) are

[4] In a similar vein, Jagannathan and Srinivasan (1999) find that book leverage is beneficial for specialist firms that do not face strong product market competition as these firms could have greater agency

held through Firm B or Nominee Account B that has a stake in Firm A (i.e., the sample firm's blockholders).[5] Cash flow rights held by management will be lower than control rights when indirect stakes with less than full ownership or shares with superior voting rights are present in a firm's ownership structure.[6]

For our time-series tests, we collect firm-level data from 1980 through 1997 on debt issues in domestic, foreign, and international bond markets using Security Data Corporation's Global New Issue Database and in the internationally syndicated bank market using Capital Data's Loanware database. We obtain a debt issuance record using these sources for 547 exchange-listed non-financial emerging market firms covered by Worldscope; these constitute our issuing sample. We require information on an issue's signing date, principal amount of the contract, and contract maturity. Countries in the issuance sample closely track those in the cross-sectional sample except that the issuing sample includes Mexico and Venezuela (countries for which we have do not have ownership data).

We compile debt issuance data from the following markets: foreign bond markets (e.g., Yankee bonds), Eurobond markets, internationally syndicated bank issues such as term loans and revolving credits, and domestic public and private bond markets. The domestic bond coverage is limited to Argentina, Brazil, the Czech Republic, Indonesia, Malaysia, Mexico, Peru, Portugal, Singapore, Thailand, and Venezuela from 1991 to

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problems.

[5] The management group of Firm A is deemed to have indirect control via Firm B (or Nominee Account B) if one or more managers or their families has an equity blockholding in Firm B or is a top manager of Firm B.

[6] For example, if Firm B owns 50% of Firm A and the management group of Firm A owns 50% of Firm B, then the management group's control rights for Firm A equal 50%, while their cash flow rights equal 25%,

1997 and South Korea from 1994 to 1997. Because the issuing record is somewhat incomplete (e.g., we lack domestic bank issuance data), we verify that our sample of debt issues constitutes an economically significant portion of firms' total debt outstanding. Specifically, for each year we compare the overall stock of debt from firms' balance sheets with the aggregate flow of debt from our markets. On average, our debt flow data constitute 33% of the total stock of debt outstanding (range of 12% to 55%). Given that the flow of debt per year is likely to be well below the stock of debt, we believe that our issue data comprise a significant portion of firms' overall debt flows.

Finally, many of our tests use an ownership issuing sample of 252 firms with both a debt issuance record and an identified ownership structure.

3.2. Summary statistics

To identify whether debt mitigates managerial agency costs, it is important to measure leverage relative to a firm's assets in place because the benefits of debt are greater when a firm has a large base of assets in place. We use leverage measured using book values throughout our analysis because of data constraints. (Barclay, Morellec, and Smith, 2003, argue that book leverage is an instrument for the ratio of debt to a firm's assets in place.) Moreover, firms are likely to be most concerned about book leverage ratios because bank loan covenants are written in terms of book value.[7]

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and cash flow rights leverage equals 2.0. See Lins (2003) for further details on the computation of cash flow rights leverage.

[7] We thank Marc Zenner (Citigroup) and Terri Lins (formerly of Barclays, FleetBoston, and First Union/Wachovia) for verifying that this is the case for syndicated loans originated by major financial institutions.

Table 1 provides descriptive statistics for the samples used in our tests. The cross-sectional sample has a mean debt-to-assets ratio of 0.28, broadly consistent with the values found by Rajan and Zingales (1995) for firms in the United States and other developed countries. The average short-term debt to total debt ratio is 0.60. Demirguc-Kunt and Maksimovic (1999) also find that firms in developing countries have substantially higher short-term debt ratios than firms in developed countries. Mean cash flow rights leverage is 2.13, implying that the average management group in these emerging markets is able to turn one cash flow right into more than two control rights.

[Insert Table 1 near here]

The second and third columns of Table 1 show that firms with a debt issuance record, on average, are larger and more levered, and they have a lower proportion of short-term debt to total debt than firms in the cross-sectional sample. Our summary statistic differences indicate that larger emerging market firms are better able to tap the longer-maturity public and international debt markets, a finding consistent with the U.S. firm results of Barclay and Smith (1995).

4. Empirical analysis

4.1. Cross-sectional analysis

The objective of our cross-sectional tests is to draw inferences about the relation among firm value, leverage, and the separation of management group control and ownership, while controlling for a number of other factors. The task is complicated

because it can be argued that firm value, leverage, and ownership structure are all jointly determined.

We address the potentially endogenous relation among these variables (and account for other factors that could affect each of them) by estimating a three-stage least squares regression model, where a valuation equation is the structural equation, and a leverage equation and an ownership equation are the others. In so doing, we go beyond previous work that considers only endogeneity between firm value and ownership structure. One shortcoming of any instrumental variable technique is that it requires the identification of some number of exogenous variables that plausibly affect only value or leverage or ownership, but not all three. For robustness, we also estimate the firm value structural equation using ordinary least squares (OLS). We also verify that our results hold if we estimate a two-stage least squares model, equation by equation. Finally, because debt is most likely to benefit firms with high levels of assets in place or low growth opportunities or both, we estimate the model for subsets of firms based on proxies for these parameters.

Consistent with previous work on the relation between ownership structure and firm value, we use an approximation of average Tobin's Q as a proxy for firm value in our cross-sectional regressions. We compute Tobin's Q as the market value of equity plus the book value of assets less the book value of equity in the numerator and the book value of assets in the denominator, using accounting data predominantly from fiscal year-end 1996.

To directly test the ability of debt to mitigate agency costs, we require a measurement of the valuation impact of debt conditional on the level of separation

between management control and ownership. We capture this conditional effect by including in the firm value equation an interaction term between cash flow rights leverage and debt, in addition to the stand-alone cash flow rights leverage and debt variables. If agency costs are capitalized into firm values, then the stand-alone coefficient on cash flow rights leverage should be negative. A positive coefficient on the interaction term indicates that debt can mitigate the effect of agency problems.

Our structural equation controls for firm size, measured as the log of total assets in U.S. dollars. We include the ratio of capital expenditures to assets as a proxy for growth opportunities – however, if managers routinely overinvest, this ratio will instead pick up inefficient investment choices.[8] Finally, we include country and industry indicator variables in the structural equation because both country and industry factors are likely to affect *Q* values. Industry groupings are based on Campbell (1996).

