On the Pricing of CDOs

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Abstract

This chapter addresses the pricing of two popular portfolio credit derivatives: first-to-default swaps and collateralized debt obligations (CDOs). We use the recent model of Gaspar and Schmidt (2007) for the pricing of theses portfolio credit derivatives. This approach combines general quadratic models for term structures with shot-noise models and therefore naturally solves a number of important issues in credit portfolio risk. First, resulting pricing formulas are in closed form and therefore the model implementation is straightforward. Second, this class of models is able to incorporate well-known features of credit risky markets: realistic default correlations, default clustering and correlation between short-rate and credit spreads. Third, the recent turbulence in credit spreads caused by the U.S. subprime mortgage turmoil can be captured well.

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