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The disciplinary role of debt and equity contracts: Theory and tests

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Abstract

We study how equity and debt contracts commit investors to discipline managers. Our model shows that the optimal allocation of debt, equity, and control rights depends on which disciplinary action is more efficient. When the efficient action is managerial replacement, then control rights should be allocated to equity holders, and capital structure should consist of equity and long-term debt. When the efficient action is liquidation, then control rights can be allocated to the manager, and capital structure should consist of equity and short-term debt. We find empirical support to the model's predictions in a sample of leveraged buyout transactions.

JEL classification: G32; G33; G34

Keywords: Ownership structure; Capital structure, Debt maturity; Managerial turnover; Liquidation; Leveraged buyout

1. Introduction

Investors who wish to align managerial incentives often face a commitment problem. At the outset, they would like the manager to realize that they will discipline the manager if they do not get a reasonable return on their investment. However, after realizing poor return, investors might find it too costly to discipline. A lack of credible commitment to discipline ex-post adversely affects managerial incentives ex-ante.

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Many theoretical studies have looked at the role of equity and debt in solving this commitment problem (e.g., Dewatripont and Tirole, 1994, 1996; Berglöf and von Thadden, 1994; Dewatripont and Maskin, 1995; Berkovitch and Israel, 1996; Bolton and Scharfstein, 1996; Fluck, 1998). These studies show how allocation of debt claims, equity claims, or various combinations of claims across different investors motivate the investors in control to disciplinary actions.

Although this role of equity and debt is potentially important, there is little empirical work that tests whether firms structure their claims to credibly commit investors to discipline managers. This study tries to fill this gap by analyzing both theoretically and empirically the commitment role of debt and equity.

The theoretical part has a two-period principal-agent model. In the model, managerial effort is costly and unobservable to investors, and so investors have to motivate the manager to exert effort. Investors can consider two different disciplinary actions. One is decreasing firms' activities by liquidating some assets and stopping projects. Such action reduces any perks associated with managing large operation.[1] Another disciplinary action is replacing the manager with a new one. Either action results in the manager losing the benefits of controlling a large firm. Disciplinary actions are ex-post costly to implement; and so, absent a credible commitment, investors will always prefer not to discipline. The manager who realizes that investors will not use any disciplinary action will not exert effort, consequently.

The model shows that, in order to maximize ex-ante efficiency, investors should commit to the least costly disciplinary action. To commit to such action, control rights should be allocated to investors who find it optimal to discipline, even if such action is costly ex-post.

We postulate, that the fundamental features of decreasing firms' activities and of replacing the manager are that the former action decreases the volatility of future cash flows because liquidation is safer than continuation; and the latter increases the volatility of such flows because of the uncertainty associated with a new manager. Thus, if investors wish to commit to liquidation and decreasing activities, then when cash flow is low, control should be allocated to investors who have incentives to decrease volatility of future cash flows. Debt holders are natural candidates. They prefer a decrease in volatility because they hold a concave claim—they do not participate in the gains associated with high cash-flow realizations because the most they can get is the face value of their debt. Therefore, when liquidation is the efficient disciplinary action, short-term debt, rather than long-term debt, is optimal because it is necessary to transfer control to the debt holders as soon as the cash flow is low. In contrast, investors who wish to commit to managerial replacement should allocate control to investors who find it optimal to increase volatility of future cash flows. In this case, when cash flow is low, equity holders should have control. They prefer an increase in volatility because they are the residual claimants, holding a convex claim. To ensure that the equity claim is indeed convex, there should also be another group of claimants who hold a debt claim. However, these debt holders should not have control when the cash flow is low. To ensure that control is not transferred to the debt holders when the cash flow is low, the firm should issue long-term debt rather than short-term debt.

Compensation and managerial own investment in the company are also considered in the model. The results of the model suggest that compensation contract is in general a complement, rather than a substitute, to disciplinary actions. However, when managerial investment in the company is high enough, commitment to disciplinary actions is not necessary because managerial

[1] The argument that managers prefer large operations to small ones has appeared in the finance literature in many different contexts. See, for example, Jensen (1986), Harris and Raviv (1988), and Stulz (1990).