The leverage equation uses the debt-to-assets ratio as the dependent variable, Tobin's *Q* and cash flow rights leverage as the simultaneously determined variables, and controls. We include the four determinants of leverage advocated by Rajan and Zingales (1995): Tobin's *Q*, the percentage of tangible assets (net property, plant, and equipment divided by total assets), firm size, and profitability (operating income-to-total assets). Cash flow rights leverage could be positively related to leverage, because managers who lever their cash flow rights into greater control rights might also use financial leverage to augment the assets under their control. We also include country dummy variables in the leverage equation because the use of debt finance is likely to vary by country.

[8] Harvey and Roper (1999) and Pomerleano (1998) show low levels of return on invested capital in East Asia during our sample period.

The ownership equation uses cash flow rights leverage as the dependent variable, Tobin's *Q* and leverage as simultaneously determined variables, and controls. Following Demsetz and Lehn (1985), Cho (1998), and Demsetz and Villalonga (2001), unique control variables in this equation are the beta from a regression of a firm's monthly stock return on its local market Morgan Stanley Capital International index for a 60-month period as well as the standard deviation of a firm's stock return over this period. Both measures attempt to capture the risk inherent in stock ownership. They also capture the potential for insiders to make money on the shares they hold. The ownership equation also includes size and percentage of tangible assets, because these variables could also affect whether management directly holds shares.

Table 2 reports the results of the three-stage least squares estimation for the cross-sectional sample of firms. The structural Eq. (1) shows an unconditional coefficient on cash flow rights leverage of –0.484, which indicates that an increase in the separation between managerial control rights and cash flow rights is negatively related to firm value. This result suggests that a management group could positively impact firm value by selling its interest in an indirect holding and using these proceeds to purchase shares directly.

[Insert Table 2 near here]

More important for our analysis, the coefficient of 1.132 on the interaction between cash flow rights leverage and the debt ratio suggests that debt plays a positive role in alleviating agency problems. However, the coefficient is not large enough to

overcome the negative unconditional effect of debt found in the equation.[9] Overall, the structural equation indicates that some debt could be alleviating agency costs, while other debt could be simply increasing financial risk or exacerbating agency problems.

The leverage Eq. (2) indicates that leverage is positively related to both firm size and cash flow rights leverage. Both these findings are consistent with our predictions and with the findings of Kim and Sorensen (1986) for U.S. firms. In our simultaneous equations framework, we do not find that *Q* has an effect on leverage, which is consistent with the U.S. firm results of Roper (2001). Asset tangibility and profitability also have no effect on leverage ratios. The ownership Eq. (3) shows that debt is positively related to the separation between managerial cash flow rights and control rights, indicating endogeneity between these variables. Firm size is negatively related to cash flow rights leverage, and the stock ownership risk proxies are not significant in this equation.

For comparison purposes, Table 2 also reports the results of simple OLS estimates for the firm value structural equation (Model 2). Although we do not believe that this model adequately captures the relation between firm value, debt, and ownership, we note that the coefficients support the same conclusion about the ability of debt to mitigate agency costs.[10] As an indication of robustness, the Table 2 results hold when we use market value leverage ratios instead of our preferred book value leverage measures (results not tabulated).

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[9] The overall economic effect of a change in leverage from the 25th to the 75th percentile for a firm with mean cash flow rights leverage of 2.13 and mean Tobin's *Q* of 1.48 is as follows: The positive interaction term effect, 1.132 x 2.13(0.42 – 0.12) = 0.723, is added to the negative unconditional debt effect, –3.765(0.42 – 0.12) = -1.130, for a net change of –0.407 in Tobin's *Q*, which, when divided by 1.48, equals a 28% reduction in Tobin's *Q*.

In Table 3, we investigate whether the ability of debt to mitigate managerial agency costs depends on how likely a firm is to face overinvestment problems. We split the sample into firms with above- and below-median levels, by country, of the proxies for assets in place (percentage of tangible assets) and growth opportunities (Tobin's *Q*). Eq. (1) of Panel A shows that the interaction term between debt and cash flow rights leverage is positive and significant only for firms with a high percentage of assets in place. Eq. (1) of Panel B shows that the interaction term between debt and cash flow rights leverage is positive and significant only for firms with few growth opportunities. These results are consistent with the hypothesis that debt is particularly effective at alleviating agency problems when firms are likely to suffer from overinvestment.

[Insert Table 3 near here]

We next test whether short-term debt is best suited for reducing the effect of potential overinvestment problems (results are untabulated). We segment the sample into firms with above- and below-median levels, by country, of short-term debt to total debt and re-estimate the three-stage least squares model. In the firm value structural equation, we find a marginally significant positive coefficient on the interaction between debt and cash flow rights leverage for firms with relatively short debt maturities (p-value = 0.11); the interaction coefficient is insignificant for long-maturity firms. These results provide weak evidence that short-term debt is able to mitigate agency problems. Unfortunately, our book leverage data do not allow us to distinguish between intensively monitored

[10] We also estimate an OLS regression of the leverage equation (not tabulated) and find results broadly similar to those of Rajan and Zingales (1995): book leverage is positively related to firm size and negatively related to *Q* and profitability, but it is not significantly related to asset tangibility.

short-term debt and debt issued by domestic lenders with strong ties to a firm or the government.

The cross-sectional regressions indicate that debt can limit the value loss attributed to the separation of managerial ownership and control, particularly for firms with high levels of assets in place and few growth opportunities. The evidence also suggests that short-term debt could be relatively effective at this task. Leverage itself, however, is consistently negatively related to firm value.

4.2. Event study analysis

As some debt contracts are more likely to be effective at mitigating managerial agency problems than others, and book leverage measures cannot distinguish between debt types, we conduct tests of the relation between agency costs and the issuance of specific debt contracts. We measure changes in shareholder value resulting from individual debt issues using traditional event study methods. We estimate a market model with Scholes and Williams (1977) betas over an estimation window beginning 120 trading days before and ending 20 trading days before the issue date. We proxy for a country's market return using Morgan Stanley market capitalization-weighted indices. Daily local-currency firm-level price data are provided by the Global Securities Prices database within FACTSET. Average cumulative abnormal returns (CARs) are reported for a six-day event window that includes one day prior to issue, the issue date, and four subsequent trading days.

