

Title:

A Unified Approach to Pricing Equity and Credit Derivatives within a General Framework

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Abstract:

Researchers and practitioners have increasingly realized the close connections between equity derivatives markets and credit derivatives markets. We study the pricing problems of equity and credit derivatives within a general hybrid equity-credit framework, i.e., under generalized jump to default extended exponential Levy models with local volatilities, which include many popular hybrid equity-credit models such as the jump to default extended Black-Scholes model and the jump to default extended CEV model as special cases. More precisely, under this general model, we propose a unified approach to pricing various equity derivatives and credit derivatives, including defaultable corporate bonds, European options, barrier options, CDS, and EDS. Numerical results indicate that our pricing methods are accurate, efficient, and easy to implement. This is joint work with Haohong Lin.