

QUASI-EXACT NUMERICAL EVALUATION OF SYNTHETIC CDO PRICES

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Abstract

The most popular approach to synthetic CDO pricing uses factor models in the conditional independence framework, which were first introduced by Vasicek to estimate the loan loss distribution of a pool of loans. Efficient methods for evaluating the loss distributions of synthetic CDO's are important for both pricing and risk management purposes. In the framework of the one-factor Gaussian copula model, we propose an approximate but quasi-exact numerical recursive evaluation using pseudo compound Poisson distributions. For the sake of illustration and comparison we have computed a number of more or less complex cases, whose approximations turn out to be highly accurate in all considered examples.

Key words

Synthetic CDO's, one-factor Vasicek model, pseudo compound Poisson distribution, recursive algorithm