We use the issue date of the debt financing agreement as the event date, instead of an announcement date. Our search of public news sources reveals that when

announcements occur, they are almost always on or just after the issue date. Also, even if an announcement precedes an issue, some uncertainty still exists at the announcement date as to whether the financing will be completed. Measuring an announcement effect thus does not fully reflect the benefit, if any, of a completed debt contract (Mikkelson and Partch, 1986). During our search, we check for confounding public announcements in the two-week period before and after each debt issue date.[11] We find less than 50 such confounding events and verify that our results hold in magnitude and significance when these issues are removed from our analysis.

The event study analysis allows us to draw inferences on the particular mechanism by which debt can add value. When interpreting abnormal returns, we assume that the value of debt comes from increased disclosure or monitoring or both, which together serve to reduce agency costs. However, as Smith (1986) points out, at least some, if any, of the value enhancement attributed to debt could simply reflect information about exogenous changes in expected cash flows. We implicitly assume that any such changes are constant across our issuing sample.

From an agency cost perspective, we do not expect all types of debt to affect shareholder value equally. Our debt issues come from various domestic and international

[11] To the extent that announcements precede the issue date (see Miller, 1999, and Bhattacharya, Douk, Jorgenson, and Kehr, 2000), this will lessen our chance of finding significant abnormal returns around the issue date. James (1987) and Lummer and McConnell (1989) use the *Wall Street Journal Index* to obtain announcement dates for bank lending agreements for U.S. firms. Using Dow Jones Interactive, we search for debt announcements and articles about major corporate events such as dividend changes, bankruptcy, changes in capital structure, takeovers, acquisitions, spin-offs, asset sell-offs, joint ventures, privatizations, board changes, atypical earnings, corporate restructuring, and asset write-off charges in these publications: *Wall Street Journal* (January 1984 – December 1997), *New York Times* (June 1980 – December 1997), *Associated Press Newswires* (December 1985 – December 1997), *Business Wire* (July 1988 – December 1997), *PR Newswire* (January 1985 – December 1997), *Dow Jones News Service* (June 1979 – December 1997), *Emerging Markets Debt Report* (January 1991 – June 2000), and *Private Placement Reporter* (January 1991 – May 1999).

markets that have significant variation in terms of disclosure requirements, creditor rights, enforceability of creditor rights, creditor base, covenants, and monitoring. We also analyze the sequencing of debt issues across different markets and within individual markets. Fig. 1 summarizes key differences in attributes across the debt markets in our sample. In particular, the figure highlights the varying degrees of financial disclosure requirements and monitoring incentives. Both characteristics can lead to shareholder gains by lessening managerial agency costs.

[Insert Figure 1 about here]

Debt can create value whenever potential agency problems exist if issuing allows managers to signal their commitment to ex-post investment efficiency, the threat of monitoring changes managerial incentives, or debt servicing obligations absorb excess cash flow that could otherwise be misappropriated. Because all interest-bearing obligations require servicing, all debt contracts have the potential to create value when firms generate cash flows in excess of their growth opportunities.

Certain forms of debt contracts, however, contain specific mechanisms that discourage self-interested managers from exploiting outside shareholders. For example, publicly placed U.S. market foreign bonds (Yankee bonds) fall under the purview of the U.S. Securities Act of 1933. Firms issuing these must meet stringent registration requirements as well as provide timely financial statements that adhere to U.S. Generally Accepted Accounting Principles. Such disclosure is potentially costly to both firms and managers. The firm must pay out-of-pocket costs associated with regulatory filings, and these filings also could provide rival firms with proprietary information. Stringent disclosure is costly to managers if new information on managerial ownership structures,

investment, and operating decisions causes them to consume fewer private benefits of control. Thus, a Yankee bond issue by an emerging market firm could be an effective signal to outside shareholders because information asymmetries and managerial agency costs in emerging markets are often severe.

Debt markets with a commitment to monitoring can also create value for outside shareholders whenever information asymmetries and agency costs are pronounced. Monitoring can either serve as a screening mechanism or help align self-interested managers' actions by encouraging them to pursue ex-post efficient investment strategies (Diamond, 1991b). Creditors in private debt markets can more readily commit to monitoring because the creditor base is typically concentrated (Diamond, 1989).

Internationally syndicated bank contracts, in particular, are likely to be intensely monitored. According to Howcroft and Solomon (1985), the lead manager in syndicated bank issues has a fiduciary duty to monitor the firm and inform syndicate members when the firm is in technical default, and most syndicated agreements are governed by New York State law. This fiduciary duty provides additional incentives to monitor that are absent in private bond markets. While privately placed domestic bonds also have a concentrated creditor base, strong ties between firms and domestic lenders in emerging markets could often discourage these lenders from performing due diligence and monitoring.

Table 4 provides issue-level statistics for 1990 to 1998 for the issuing sample. Firms that go outside their borders for debt financing borrow in larger amounts at longer maturities than do domestic debt issuers. Not surprisingly, larger firms are able to tap the international bond markets, a result consistent with evidence in Cantillo and Wright

(2000), and these bond issues are larger and longer-dated than internationally syndicated bank issues.[12]

[Insert Table 4 near here]

The final two columns, however, show that the internationally syndicated bank market remains a vital source for external capital for emerging market firms. Internationally syndicated issues constitute the greatest proportion of both issues (63%) and total issuance volume (54%) of the various debt instruments. Untabulated annual statistics show that, for each year, syndicated term loans represent at least 36% of total debt issue proceeds (to a maximum of 55%), far exceeding the other forms of debt capital that we study.[13] Despite its relative importance, the internationally syndicated bank market has been largely ignored in capital structure studies.[14]

Table 5 reports the cumulative abnormal returns associated with debt raised in different markets. Limited daily security price data keep our event study to 1,348 issues. Across all types, debt issues lead to a statistically insignificant 0.13% average abnormal return, but when we partition debt issues according to marketplace of issue, we find two significant results. First, privately placed domestic bond issues lead to an average abnormal return of –1.04%, indicating that domestic bonds do not appear to provide certification benefits. Mikkelson and Partch (1986) find insignificant abnormal returns for private debt contracts issued by U.S. firms. Second, we find that internationally

[12] Our data sources contain very few non–U.S. foreign bond issues (e.g., Samurai bonds). We exclude these issues from our analysis because tests with such a small subset would lack power, and because reporting and disclosure characteristics of these foreign issue markets are not comparable to those for U.S.–issued foreign bonds.

