Corporate Capital Structure under
Endogenous Bankruptcy and Volatility Risk

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Abstract

This paper analyzes the capital structure of a firm in an infinite time horizon following [2] under the more general hypothesis that the firm’s assets value process belongs to a fairly large class of stochastic volatility models. We apply singular perturbation theory as in [1] and fully describe the (approximate) capital structure of the firm in closed form as a corrected version of Leland [2] model. Then, we analyze the stochastic volatility effect on all financial variables defining our credit risk framework. A corrected version of the smooth-fit principle under volatility risk is derived in order to characterize the optimal stopping problem solution (i.e. endogenous failure level). Numerical results obtained from exploiting the firm’s optimal capital structure decisions shows enhanced spreads and lower leverage ratios w.r.t. [2], improving results in a robust model-independent way.

Keywords: financial risk; corporate governance; credit risk; structural model; volatility risk; volatility time scales; endogenous default.

References
