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 analyze 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 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 shareholders 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? And does it? A good laboratory for research is emerging markets, where managers and families routinely employ pyramid ownership structures to give themselves control rights that far exceed their proportional cash flow ownership. Shareholders in these countries generally suffer from ineffective legal protection (La Porta, Lopez-de-Silanes, Shleifer, and Vishny (hereafter LLSV) (1998)) and underdeveloped markets for corporate control. The combination of misaligned managerial incentives and weak external governance in emerging markets makes overinvestment or the outright diversion of corporate funds more likely [Johnson, La Porta, Lopez-de-Silanes, and Shleifer (2000)]. Thus, emerging markets provide a unique setting in which to test whether debt functions as an alternative governance mechanism.

The international investment community is aware of these shortcomings of emerging markets. 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.”

Minority shareholders in emerging market firms should welcome any alternative firm-level governance that debt can provide.

Several authors have documented that the separation of control rights from cash flow rights is negatively related to firm value. We investigate whether debt mitigates the loss in value from these misaligned incentives, controlling for assets in place and future growth opportunities, among other factors. From a governance perspective, debt should create value for firms with

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1 Karmin (2000). Similarly, Nivatpumin and Parnsoonthorn (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 percent of annual sales.

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.

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 contracts. In some firms, the separation between managerial control rights and cash flow rights is extreme – in others, there is no separation. We analyze traditional financial statement data as well as new data on a firm’s debt issues in domestic, international, and foreign bond markets and the internationally syndicated bank market. Differences in financial disclosure standards, creditor rights, creditor base, and contract terms across these debt markets result in different incentives to monitor borrowers, which should affect the valuation impact of debt. Our analysis also takes into account differences in the debt capacity of a firm’s assets in place and future growth opportunities. We control for the potentially endogenous relations among a firm’s value, debt, and ownership structure by estimating both simultaneously determined cross-sectional regression models using financial accounting data and time-series models that incorporate specific debt issues. Our sample of firms with wide variation in expected agency problems, investment opportunities, and types of debt allows us to conduct powerful tests of the agency hypothesis.

The cross-sectional tests show that book 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 limited future growth opportunities.

We also find significant differences in the value created by different debt contracts. Internationally syndicated term loan issues, which place implicit limitations on operating activity as a result of covenants and monitoring, have positive cumulative abnormal returns. 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. The positive abnormal returns, in general, are associated with subsequent loan issues, not with the original issue in these markets, supporting the re-contracting hypothesis that shareholders value compliance with monitored covenants. Initial issues of international bonds, both Yankee bonds and Eurobonds, also lead to significant abnormal returns, but these returns are not correlated with management ownership structures. The gains from international bonds are consistent with the hypothesis that these markets certify firm quality because of their substantial disclosure requirements.

Taken together, our results suggest that debt, and monitored debt in particular, can create value in firms that face potentially extreme agency costs associated with a separation of management control and ownership.

The rest of the paper is organized as follows. Section 2 summarizes the relation between debt, value, and agency costs. Section 3 describes the sample construction and provides sample statistics for our firms. Section 4 provides statistics on debt issuance activity and describes the empirical tests that examine the relation between debt capital, ownership structure, and firm value. Some concluding remarks are offered in the final section.

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

Our investigation of the relationship between debt policy, management ownership structure, and firm value begins with a basic assumption: In equilibrium, there is a “meaningful conflict” 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 and/or be monitored by lenders [Leland and Pyle (1977), Ross (1977), Flannery (1986), and Diamond (1991b)].

The benefits to debt are greater if management has a larger 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), and 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)]. We control for assets in place and growth opportunities in our analysis since the debt capacity of assets in place is much higher than that of growth opportunities [Myers and Majluf (1984), Smith and Watts (1992), Hovakimian, Opler, and Titman (2001), Barclay, Morellec, and Smith (2001), and Lemmon and Zender (2002)].

Not all forms of debt are equally likely to curtail overinvestment. Hart and Moore (1995, p. 568) suggest that capital markets will require short-term maturities on debt in order to force managers to "disgorge funds they might otherwise use to make unprofitable but empire building investments." Similarly, a borrowing strategy of rolling over short-term debt can allow managers to signal firm quality by adding to the information exchange between management and external capital markets [Flannery (1986), Diamond (1984, 1991a), and Lummer and McConnell (1989)].