[13] Domowitz, Glen, and Madhavan (2000) show this pattern at the country level for aggregate financial flows.

[14] Some notable exceptions are Kleimeier and Megginson (2000) and Esty and Megginson (2003).

syndicated bank term loans generate average abnormal returns of 0.52% for outside shareholders. Bank offerings by U.S. firms have also been shown to create value (James, 1987, Lummer and McConnell, 1989). While other authors attribute these gains to the uniqueness of the bank-borrower relationship, we explore whether these gains are directly related to expected agency costs.

[Insert Table 5 near here]

Our analysis so far averages the effects of multiple issues by firms in a particular marketplace of issue. The sequencing of issues across various debt markets is also likely to drive the valuation impact of debt. If debt creates value because of increased financial disclosure, then abnormal returns should be higher for debt contracts with higher levels of disclosure, such as public international bond markets, when firms have not received certification from alternative debt markets such as private international debt markets. Thus, finding that a firm's initial international debt offering in either the U.S. Yankee bond market or Eurobond market leads to positive abnormal returns would indicate that increased disclosure is likely to be driving the value creation.

However, successful subsequent issues in private debt markets can create value by allowing managers to demonstrate their commitment to meet debt service requirements and to abide by covenants (Fama, 1985; Lummer and McConnell, 1989; Diamond, 1991b). Thus, a finding of positive abnormal returns for subsequent private bank contracts, such as internationally syndicated term loans, would provide support for the recontracting hypothesis.

We identify a firm's initial international debt issue within our sample of debt issues and define all other issues as subsequent international issues.[15] Because of incomplete historical data, we cannot verify that our initial international debt issue is the first international debt issue in the entire history of the firm. For robustness, we also partition a firm's issues in a given marketplace into the initial offering and secondary offerings. We perform univariate and multivariate analysis to investigate whether the value created by key debt contracts, if any, is related to a separation between managerial control and cash flow rights. As in our cross-sectional tests, we also examine whether the gains to outside shareholders that result from incremental debt issues are concentrated in firms with few growth opportunities or substantial assets in place.

Table 6 partitions the cumulative abnormal returns associated with international debt offerings according to whether an issue is the firm's first international debt issue or a subsequent one. Firms whose initial international debt offering is in either the Eurobond or Yankee bond market experience an average CAR of 0.97% (significant at the 5% level). Initial international offerings in private bond markets or the syndicated bank market do not, on average, create value. The international public bond markets generally require more public disclosure, but they provide weaker monitoring than international private debt markets. Thus, we suspect that the value created by initial U.S. Yankee bond and public Eurobond issues is explained by the certification hypothesis of Booth and Smith (1986) and Titman and Trueman (1986). Bolstering this assessment, Table 6 shows that there is no creation of shareholder value when a firm's subsequent

[15] A search of the news sources detailed in footnote 11 reveals no evidence of international debt issues that precede the initial international debt issue identified within our sample.

international debt issue is a U.S. Yankee bond or public Eurobond, in contrast to the results of Kim and Stulz (1988).[16]

[Insert Table 6 near here]

In untabulated results, we also find evidence that initial Yankee bond offerings have higher average abnormal returns than initial public Eurobond offerings (1.90% compared with 0.88%, each significant at the 10% level). While sample sizes are too small to draw reliable inferences, we believe that the more stringent reporting requirements in the Yankee bond market provide a more effective signal for managers from emerging markets.

When a firm's subsequent international issue is an internationally syndicated term loan, cumulative abnormal returns average 0.94%, and 58% are positive (significant at the 1% level). The right-hand columns of Table 6 show that subsequent international issues of term loans have a 1.61 percentage point higher average CAR than initial international issues of term loans.

For robustness, we also sort each internationally syndicated term loan issue according to whether it is the first syndicated term loan issued by a firm or is a subsequent term loan issue. This segmentation offers a more precise test of the recontracting hypothesis that investors benefit from learning that a firm has been able to withstand bank monitoring pressures when agency problems are expected to be severe. We find that subsequent issues of term loans generate a 0.99% average abnormal return, significant at the 1% level (result not shown), a finding similar to that reported by

[16] To the extent that these debt issues reveal information on expected cash flows, the new information should be greatest in the initial international issue, and this could account for at least part of the positive

Lummer and McConnell (1989) for bank loan renewals by U.S. firms. Taken together, the positive average CARs for subsequent syndicated term loans support the recontracting hypothesis that investors will pay more for firms that show they can comply with bank loan agreements.

Privately placed bonds have relatively low out-of-pocket costs and are unlikely to transmit proprietary information. Despite these potential advantages, we find that firms whose initial international issue is a privately placed bond do not reap shareholder gains. Across both public and private bonds, subsequent international bond offerings do not have significant positive average abnormal returns. This could be because the creditor base is too diverse to credibly commit to effective monitoring.

One of our key objectives is to test whether the value created by any particular debt contract is related to the extent of an individual firm's managerial agency problem. We partition firms into those with a separation of managerial control and ownership (above-median cash flow rights leverage) and those without such separation. To further assess the potential for overinvestment problems, we sort firms according to whether their time-series average values over the 1990 – 1996 period for percentage of tangible assets and Tobin's *Q* are above or below the median value for all issuing firms. In Table 7, we conduct a univariate analysis of these parameters and the CARs from the two types of debt shown to create value in Table 6: initial international issues in the public U.S. or Eurobond markets, and subsequent international offerings of internationally syndicated term loans.

[Insert Table 7 near here]

CARs we observe.

Panel A of Table 7 provides no evidence that the abnormal returns associated with initial public U.S. and Eurobond offerings are correlated with our proxy for agency costs. In Panel B, we do find that the abnormal returns associated with subsequent offerings of internationally syndicated term loans are positively related to cash flow rights leverage. While both above- and below-median cash flow rights leverage firms experience positive abnormal returns when recontracting in the syndicated term loan market, the difference between the two groups, 1.19 percentage points, is statistically significant at the 5% level. This result indicates that firms with potentially extreme managerial agency problems benefit most from subsequent international offerings of syndicated term loans.

In Table 7, we also find that, across both types of debt issues, the value created by debt is concentrated in firms with an above-median percentage of tangible assets or below-median Tobin's *Q* values. Our findings confirm the result of McConnell and Servaes (1995) that debt creates value in firms with few growth opportunities. Overall, the univariate analysis of Table 7 suggests that the positive CARs associated with subsequent syndicated term loans occur primarily in firms likely to face agency costs because they have high management cash flow rights leverage, high percentages of assets-in-place, or low growth opportunities.

