THE JOURNAL OF DERIVATIVES

VOLUME 7, NUMBER 1   FALL 1999

This is the first issue in Volume 7 for *The Journal of Derivatives*, and I am very pleased to report that JOD is in great shape. Our recent affiliation with the International Association of Financial Engineers is working out well: In addition to the substantial increase in our subscriber base, the manuscript flow has more than doubled since last year. This means that we can publish even stronger articles than before, and more of them.

This issue begins with a very nice piece by our co-editor Bob Jarrow and his co-authors Janosi and Zullo. It is one of the first articles to bring bank deposits into the same interest rate framework as bonds and other interest-dependent securities. The model is sophisticated, but simple enough to be empirically testable. It does very well in explaining the observed behavior of the volume and interest rates for several major classes of deposits.

The second article, by Glasserman, Heidelberger, and Shahabuddin, presents a powerful new methodology for valuation problems that require Monte Carlo estimation in a large number of dimensions. In the standard Monte Carlo approach, the sample size needed to achieve an acceptable level of accuracy for some problems can be enormous. The new technique combines importance sampling, to provide the best information about the areas that are most critical in determining the derivative's expected payoff, with stratified sampling, to ensure that the distribution of random observations in the simulation sample closely matches the theoretical distribution that is being simulated.

Next, we have an article that extends to a multivariate framework Duan's model for pricing options when the underlying asset follows a GARCH process (which, in turn, is capable of generating the kinds of volatility behavior that violate the constant-volatility assumption of other models, but is commonly observed in real-world markets). Their model is useful for pricing quantos and cross–currency options.

Taylor's article offers a non-parametric technique for estimating the location of a specific percentile of a returns distribution (e.g., the 1% tail in a value at risk calculation). The advantage of Taylor's approach is that it does not require the user to have precise knowledge of the returns generating function in order to produce an accurate estimate of the desired percentile.

The last regular article is by Lyuu, who offers a simple but quite valuable procedure for solving calibration problems within a lattice framework. These are problems, such as finding an

THE JOURNAL OF
DERIVATIVES

implied volatility or tuning an interest rate model to the initial market yield curve, that require solving a derivative valuation problem repeatedly to obtain an approximate answer. Substantial improvement in efficiency can be achieved by Lyuu's "differential tree" technique of computing the needed derivatives at the same time as the option value within the lattice.

Finally, in the Innovations section, Hoang, Powell, and Shi describe "endowment warrants," a new type of OTC option trading in Australia and New Zealand. The idea is simple — an endowment warrant is simply a very long maturity call with dividend protection — but it offers a payout pattern that investors find appealing. They get a levered long position in the underlying stock that is easier to achieve than through purchasing on margin, while not losing out when their stock pays dividends, as they would with an ordinary call.

My personal opinion is that this is an excellent set of papers. I hope you will agree. There is one good way to find out...read on!

Stephen Figlewski
Editor