Abstract

This paper extends the traditional duration measure for continuous-time Heath–Jarrow–Morton models. The result is a general Heath–Jarrow–Morton duration measure based on a zero-coupon yield for an arbitrary maturity as state variable. A convexity measure compatible to this generalized duration is derived. In addition, closed-form solutions are presented for two popular example models.

Keywords: Risk management · Term structure of interest rates · Heath–Jarrow–Morton model · Stochastic duration · Stochastic convexity