We next conduct a multivariate cross-sectional analysis of our CARs. If shareholders benefit from debt contracts because they lessen the effect of agency problems, then we expect the CARs of a debt contract to be positively related to our proxies for agency problems. If, instead, debt contracts add value primarily because they transmit new information about a firm's prospective cash flows, then debt contract CARs should not be related to agency cost proxies.

Table 8 presents the results of a generalized least squares model regressing cumulative abnormal returns on cash flow rights leverage as well as controls for size, capital expenditures, leverage, and country dummies. Observations are weighted by the inverse of the variance of the CAR. We estimate this model for both initial international public U.S. and Eurobond offerings and subsequent internationally syndicated term loans. Three models for each debt issuance category are reported. Regressions (1) and (4) are similar to the first equation reported in Table 2 of the cross-sectional analysis. Regressions (2) and (5) contain interactions between cash flow rights leverage and the proxy for assets in place, while Regressions (3) and (6) have an interaction between cash flow rights leverage and the proxy for growth opportunities. For initial international public U.S. and Eurobond offerings, Table 8 provides no evidence that abnormal returns are associated with the extent of agency problems. In fact, the results suggest the opposite. Regressions (1) through (3) show that CARs are negatively correlated with the degree of separation between control and ownership. While this result suggests that the value created by Yankee bond and public Eurobond offerings is not related to expected managerial agency costs, we would view the results cautiously, given the small number of observations. Nonetheless, we are unable to explain this counterintuitive result.

[Insert Table 8 near here]

The evidence from regression (4) for subsequent internationally syndicated term loans once again shows that the value created by subsequent syndicated term loan issues is positively correlated with cash flow rights leverage. The coefficient of 0.184 (0.184%) indicates that, compared with shareholders in the median firm with no cash flow rights leverage (a value of one), shareholders in a firm that has cash flow rights leverage at the

90th percentile (a value of six) obtain a 92 basis point higher excess return (computed as 0.184 x 5) from a subsequent international term loan issue.

When we split the sample into firms with above- and below-median assets in place in regression (5), we find that shareholders of firms with greater amounts of assets in place and high management cash flow rights leverage benefit the most. The interaction coefficient of 0.268 (0.268%) indicates that when a subsequent term loan is issued by a high assets-in-place firm, shareholders of a firm with cash flow rights leverage of six obtain excess returns 134 basis points higher than those of a firm with a cash flow rights leverage value of one. Similarly, Regression (6) shows that when a subsequent term loan is issued, shareholders in firms with below-median growth opportunities and cash flow rights leverage at the 90th percentile experience returns 121 basis points higher than those for low-growth opportunity firms with no cash flow rights leverage. Taken together, our results indicate that monitored debt creates value for firms that have both high expected managerial agency costs and an asset base or growth opportunity set that reflects expected overinvestment problems.

5. Conclusion

Emerging market firms have potentially extreme managerial agency problems. We examine financial statement data and detailed global debt issuance data to test whether debt capital is able to reduce the impact of agency problems. We provide new evidence that debt creates shareholder value for firms that face potentially high managerial agency costs.

Cross-sectional tests using financial statement data indicate that debt mitigates the reduction in firm value that accompanies a separation between a management group's control rights and its proportional cash flow ownership. This incremental benefit of debt is concentrated in firms most likely to have overinvestment problems because they have either high levels of assets in place or limited growth opportunities.

Our event study tests provide a rich set of results for subsequent issues of internationally syndicated term loans, which place implicit limitations on operating activity as a result of covenants and monitoring. First, these loans earn positive cumulative abnormal returns. Second, these cumulative abnormal returns are positively related to the separation of control and ownership in the management group. Third, this positive relation is concentrated in firms with a high percentage of assets in place or few growth opportunities. From an economic perspective, when a firm with high assets in place issues a subsequent internationally syndicated term loan, the return when there is a 90th percentile separation of managerial control and cash flow rights is 134 basis points higher than the return when no separation of control and ownership exists. These results support the recontracting hypothesis that shareholders value compliance with monitored covenants, particularly when firms are most likely to face extreme agency problems.

Event study tests show that initial issues of public international bonds (Yankee bonds and Eurobonds) also lead to significant abnormal returns, but these returns are not correlated with management ownership structures. These gains are consistent with the hypothesis that international public markets certify firm quality with their substantial disclosure requirements.

Taken altogether, our results indicate that shareholders benefit from intensively monitored debt in circumstances in which managers are most likely to exploit shareholders and information asymmetry is severe enough that shareholders cannot reasonably infer what managers are doing with a firm's funds.

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Table 1

Summary statistics.

Summary statistics for cross-sectional sample, issuing sample, and ownership issuing sample. Firm fundamental data are reported for fiscal year end = 1996 and come from Worldscope. CAPX to assets is defined as the ratio of capital expenditures to book assets. Debt to assets is defined as long-term debt to book assets. Short-term debt to total debt ratio is set equal to zero in cases in which there is no debt in the capital structure of a firm. Percentage of tangible assets refers to net property, plant, and equipment divided by book assets. Tobin's Q is computed as market value of equity plus book assets less book value of equity all divided by book assets. Cash flow rights leverage is computed as management group control rights divided by management group cash flow rights and includes both pyramid and nonvoting equity effects (Lins, 2003).

The cross-sectional sample consists of emerging market firms for which cash flow rights leverage for 1995 to 1996 can be obtained from Lins (2003) and which also have monthly stock return data over the previous five years available from Datastream. The issuing sample contains all nonfinancial publicly traded emerging market firms found in Worldscope for which a debt issuance record can be obtained using Capital Data's Loanware database and the Security Data Corporation's New Issue database and that have daily stock price data in the Global Securities Price database in FACTSET. The ownership issuing sample consists of all firms in the issuing sample that are also in the cross-sectional sample.

