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Estimating risk-neutral density with parametric models in interest rate markets

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Abstract

The departure in modelling terms from the log-normal distribution for option pricing has been largely driven by empirical observations on skewness. In recent years, the Weibull and gen ... nsity from option p ... mma distribut ... his distribut ... lized beta distribut ... are derived unde ... n a set of intere ... oducing the same ty ... ibutions. In addition ... rate markets ... as very little impact c

Keywords: Risk-neutral density Real-world density Power utility function Generalized beta distribution Generalized gamma distribution Burr3 distribution Caps and floors

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The results and the views expressed in this paper are those of the authors and should not be thought to represent those of the Bank of America or any of its subsidiaries.

Notes

†Brunner and Hafner (2003) use the estimated RND to price a digital option.

†See for details Campa et al. (1997, 1998), Melick and Thomas (1997), Soderlind and Swensson (1997), Soderlind (2000), and Markose and Alentorn (2005).

‡For example, Ait-Sahalia and Lo (2000), Jackwerth (2000), Rosenberg and Engle (2002), and Giamouridis (2005).

§A review of this literature is beyond the scope of this paper. The reader is referred to the litera l. (2005).

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