Original Articles

A note on skewness and kurtosis adjusted option pricing models under the Martingale restriction*

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Abstract

Several   when the
risk-neut   nd Su (1996)
provide   expansion.
However   Brown and
Robinson   onomic
signifi   t is to
sligh   e
restricti   ewness and
kurtosis   d Robinson
(2002),   erences
between   nd Su (1996)
original   gnificant in

specific cases, namely for long maturity and far-from-the-money options when markets are turbulent.

Acknowledgement

Notes

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See Jurczenko et al (2002b) for a complete comparison between the various models using statistical expansions.

We explicitly refer here to the standard notations used for instance by Baxter and Rennie (1996) or Hull (2003). We thank the second referee for pointing out some possible confusions with other notations.
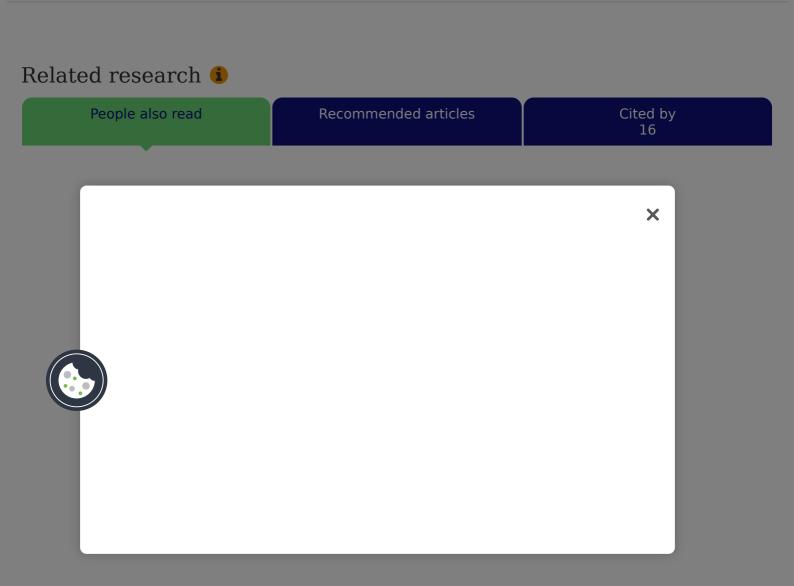
See also   uerre
polynom

Adopting   lent formula
to equat

In th   3 for the
modifi   re mean
paramet   long term
options   (1982)
model–s   ose of the
Corrado   02).

See Corrado and Su ([1996](#)), p 180 and Brown and Robinson ([2002](#)), p 9.

These values are realistic in the sense that they correspond to mean parameter values when backing-out implied moments corresponding to the Jarrow and Rudd ([1982](#)) model on the CAC 40 options on the French market for the period 1997–1999 (see Capelle–Blancard et al 2001, for details).

See Capelle–Blancard et al 2001, for details on the database, filters, optimization criterion and routines.

In Figures 5 and 6 French CAC 40 long term options for the period 10/97 through 12/98 have been used to estimate the error terms and related density probabilities (see Capelle–Blancard et al 2001 for details on the database, filters, optimization criterion and routines). For easy representations, Figure 7 and 8 illustrate estimations on sub-samples.

We thank Charles Corrado, the two referees and the editor-in-chief for pointing out these two drawbacks.

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