	Cross-Sectional sample		**Issuing sample**		**Ownership issuing sample**	
Variables	Mean	Median	Mean	Median	Mean	Median
Total assets (millions of U.S. dollars)	1004	254	1902	604	2542	695
Capital expenditures to assets ratio	0.08	0.06	0.09	0.07	0.09	0.07
Debt to assets ratio	0.28	0.27	0.37	0.37	0.38	0.39
Short-term to total debt ratio	0.60	0.62	0.48	0.43	0.50	0.50
Percentage of tangible assets	0.40	0.39	0.44	0.44	0.44	0.44
Tobin's Q	1.48	1.22	1.41	1.17	1.40	1.15
Cash flow rights leverage	2.13	1.00	—	—	2.23	1.00
Number of firms	1,014		547		252	

Table 2

The effect of leverage and ownership structure on firm value.

Three-stage least squares analysis of the jointly determined system (Tobin's *Q*, debt to assets, and cash flow rights leverage) and ordinary least squares (OLS) analysis of the dependent variable Tobin's *Q* are reported in Models (1) and (2). All regressions are estimated using the cross-sectional sample of 1,014 firm observations. Cash flow (CF) rights leverage x debt to assets is an interaction between cash flow rights leverage and the debt to assets ratio. Operating income to assets is EBITDA divided by book assets, and this ratio is divided by 100 for reporting purposes. Beta is computed from a regression of the monthly stock return on the Morgan Stanley Capital International country-level index return using the 60 month period prior to December 31, 1996. Standard deviation of stock return is computed using the firm-level stock return over the same period. All remaining variables are as defined in Table 1.

Model (1) reports the estimated coefficients from a jointly determined system in Eq. (1), Eq.(2), and Eq. (3). Standard errors are reported in parentheses. Model (2) reports OLS parameter estimates and robust standard errors following White (1980). Models include unreported country-specific intercepts and industry-specific intercepts (based on Campbell, 1996 industry groupings) where indicated. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. p-values are based on an F-test of model specification. The adjusted R^2 is reported for Model (2).

	Three-stage least squares (1)			OLS regression (2)
	Tobin's *Q*	Debt to Assets	CF Rights Leverage	Tobin's *Q*
	Eq. (1)	Eq. (2)	Eq. (3)	
Log of assets	-0.039	0.016 ***	-0.477 ***	-0.046 **
	(0.033)	(0.004)	(0.121)	(0.023)
Capital expenditures to assets	0.589			0.571 *
	(0.509)			(0.351)
Debt to assets	-3.765 **		28.259 ***	-1.011 ***
	(1.816)		(1.208)	(0.195)
Cash flow rights leverage	-0.484 **	0.035 ***		-0.045 ***
	(0.213)	(0.001)		(0.014)
CF rights leverage x debt to assets	1.132 **			0.081 **
	(0.517)			0.035
Tobin's *Q*		-0.013	0.168	
		(0.026)	(0.727)	
Percentage of tangible assets		0.027	-0.418	
		(0.026)	(0.731)	
Operating income to assets		-0.019		
		(0.026)		
Beta			0.063	
			(0.157)	
Standard deviation of stock return			-1.333	
			(1.319)	
Intercept				1.696 ***
				(0.390)
Country indicator variables	Yes	Yes	Yes	Yes
Industry indicator variables	Yes	No	No	Yes
Number of observations		1,014		1,014
Adjusted R^2	—	—	—	0.29
p-value	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)

Table 3

Subsample tests of leverage and ownership structure on firm value.

Three-stage least squares analysis of the jointly determined system (Tobin's *Q*, debt to assets, and cash flow (CF) rights leverage) are reported. All regressions are estimated using the cross-sectional sample of 1,014 firm observations. Variables are as defined in Table 1 and Table 2. Panel A reports coefficients based on subsamples of firms whose percentage of tangible assets falls above and below that of the country median firm. Panel B regressions are estimated on subsamples of firms whose Tobin's *Q* values fall above and below that of the country median firm. Standard errors are reported in parentheses. Regressions include unreported country-specific intercepts and industry-specific intercepts (based on Campbell, 1996 industry groupings) where indicated. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. *P*-values are based on an F-test of model specification.

Panel A: Percentage of Tangible Assets

	Above-median percent tangible assets			Below-median percent tangible assets		
	Tobin's *Q*	Debt to Assets	CF Rights Leverage	Tobin's *Q*	Debt to Assets	CF Rights Leverage
	Eq. (1)	Eq. (2)	Eq. (3)	Eq. (1)	Eq. (2)	Eq. (3)
Log of assets	-0.036	0.014 **	-0.342 ***	0.136	0.018 ***	-0.677 ***
	(0.043)	(0.006)	(0.140)	(0.097)	(0.006)	(0.216)
Capital expenditures to assets	1.078			1.382		
	(0.706)			(2.551)		
Debt to assets	-3.921		23.625 ***	-5.704		36.072 ***
	(3.034)		(1.225)	(6.883)		(2.115)
Cash flow rights leverage	-0.483 **	0.042 ***		0.754	0.028 ***	
	(0.240)	(0.002)		(1.006)	(0.002)	
CF rights leverage x debt to assets	1.106 *			-1.304		
	(0.632)			(2.524)		
Tobin's *Q*		0.064 *	-1.512 *		-0.080 ***	2.844 ***
		(0.037)	(0.848)		(0.021)	(0.736)
Percentage of tangible assets		0.053	-0.890		0.004	-0.225
		(0.063)	(1.437)		(0.063)	(2.177)
Operating income to assets		-0.018			0.137	
		(0.035)			(2.663)	
Beta			0.124			0.037
			(0.211)			(0.184)
Standard deviation of stock return			-1.290			-0.892
			(1.629)			(1.907)
Country indicator variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry indicator variables	Yes	No	No	Yes	No	No
Number of observations		513			501	
p-value	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)

Panel B: Tobin's Q

	Above-Median Tobin's *Q*			Below-Median Tobin's *Q*		
	Tobin's *Q*	Debt to Assets	CF Rights Leverage	Tobin's *Q*	Debt to Assets	CF Rights Leverage
	Eq. (1)	Eq. (2)	Eq. (3)	Eq. (1)	Eq. (2)	Eq. (3)
Log of assets	-0.012	0.003	-0.113	0.024 *	0.029 ***	-0.809 ***
	(0.039)	(0.005)	(0.167)	(0.014)	(0.006)	(0.217)
Capital expenditures to assets	-0.324			0.175		
	(0.751)			(0.183)		
Debt to assets	0.778		30.663 ***	-1.532 ***		26.555 ***
	(5.447)		(1.779)	(0.441)		(2.776)
Cash flow rights leverage	0.163	0.032 ***		-0.120 ***	0.036 ***	
	(0.421)	(0.002)		(0.049)	(0.003)	
CF rights leverage x debt to assets	-0.452			0.358 ***		
	(1.151)			(0.122)		
Tobin's *Q*		-0.076 **	2.230 **		-0.100	3.592
		(0.030)	(0.947)		(0.165)	(3.537)
Percentage of tangible assets		0.100 ***	-2.979 ***		-0.055	1.283
		(0.036)	(1.102)		(0.043)	(1.056)
Operating income to assets		-0.002			-1.642	
		(0.026)			(16.211)	
Beta			0.107			0.494 **
			(0.183)			(0.454)
Standard deviation of stock return			-1.004			-2.064 **
			(1.676)			(3.768)
Country indicator variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry indicator variables	Yes	No	No	Yes	No	No
Number of observations		512			502	
p-value	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)	(< 0.01)

Table 4

Issuing sample descriptive statistics.

