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Default liquidity and crises: an economic framework

In this paper, we present a general discrete-time affine framework aimed at jointly modeling yield curves associated with different debtors. The underlying fixed-income securities may differ in terms of credit quality and/or in terms of liquidity. The risk factors follow conditionally Gaussian processes, with drifts and variance-covariance matrices that are subject to regime shifts described by a Markov chain with (historical) non-homogenous transition probabilities. While flexible, the model remains tractable. In particular, bond prices are given by quasi-explicit formulas. Various numerical examples are proposed, including a sector-contagion model and credit-rating modeling.

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