In emerging markets, however, a domestically issued short-maturity debt contract might not discourage overinvestment, because it is not uncommon that interlinked family groups

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3 For an empirical study of short-term debt for U.S. firms, see Barclay and Smith (1995).
control both a firm and a bank (La Porta, Lopez-de-Silanes, and Zamarripa (2002)) or that the government controls the banks and uses them for political patronage [La Porta, Lopez-de-Silanes, and Shleifer (2002)]. Domestic debt acquired through such “relationship” banking is unlikely to reduce agency problems; the additional liquidity could instead simply add to the overinvestment problem.

International debt markets, on the other hand, can provide emerging market firms with contracts that have higher disclosure standards, offer more effective creditor rights, and provide a better environment for monitoring. If credit rationing is severe in domestic markets, self-interested managers could be forced to borrow in international debt markets, subjecting themselves to increased monitoring or stricter reporting standards. Alternatively, a firm can choose to issue debt in higher-quality international capital markets in order to send a more credible signal to outside investors [Titman and Trueman (1986) and Cantale (1996)]. Either way, international debt markets can create value through the resolution of agency costs.

While our research question is focused, the analysis relates to several large and often disjoint strands of literature. Many authors seek to identify whether the internal governance that comes out of a firm’s ownership structure can influence firm value. Demsetz and Lehn (1985), Cho (1998), Himmelberg, Hubbard, and Palia (1999), Demsetz and Villalonga (2001), Lemmon and Lins (2003), and Lins (2003) explicitly account for potential endogeneity when examining this relation. We examine whether a complementary governance mechanism – debt policy – can also create value. If managers are reluctant to alter corporate ownership structures, perhaps external debt markets can serve to improve corporate governance.

Other research has examined whether certain types of debt issues lead to abnormal returns [Mikkelson and Partch (1986), James (1987), Kim and Stulz (1988), Lummer and McConnell (1989), Chaplinsky and Ramchand (2000a), and Miller and Puthenpurackal (2002)].
We examine the relation between abnormal returns and the extent of the underlying agency problem. If debt creates value as a result of a separation of control and cash flow rights, the extent of the abnormal return should be positively correlated with the degree of this separation.

Finally, several authors have linked a decision to incur the costs and disclosure of issuing securities in international capital markets to the benefits of increased investor recognition and liquidity [Foerster and Karolyi (1999), Miller (1999), Chaplinsky and Ramchand (2000b), and Miller and Puthenpurackal (2002)]. We examine an alternative motivation for issuing in international capital markets. Emerging market firms can use private international debt markets to assure themselves of increased monitoring without incurring the 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. 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 more direct test of whether debt creates value because of this potential agency problem. McConnell and Servaes do not directly test whether debt matters more when managerial incentives are misaligned, nor do they investigate what type of debt creates value.4

We analyze the relationships among debt policy, ownership structure, and value using three sets of tests. First, we estimate three-stage least squares regressions using accounting data to explain the cross-sectional variation in firm value while attempting to control for endogeneity
between our variables. In the structural equation, we specifically test whether the interaction between debt and ownership structure affects value. We also conduct our analysis using sample splits based upon assets in place and future growth opportunities.

Second, we measure the abnormal returns associated with domestic and international debt issues for our sample of firms, and explore which types of debt issues create value. We then conduct univariate tests to see whether these abnormal returns are related to a firm’s expected managerial agency costs, its assets in place, or its investment opportunity set.

In our final set of tests, we use multivariate analysis to examine in more detail the cross-sectional variation in abnormal returns. We regress cumulative abnormal returns on the separation between managerial control and ownership, as well as controls. We also allow these effects to vary depending on a firm’s extent of assets in place and growth opportunities.

3. Data

3.1. Sample selection

We use several different samples that incorporate our multiple sources of data. A “cross-sectional sample” consists of 1014 exchange-listed non-financial firms in 18 emerging markets for which we have 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

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4 In a similar vein, Jagannathan and Srinivasan (1999) find that book leverage is beneficial for specialist firms that do
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 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 SDC’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.”\(^7\)

We track debt issuance activity in the following markets: foreign bond markets (e.g., Samurai and Yankee bonds); Eurobond markets; internationally syndicated bank issues such as term loans, revolving credits, Euro commercial paper programs, and Euro CD programs; and domestic public and private bond markets.\(^8\) While the issuing record is somewhat incomplete (we lack issuance information from domestic banks, for example), these data are broadly representative of the types of debt capital available to firms in emerging markets.