Average issue-level characteristics and firm-level characteristics across various debt markets based on the issuing sample. The issuing sample includes 1,348 syndicated issues, privately placed debt, and publicly placed debt placed by Worldscope firms obtained from Capital Data Loanware database and Securities Data Corporation's Global New Issues database with nonmissing issue proceeds amount and maturity as well as daily price histories available in Global Equities database in FACTSET. Firm characteristics are calculated using firm-level time-series averages for all available data (1990–1997) from Worldscope. Issue size and maturity are measured using the average proceeds in millions of U.S. dollars and maturity of issues in a particular debt market.

	U.S. market bonds and Eurobonds		**Domestic bonds**		**Syndicated bank debt**	
Characteristics	*Public*	*Private*	*Public*	*Private*	*Term loans*	*Credit agreements*
Issue Characteristics						
Number of issues	240	121	49	95	658	185
Average issue size (millions of U.S. dollars)	146	107	63	53	74	90
Average issue maturity (years)	7.8	7.6	5.3	4.3	4.9	4.1
Firm Characteristics						
Number of firms	124	91	46	74	284	131
Total assets (millions of U.S. dollars)	2,421	2,626	1,153	1,132	1,553	1,654
CAPX to assets ratio	0.10	0.09	0.07	0.09	0.11	0.10
Debt to assets ratio	0.38	0.40	0.34	0.32	0.39	0.36
Percentage of tangible assets	0.45	0.45	0.40	0.42	0.46	0.44
Tobin's *Q*	1.37	1.29	1.41	1.47	1.40	1.50

Table 5

Cumulative abnormal returns by marketplace of issue.

Average cumulative abnormal returns (CARs) are reported for a six-day event window that includes one trading day prior to issue, the issue date, and the subsequent four trading days. Results are based on the issuing sample of 1,348 issues described in Table 4 and are reported for the full sample and subsamples by debt markets. Abnormal returns are defined using a normal return model incorporating Scholes and Williams (1977) betas, which are estimated using returns from 120 trading days prior to the issue date, excluding a 20 day event window centered around the issue date. Generalized sign *Z* tests the hypothesis that the fraction of positive returns in the abnormal period is significantly different from the fraction of positive returns in the estimation period. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Issue type	Sample size	CAR	*Z*-Statistic	Percent positive	Generalized sign *Z*
All bonds and bank debt	1348	0.13%	0.83	51	2.24 *
Publicly placed bonds					
U.S. market and eurobonds	240	0.22%	0.50	53	1.45 *
Domestic bonds	49	-0.40%	-0.68	41	-0.87
Privately placed bonds					
U.S. market and eurobonds	121	-0.49%	-0.85	46	-0.39
Domestic bonds	95	-1.04% *	-1.65	44	-0.37
Privately placed bank debt					
Syndicated credit agreements	185	-0.21%	-0.92	44	-0.91
Syndicated term loans	658	0.52% ***	2.53	55	3.08 ***

Table 6

Cumulative abnormal returns (CARs) and sequencing of issues in international debt markets.

Average cumulative abnormal returns are reported for a six-day event window, which includes one trading day prior to issue, the issue date, and the subsequent four trading days. Results are based on international issues for the issuing sample described in Table 4. For each debt offering, we partition the offering by whether it is a firm's initial international offering or a subsequent international offering. Abnormal returns are defined using a normal return model incorporating Scholes and Williams (1977) betas, which are estimated using returns from 120 trading days prior to the issue date, excluding a 20-day event window centered around the issue date. Generalized sign *Z* tests the hypothesis that the fraction of positive returns in the abnormal period is significantly different from the fraction of positive returns in the estimation period. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The last two columns report the difference in average CARs between the initial and subsequent offerings and a t-test (unequal variances) of this difference.

Issue type	Sample size	CAR	*Z*-statistic	Percent positive	Generalized sign *Z*	Difference between subsequent and initial offerings	*T*-statistic
Publicly placed bonds							
U.S. market and Eurobonds							
Initial international offering	68	0.97% **	1.95	57	1.41 *	-1.03%	1.16
Subsequent international offering	172	-0.06%	-0.62	52	0.75		
Privately placed bonds							
U.S. market and Eurobonds							
Initial international offering	40	-0.05%	0.33	55	1.06	-0.62%	-0.71
Subsequent international offering	81	-0.67%	-1.25	71	-1.31 *		
Privately placed bank debt							
Syndicated credit agreements							
Initial international offering	69	0.39%	0.73	51	0.67	-0.64%	-1.65
Subsequent international offering	117	-0.25%	-1.24	40	-1.67 *		
Syndicated term loans							
Initial international offering	168	-0.67% **	-1.71	45	-0.84	1.61% ***	3.44
Subsequent international offering	489	0.94% ***	3.96	58	4.07 ***		

Table 7

Cumulative abnormal returns (CARs) and cash flow rights leverage, assets in place, and growth opportunities.

Average cumulative abnormal returns are reported for a six-day event window, which includes one trading day prior to issue, the issue date, and the subsequent four trading days. Results are reported for the subsamples of issues that have positive average CARs found to create value in Table 6. Panel A presents average CARs for all firms whose initial internationl debt offering is in the public U.S. market or Eurobond market. Panel B presents average CARs for all internationally syndicated bank term loan offerings that could not be classified as a firm's initial international debt offering. Within each panel, issues are divided according to whether the issues belong to firms with above- or below-median cash flow rights leverage, percentage tangible assets or Tobin's *Q*.

