

BONDHOLDER REACTION TO INCREASES IN LEVERAGE

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with greater variance. The shareholders gain because they receive the benefits when the riskier projects succeed and bondholders bear the losses when the riskier projects fail.³

A convertibility privilege partially protects bondholders against a wealth loss arising from these agency problems, because the convertibility privilege represents a claim on the upper tail of the distribution of cash flows.⁴ Also, because bondholders can reclaim part of any wealth that shareholders expropriate by increasing leverage or the variability of the firm's cash flows, shareholders have less incentive to expropriate bondholder wealth. Masulis (1980) finds that convertible debt fares better than nonconvertible debt when leverage is increased. Also, Marais, Schipper, and Smith (1989) find that convertible debt fares better than nonconvertible debt when leveraged buy-outs are announced.

Convertible debt is not a costless means of protecting bondholders against a wealth loss. Convertible debt dilutes the shareholders claim on a firm's residual return, because it offers bondholders a claim on the upper tail of a firm's payoff distribution. Consequently, convertible debt reduces the incentive of shareholders to monitor a firm's managers. Thus, convertible debt ameliorates the shareholder-bondholder agency problem at the cost of exacerbating the shareholder-management agency problem. For this reason, we would expect that

³ See Jensen and Meckling (1976)

⁴ See Jensen and Meckling (1976) and Green (1984).

convertible debt would be used only where bondholders have little information regarding a firm's riskiness or where the shareholder-bondholder agency problem is especially severe.

In a previous study, Mikkelson (1980) used a probit model to test whether the offer of debt with options privileges was correlated with a set of regressors that proxied for the severity of the shareholder-bondholder agency problem. Mikkelson found a statistically significant positive relationship between the offer of debt with options privileges and the maturity length of a debt issue, the leverage of the firm (debt/equity or debt/assets), and the growth opportunities of the firm (measured as the growth rate of assets). The size of the debt issue (issue size/equity or issue size/assets) was negatively correlated with the offer of debt with options privileges, but this relationship was not statistically significant. Mikkelson argued that these results generally support the agency explanation for convertible debt.

III Empirical Results

In this section, a probit model is used to test whether the probability that a firm issues convertible debentures rather than straight debentures is related to both past changes in the firm's debt/assets ratio and the firm's present characteristics. Thus, whereas Mikkelson's model examines the present characteristics of the firm, this model examines both the firm's present characteristics and its past behavior. In this model an observation is an issue of debentures by a nonfinancial, nonutility firm between Jan. 1, 1980 and Dec. 21, 1987. To be