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

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\(^5\) 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 percent of Firm A and the management group of Firm A owns 50 percent of Firm B, then the management group’s control rights for Firm A equal 50 percent, while their cash flow rights equal 25 percent, and cash flow rights leverage equals two. See Lins (2003) for further details on the computation of cash flow rights leverage.

\(^7\) 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).
3.2. Summary statistics

In order to identify whether debt mitigates managerial agency costs, it is important to control for a firm’s growth options for which debt financing can cause costly underinvestment. Barclay, Morellec, and Smith (2001) show that leverage measured using market values has low power to detect the debt capacity of growth options, so we use leverage measured using book values throughout our analysis. Moreover, firms are likely to be most concerned about book leverage ratios because bank loan covenants are written in terms of book value.9

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 U.S. 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.

The second and third columns of Table 1 show that firms with a debt issuance record are, on average, larger, more levered, and have a lower proportion of short-term debt to total debt than firms in the cross-sectional sample. Since the range of available maturities is somewhat limited in many emerging markets, 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). To the

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8 The domestic bond coverage is limited to Argentina, Brazil, the Czech Republic, Indonesia, Malaysia, Mexico, Peru, Portugal, Singapore, Thailand, and Venezuela from 1991 - 1997 and South Korea from 1994 - 1997.
9 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.
extent that larger firms are less likely to suffer from information problems between insiders and outside capital providers, this could hinder our ability to find results that debt lessens the valuation impact of potential managerial agency problems.

4. Empirical analysis

4.1. Cross-sectional analysis

The objective of our cross-sectional tests is to draw inferences about the relation between firm value, leverage, and the separation of management group control and ownership, while controlling for a number of other factors that could affect this relation. 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 using an instrumental variable or two-stage least squares regression framework [e.g., Demsetz and Lehn (1985), Cho (1998), Himmelberg, Hubbard, and Palia (1999), and Demsetz and Villalonga (2001)]. In contrast to two-stage least squares, our approach allows us to jointly consider the three equations as a system. 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. 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 and/or low growth opportunities, we also differentiate firms on the basis of proxies for these parameters and estimate the model.

To be consistent with the extant U.S. and international empirical literature on 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 underscore the endogeneity inherent in our cross-sectional analysis, we note that this measure is also used as a predictor of leverage in the capital structure literature, where it is often referred to as the market-to-book assets ratio and proxies for a firm’s future growth opportunities.

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. If this is the case, a positive coefficient on the interaction term will indicate 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. 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 factors studied in 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). Tobin’s $Q$ is a proxy for a firm’s growth opportunities - taking advantage of these opportunities is hindered by the use of debt. The percentage of tangible assets is a proxy for a firm’s assets in place, which theoretically could provide more loan collateral and a greater liquidation value, thus diminishing the chance that lenders will suffer from risk shifting. Or, to the extent that managers of firms with a high percentage of tangible assets are overinvesting, they might prefer to avoid the disciplinary role of debt. Thus, the expected sign on tangible assets is ambiguous. Firm size could be positively related to leverage, since larger firms are less likely to fail. The expected relation between profitability and leverage is ambiguous. The relation could be positive if lenders prefer to provide debt to firms that have strong cash flow or, in an agency context, if profitable firms commit to pay out cash by leveraging up. Profitability will be negatively related to leverage if firms prefer to finance first with internal funds or seek to avoid monitoring by lenders. Cash flow rights leverage could be positively related to leverage, since managers who lever their cash flow rights into greater control rights might also use financial leverage to augment the assets under their control. Finally, we include country dummy variables in the leverage equation since the use of debt finance is likely to vary by country.

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Harvey and Roper (1999) and Pomerleano (1998) document low levels of return on invested capital in East Asia
The ownership equation uses cash flow rights leverage as the dependent variable, Tobin’s Q and leverage as simultaneously determined variables, and controls. Our proxy for Q measures both firm performance and growth opportunities; either of these might influence management’s willingness to own cash flow rights in its firm. Leverage reflects the possibility that creditors may directly impact whether managers are able to engage in pyramid ownership structures. 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 MSCI index for a 60-month period as well as the standard deviation of a firm’s stock return over this period. Both measures capture the risk inherent in stock ownership. They also capture the potential for insiders to make money on the shares they hold by using inside information. The ownership equation also includes size and percentage of tangible assets, since 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 equation (Equation (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.

