SEMINARIO

"Systematic Equity-Based Credit Risk: A CEV Model with Jump to Default"

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Abstract:

We use equity as the traded primitive for a detailed analysis of systematic default risk. Default is parsimoniously represented by equity value hitting the zero barrier so that, unlike in reduced-form models, the explicit linkage to the firm's capital structure is preserved, but, unlike in structural models, restrictive assumptions on the structure are avoided. Default risk is either jump-like or diffusive. The equity price can jump to default: In line with recent empirical evidence on the jump-to-default risk price, we highlight how reasonable choices of the pricing kernel can imply remarkable differences in the equity-price-dependent status between the objective default intensity and the risk-neutral intensity. As equity returns experience negative diffusive shocks, their CEV-type local variance increases and boosts the objective and risk-neutral probabilities of diffusive default. A parsimonious version of our general model simultaneously enables analytical credit-risk management and analytical pricing of credit-sensitive instruments. Easy cross-asset hedging ensues.