

D THE JOURNAL OF **DERIVATIVES**

VOLUME 12, NUMBER 2 WINTER 2004

STEPHEN FIGLEWSKI	Editor
RANGARAJAN K. SUNDARAM	Co-Editor
SANJIV DAS	Co-Editor
ROBYN VANTERPOOL	Editorial Assistant
PATRICIA B. PEAT	Copyeditor
HARRY KATZ	Production Director
MICHELLE WRIGHT	Senior Production Manager
DAVID GOMBAC	Senior Staff Copyeditor
AJANI MALIK	Reprints Manager
ANNE O'BRIEN	Marketing Director
MICHELLE COX	Senior Marketing Manager
GWENN PANESS	Associate Publisher
DAVID BLIDE	Business Development Manager
DAVE GALAN	Advertising Associate
ROBERT TONCHUK	Fulfillment Director
KELVIN LOUIE	Senior Fulfillment Manager
CHERLY-NINA BONNY	Fulfillment Manager
DAVID E. ANTIN	Director of Finance and Operations
KAREN KNOW	Business Manager
ALLISON ADAMS	Publisher
CHRIS BROWN	CEO

Well, the U.S. elections are over. Some are happy at the outcome, others are not. But one thing that makes every heart glad, in red states and blue states alike, is that at least the election campaign is finally over. We may now hope for at least three or four months' rest before the campaigning for the 2006 midterm elections begins. For any especially enthusiastic readers who might be inclined to skip the rest of the preamble and proceed directly to the articles, before turning the page please take a look at the important note at the end of this letter, regarding our new email address.

Derivatives based on credit risk are probably the single most important new derivatives idea in the last decade. The rate of growth and innovation is breathtaking and shows no signs of slowing. Credit derivatives raise a variety of interesting and thorny theoretical and empirical issues. We also have an important new source of risk to contend with, along with associated Greek letters: correlation. Many credit products involve default risk on a whole portfolio of risky bonds, with payoffs determined by the number of defaults experienced within the group, and correlation among them is key. But computing the default probability distribution for a portfolio that may easily contain more than 100 different, mutually correlated, credit-sensitive securities is quite challenging. Monte Carlo simulation is a common approach, typically under the assumption of a relatively simple form for the correlation matrix. Even so, high dimensionality and the need to focus on low probability events in the tails of the distributions, make the simulation quite difficult.

The first two articles in this issue offer approximation methods that yield good estimates of the default distribution in a credit portfolio without Monte Carlo methods. Both begin by assuming a factor structure that permits a broad range of correlation behavior. In our lead article, Hull and White present a fast, accurate, and flexible constructive approach for estimating the loss distribution, in which the default risk exposure is built up in buckets, one bond at a time. The next article, by Glasserman, approaches the problem differently, by first deriving an upper bound on the loss probability, that essentially gives the shape of the tail of the distribution, and then solving for an exact value at a single point to set the overall level of the tail density. The result is highly accurate over a broad range of portfolio composition, even out to the very remote, low probability, region of the tail.

The next article is also concerned with estimating correlations, but in the context of fitting a correlation matrix to the term struc-

D THE JOURNAL OF **DERIVATIVES**

ture of interest rates in the LIBOR market model. The objective is to replace the empirically estimated correlation matrix with one of lower dimension that is as close as possible to the original. Weigel shows how to do this optimally. In the following article, Crouhy, Galai, and Mark consider operational risk in a bank from the perspective of the conflict of interest between stockholders and bondholders. In this case, it is bank management that may find it rational to self-insure against operational risk, thus choosing to bear risk at the firm level while depositors, and the deposit insurance authority, would prefer they purchase insurance in the market.

The next article focuses on a small but important feature of the Chicago Board of Trade's Treasury bond and Treasury note futures contracts. By specifying that in computing the delivery factor for a given deliverable bond the bond's maturity is rounded downwards to an even number of quarters, the cheapest to deliver (CTD) bond can be affected in such a way that the standard rule of thumb regarding which bond will be CTD does not hold. Finally, the last article describes a kind of Australian long-term equity warrant that provides the holder substantial, but not complete, protection against dividend payout by the underlying shares, and provides a new valuation formula.

It is an unfortunate sign of the times, but one that I am afraid everyone will be too familiar with: Since the *JOD* was founded, I have used my own general email address for all communications relating to the journal, including electronic manuscript submission, questions from subscribers, contact with authors and reviewers, etc. But these days, *JOD* communications, and the modest number of other emails that I really want, arrive hidden in a quagmire of over 100 Spam messages per day. On a few occasions, this has led to my inadvertently deleting *JOD*-related email. Accordingly, a new *JOD* email address has been set up. In the future, please send all *The Journal of Derivatives* correspondence to the new *JOD* email address: jod@stern.nyu.edu.

Thanks very much. I look forward to hearing from you. Without having to winnow out your messages from among myriad opportunities to acquire valuable medications for any possible condition online, to assist worthy persons in retrieving millions of dollars that have been frozen in some African country, or to refinance my mortgage at the Most Amazing Interest Rates Ever!!

Stephen Figlewski
Editor

©Euromoney Institutional Investor PLC. This material must be used for the customer's internal business use only and a maximum of ten (10) hard copy print-outs may be made. No further copying or transmission of this material is allowed without the express permission of Euromoney Institutional Investor PLC.

The most recent two editions of this title are only ever available at <http://www.euromoneyplc.com>