Pricing Eurodollar Futures Options Using the BDT Term Structure Model: The Effect of Yield Curve Smoothing

TURAN G. BALI*
AHMET K. KARAGOZOGLU

This article focuses on pricing Eurodollar futures options using the single-factor Black, Derman, and Toy (1990) term structure model with particular emphasis on yield curve smoothing. Of the various approaches, the maximum smoothness forward rate approach developed by Adams and van Deventer (1994), cubic yield spline, and linear interpolation are used to produce finely spaced binomial trees. We compare the pricing accuracy associated with the use of yield curve smoothing techniques within the BDT framework. The findings provide the first supporting evidence that using a forward rate curve with maximum smoothness together with a time-varying volatility structure improves best the performance of the BDT model. The em-

The authors wish to thank Linda Allen, Michael Grossman, Terrence F. Martell, and Salih N. Neftci for their helpful comments and suggestions.
*Correspondence author, Department of Economics, Queens College, CUNY, 65-30 Kissena Boulevard, Flushing, N.Y. 11367-1597. E-mail: TBali@qc1.qc.edu

- *Turan G. Bali is an Assistant Professor of Economics in the Department of Economics at Queens College, CUNY in Flushing, New York.*
- *Ahmet K. Karagozoglu is an Assistant Professor of Finance in the Department of Finance at Frank G. Zarb School of Business at Hofstra University in Hempstead, New York.*

The Journal of Futures Markets, Vol. 20, No. 3, 293–306 (2000)