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. The coefficient indicates that a change in leverage from the 25\(^{th}\) percentile (0.12) to the 75\(^{th}\) percentile (0.42) for a firm with mean cash flow rights leverage of 2.13 is during our sample period.
associated with a 0.723 increase in Tobin’s $Q$. Yet the coefficient is not large enough to overcome the negative unconditional effect of debt found in the equation. Overall, the structural equation indicates that some debt may be alleviating agency costs, while other debt may be simply increasing financial risk or exacerbating agency problems.

The leverage equation (Equation 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, a finding consistent with the U.S. firm results of Roper (2001). Asset tangibility and profitability also have no effect on leverage ratios. The ownership equation (Equation (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, model (2) of Table 2 reports the results of simple OLS estimates for the firm value structural equation. Although we do not believe that this model adequately captures the intertwined relationship between firm value, debt, and ownership, we note that the coefficients support the same conclusion about the ability of debt to mitigate agency costs. As an indication of additional robustness, the Table 2 results hold when we use market value leverage ratios rather than our preferred book value leverage measures (results not tabulated).

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11 The overall economic effect of a change in leverage from the 25th to the 75th percentile for a firm with cash flow rights leverage of 2.13 is as follows: The positive interaction term effect, $1.132 \times 2.13(0.42 - 0.12) = 0.723$ 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 $Q$.

12 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 is not significantly related to asset tangibility.
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). Equation (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. Equation (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.

We next conduct tests of 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 reestimate 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. As in the full sample, the debt-to-assets ratio is negatively related to firm value for these firms with predominantly short-maturity debt, indicating that not all short-term debt contracts create value. Unfortunately, our book leverage data do not allow us to distinguish between intensively monitored 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-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, rather than an announcement date. Our search of public news sources reveals that announcements, if any, of debt issues by emerging market firms almost always occur on or just after their issue date. Another reason we use issue dates throughout the analysis is that even if an announcement precedes an issue, there is still some uncertainty at the announcement date as to whether the financing will actually 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 also check for confounding public announcements in the two-week period before and after each debt issue date.\footnote{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.} We do not expect all types of debt to affect shareholder value equally. By incorporating debt issues in domestic and international markets, we introduce significant variation in terms of disclosure requirements, creditor rights, enforceability of creditor rights, creditor base, covenants, and monitoring. Figure 1 summarizes key differences in these 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.

Debt can create value whenever potential agency problems exist if 1) issuing allows managers to signal their commitment to ex-post investment efficiency; 2) the threat of monitoring changes managerial incentives; or 3) debt servicing obligations absorb excess cash flow that could otherwise be misappropriated. Since 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, provide alternative mechanisms to further discourage self-interested managers from exploiting outside shareholders. For example, publicly

\footnote{Mikkelson and Partch (1986), James (1987), Lummer and McConnell (1989) and Miller (1999) use a simple market model to proxy for the normal return process. We estimate Scholes-Williams (1977) betas in order to control for the effect of non-synchronous trading in emerging markets. 
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. GAAP. Since disclosure is costly to managers, 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 since 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.

Our event study analysis allows us to draw inferences on the particular mechanism with which debt can add value. We investigate not only the abnormal returns of different debt markets, but also whether these returns are related to the sequencing of issues across different markets and within individual markets. If debt creates value because of increased financial
disclosure, then we hypothesize that abnormal returns should be higher for debt contracts with higher levels of disclosure, such as public international bond markets, and for firms that have not received certification from alternative debt markets such as private international debt markets. Thus, a 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.

On the other hand, 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), and 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. 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 within our sample. 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 4 provides issue-level statistics for 1990 - 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.\(^{16}\)

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.\(^{17}\) Despite its relative importance, the internationally syndicated bank market has been largely ignored in capital structure studies.\(^{18}\)

We display the cumulative abnormal returns associated with debt raised in different markets in Table 5. Limited daily security price data keeps our event study to 1348 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 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 syndicated 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) and Lummer and McConnell (1989)]. While other authors attribute these

\(^{15}\) A search of the news sources detailed in footnote 14 reveals no evidence of international debt issues that precede the initial international debt issue identified within our sample.

