

Market-Triggered Changes in Capital Structure: Equilibrium Price Dynamics

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Using the market price of a firm's equity to trigger a change in the firm's capital structure creates a question of internal consistency because the value of the equity itself depends on the firm's capital structure. Of particular interest is the case of contingent capital for banks, in the form of debt that converts to equity, when conversion is triggered by a decline in the bank's stock price. We analyze the problem of existence and uniqueness of equilibrium values for a firm's liabilities in this context, meaning values consistent with a market-price trigger. Put abstractly, the problem is one of finding a martingale solution to a fixed-point problem. Discrete-time trading, which we interpret as limited liquidity of the triggering security, allows multiple equilibria. In contrast, with continuous trading the price adjusts in anticipation of reaching the trigger, and the possibility of multiple equilibria can largely be ruled out. Within our general framework, existence of an equilibrium is ensured through appropriate positioning of the trigger level; in the case of contingent capital with a stock price trigger, we need the trigger to be sufficiently high, a condition that may be interpreted to mean that conversion should be disadvantageous to shareholders. Our results apply as well to other types of changes in capital structure and triggers based on debt values as well as equity values. This is joint work with Behzad Nouri.