Abnormal returns are defined using a normal return model incorporating Scholes and Williams (1977) betas, which are estimated using returns from 120 trading days prior to the issue date, excluding a 20-day event window centered around the issue date. Generalized sign *Z* tests the hypothesis that the fraction of positive returns in the abnormal period is significantly different from the fraction of positive returns in the estimation period. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. The last two columns report the difference in average CAR between the above- and below-median offerings and a t-test (unequal variances) of this difference.

Issue type	**Sample size**	**CAR**	***Z*-statistic**	**Percent positive**	**Generalized sign *Z***	**Difference between high/low sorts**	***T*-statistic**
Panel A: Initial international offering of U.S. market bonds and Eurobonds—public							
Above-median cash flow rights leverage	14	-0.25%	0.13	50	0.02	-0.61%	-0.14
Below-median cash flow rights leverage	25	0.36%	0.45	60	1.09		
Above-median percent tangible assets	36	0.41% *	1.50	58	1.25	-1.17%	-0.56
Below-median percent tangible assets	32	1.58%	1.25	56	0.72		
Above-median Tobin's Q	34	0.11%	1.12	56	0.87	-1.74% **	-2.27
Below-median Tobin's Q	34	1.85% *	1.64	59	1.11		
Panel B: Subsequent international offerings of syndicated term loans							
Above-median cash flow rights leverage	73	1.80% ***	3.69	63	2.76 ***	1.19% **	-2.39
Below-median cash flow rights leverage	189	0.61% *	1.42	55	1.59 *		
Above-median percent tangible assets	324	1.21% ***	4.22	59	4.09 ***	0.82%	1.05
Below-median percent tangible assets	165	0.39%	0.87	53	1.27		
Above-median Tobin's Q	188	0.24%	1.26	55	1.37 *	-1.15%	-1.06
Below-median Tobin's Q	301	1.39% ***	4.15	60	4.12 ***		

Table 8

Subsample multivariate analysis of cumulative abnormal returns (CARs).

Generalized least squares (GLS) analysis of the dependent variable, average CAR, on cash flow rights leverage and controls is reported. Results are based on the subsamples of issues that are found to create value in Table 6. Within each subsample, three models are estimated. Models (1) and (4) regress CARs on cash flow rights leverage and controls reported in Table 2. In Models (2) and (5), the coefficient on cash flow rights leverage is allowed to vary according to whether a firm's time-series average percentage tangible assets is above or below the country median firm. In Models (3) and (6), the coefficient on cash flow rights leverage is allowed to vary according to whether a firm's time series average Tobin's *Q* is above or below the country median firm.

Abnormal returns are defined using a normal return model incorporating Scholes and Williams (1977) betas, estimated using returns from 120 trading days prior to the issue date, excluding a 20-day event window centered around the issue date. Weights in the GLS analysis are proportional to the variance of the CARs. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively. *P*-values are based on an F-test of model specification. For ease of reporting, all coefficients have been multiplied by 100.

	Initial international offerings of U.S. market and Eurobonds public			*Subsequent international offerings of syndicated term loans*		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
Log of assets	1.205 **	1.240 *	1.284 **	-0.057	-0.194	-0.035
	(0.586)	(0.604)	(0.597)	(0.325)	(0.327)	(0.325)
Debt to assets	-0.245	0.604	0.708	-0.400	-0.761	-0.259
	(6.708)	(7.223)	(6.844)	(2.654)	(2.634)	(2.655)
Capital expenditures to assets	24.525 ***	26.104 ***	26.508 ***	-3.430	-7.340	-4.363
	(6.991)	(8.368)	(7.423)	(4.887)	(5.116)	(4.946)
Cash flow rights leverage	-0.388 **			0.184 **		
	(0.156)			(0.089)		
Cash flow rights leverage x						
Above-median percent tangible assets		-0.426 **			0.268 ***	
		(0.190)			(0.095)	
Below-median percent tangible assets		-0.324			-0.149	
		(0.239)			(0.167)	
Cash flow rights leverage x						
Above-median Tobin's Q			-0.506 **			0.008
			(0.211)			(0.174)
Below-median Tobin's Q			-0.256			0.242 **
			(0.223)			(0.102)
Country indicator variables	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	39	39	39	262	262	262
p-value	0.07	0.09	0.08	0.08	0.03	0.08

Figure 1
Characteristics of debt contracts from various markets

Marketplace characteristics	Marketplace of Issue							
	Public Eurobonds	**Public domestic bonds**	**Public U.S. foreign bonds**	**Private domestic bonds**	**Private Eurobonds**	**Private U.S. foreign bonds**	**Internationally syndicated bank credit agreements**	**Internationally syndicated bank term loans**
Financial disclosure standards	Unspecified[a] (local by default)	Local	U.S. GAAP[b]	Local	Unspecified (local by default)			
Creditor rights			U.S. legal system[c]		Unspecified[d] (local by default)	U.S. legal system[c]	Specified in contract[e] (Usually U.S. legal system)	
Creditor base	Diverse institutional and noninstitutional investors			Concentrated institutional buyers			Concentrated bank syndicate members	
Covenants	Lacking	Present			Lacking	Present		
Triggers for monitoring	Only in case of default	Covenant violations and default			Only in case of default	Covenant violations and default		
Degree of monitoring[f]	Weak ←							→ Strong

[a]The London Stock Exchange requires two years of independently audited financial statements prior to listing of Eurobonds. The exchange does not require these statements to be consolidated or to conform to internationally approved accounting standards.

[b]All publicaly traded securities on U.S. exchanges fall under The U.S. Securities Act of 1933 and must report timely financial statements that adhere to U.S. Generally Accepted Accounting Principles.

[c]All publicly and privately traded securities traded on U.S. exchanges or over the counter in the United States are subject to U.S. law.

[d]According to Fabozzi (2000), most Eurobonds are not regulated by the country whose currency is used to pay creditors. Moreover, because almost all Eurobonds in our sample are U.S. dollar-denominated and because the United States does not place restrictions on dollar-denominated issues sold outside its borders, the legal basis for creditors' claims reverts to the issuer's country of origin.

[e]According to Howcroft and Solomon (1985) and conversations with syndicate participants, most syndicated agreements stipulate New York State law as the standard for legal interpretation. Moreover, most contracts stipulate that all disagreements will be argued in New York State court.

[f]Degree of monitoring is our assessment of the overall potential for monitoring given the factors listed in the figure.