\(^{16}\) Our data sources document 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.

\(^{17}\) Domowitz, Glen, and Madhavan (2000) document this pattern at the country level for aggregate financial flows.
gains to the uniqueness of the bank-borrower relationship, we explore whether these gains are directly related to expected agency costs.

Our analysis so far averages the effects of multiple issues by firms in a particular marketplace of issue. In fact, the sequencing of issues across various debt markets is also likely to drive the valuation impact of debt. 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. We use all debt issues identified in our debt databases for this classification.

Firms introduced to international creditors through public offerings 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 Titman and Trueman’s (1986) certification hypothesis. Bolstering this assessment, Table 6 shows that there is no creation of shareholder value when a firm’s subsequent international debt issue is a U.S. Yankee bond or public Eurobond, in contrast to the results of Kim and Stulz (1988).

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 to 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.

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18 Some notable exceptions are Kleimeier and Megginson (2000) and Esty and Megginson (2002).
When a firm’s subsequent international issue is an internationally syndicated term loan, cumulative abnormal returns average 0.94%, and 58% are positive (both results are significant at the 1% level). The right-hand columns of Table 6 show that subsequent international issues in the term loan market 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 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.

Firms whose initial international issue is a privately placed bond do not reap shareholder gains. One reason could be that the limited public reporting requirements in these markets mean they are unable to effectively certify firms. Nor do subsequent international bond offerings lead to 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. Table 7 provides results of a univariate analysis of the cumulative abnormal return determinants for 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. We sort firms according to whether there is a separation between managerial control and
ownership. Firms with such a separation are classified as having high cash flow rights leverage.
We also sort firms according to whether their time series average values over the 1990 - 1996
period for our Tobin’s Q proxy and percentage of tangible assets proxy are above or below the
median value for all issuing firms.

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.

We next test whether underinvestment, an important cost associated with debt finance,
limits the ability of debt to create value in emerging market firms. Tobin’s Q is the proxy for
growth opportunities and thus potential underinvestment problems. We find that the value
created by both initial international public bonds and subsequent internationally syndicated term
loans is concentrated in firms with below-median prospects for future growth opportunities.
Our findings confirm the result of McConnell and Servaes (1995) that debt creates value in firms
with few growth opportunities.

Finally, we test the Jensen (1986) overinvestment argument that agency problems should
be more severe in firms with substantial amounts of assets in place. Across both types of debt
issues studied in Table 7, we find that the value created by debt is concentrated in firms with an above-median percentage of tangible assets.

The univariate analysis in Table 7 suggests that the value created by subsequent syndicated term loans is related to agency costs. As there are a multitude of factors that contribute to the relation between debt and value, we next conduct a multivariate cross-sectional analysis of our CARs.

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 ease of reporting, all coefficients in Table 8 are multiplied by 100.

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.
The evidence from regression (4) for subsequent internationally syndicated term loans in Table 8 is consistent with the univariate results reported in Table 7. That is, 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 to 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, shareholders in a high assets-in-place firm with cash flow rights leverage of six obtain excess returns that are 134 basis points higher than those for a high assets-in-place 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.

Event study tests using issue-level data indicate that subsequent issues of internationally syndicated term loans, which place implicit limitations on operating activity as a result of covenants and monitoring, earn positive cumulative abnormal returns. These cumulative abnormal returns are positively related to the separation of control and ownership in the management group, and the positive relation is concentrated in firms with a high percentage of assets in place or few growth opportunities. For instance, upon issue of a subsequent internationally syndicated term loan, the return for a firm with high assets in place and managerial control that exceeds its ownership by a factor of six (the 90th percentile) is 134 basis points higher than the return for a high assets-in-place firm with no separation of control and ownership. These results support the recontracting hypothesis that shareholders value compliance with monitored covenants, particularly when firms are likely to overinvest.

The event study tests show that initial issues of international bonds (Yankee bonds and Eurobonds) also lead to significant abnormal returns, but these returns are not correlated with management ownership structures. The gains from international bond issues are consistent with the hypothesis that these markets certify firm quality because of their substantial disclosure requirements.
Taken altogether, our results indicate that minority shareholders benefit from intensively monitored debt in circumstances where managers are likely to exploit shareholders and where information asymmetry is severe enough that they cannot reasonably infer what managers are doing with a firm’s funds.
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