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Earnings Volatility and Corporate Bond Spreads

In general terms, structural models of risky debt share the common feature of treating corporate debt as a call option written on the firm's assets. In other words, equity holders are entitled to repurchase the firm's assets from debt holders by fully repaying the interest and par value specified in the debt contract. This modelling tradition began with Merton (1974), who considered only the simplest case of a zero-coupon bond with no bankruptcy costs. More recent papers have considered more complex and realistic situations. A variety of empirical tests (see, e.g., Eom, Helwege, and Huang (2004)) generally indicate that structural models underpredict corporate bond spreads, which is partially attributable to estimates of asset return volatility.

Rather than modelling asset return volatility directly, we follow more recent authors such as Hackbarth, Miao and Morellec (2006) who adopt a more detailed perspective, beginning with the issue of how asset values are determined by corporate earnings. At a simple intuitive level, higher earnings volatility increases the probability of default, thus raising bond yields. We describe a regime-switching model in which the level of earnings volatility changes across the various states and explore the implications of this for corporate bond spreads. We also conduct an empirical examination of the effects of earnings volatility on bond yields using corporate bond trading data. We find that earnings volatility provides significant additional explanatory power for the cross-section of corporate bond yields.