Well, they did it. They finally shut down the U.S. government, or at least some portions of it. They threatened to default on Treasury bonds, relenting only at the last second. Some members of Congress floated an argument that the world would actually view U.S. default as a positive development because it would signal that we were finally getting serious about dealing with our budget deficit. It is undeniable that dealing with our deficits by not repaying the money we borrowed to fund them would make them a lot less of a burden.

The result of this financial disruption was... very little. In the face of major government dysfunction, the VIX volatility index coasted along far below its long-term average of over 20%, spiking above 19% for only two days, and the U.S. stock market reached all-time highs. It appears that no one really took the political theater in Washington very seriously. The threatened default had virtually no impact on U.S. borrowing costs, and the reports on the evening news seemed to show that the people most inconvenienced by the two-week government shutdown were disappointed vacationers who found the national parks and monuments closed. In the end, after much "sound and fury, signifying nothing," agreement was reached to postpone agreeing on anything except the need to push off having to agree on something for a few more months. In the meantime, the "sequester" continues: An economic policy that was designed to be so stupid and painful for everyone that it would force them to agree on something better. Apparently, it was not quite stupid and painful enough.

For a while, one could believe that no matter what the various factions in Washington said, in the end, they would come together to do the right thing. With each self-imposed crisis, that hypothesis becomes less tenable, yet the markets are getting less worried rather than more. Has the world decided that confusion about U.S. economic policy is irrelevant, so there is no need to respond? Hard to believe. Or is it that sensible economic policy no longer seems possible, while the effects of random actions like the sequester are too unpredictable to allow informed investment decisions? Or maybe

the inaction of the U.S. Congress doesn't look quite so bad when compared with the ongoing situation in Europe, where five years of unrelenting austerity have left a number of economies in shambles?

Your editor is mystified. Which means that it is time to turn our attention to the articles in this issue of *The Journal of Derivatives*.

We start with two review articles that collect, review, and distill the recent research in two important areas. The first, by Christoffersen, Jacobs, and Ornthanalai, is on option valuation when the underlying asset's return follows a generalized autoregressive conditional heteroskadasticity (GARCH) process. GARCH has a great advantage over more general continuous-time stochastic volatility models that allow stochastic time variation in return variance, because it can be estimated directly from a series of asset returns. This also permits model estimation using a combined sample of stock returns and option prices, as well as allowing a wide range of non-Gaussian distributions for the return shocks.

The second review—by Albanese, Li, Lobachevskiy, and Meissner—is of correlation models in derivatives. Many derivative instruments depend on multiple risk factors, including quantos, various kinds of basket options, and all sorts of products tied to credit portfolios. Extending the familiar normal and lognormal distributions to the multivariate setting imposes strong conditions on the behavior of standard correlation measures in the tails. But many classes of securities exhibit different tail dependence for gains and losses, which suggests the use of a copula approach. Credit portfolios typically involve hundreds or even thousands of individual credits, and correlations among them are crucial to valuing tranche securities issued against those portfolios. This has led to new methods for measuring and modeling correlations. All of this makes Albanese et al.'s comprehensive review of correlation models in derivatives valuation a very timely article for our readers.

The focus on correlation continues in our third article, by Numparcharoen. It presents a valuable procedure for modifying a correlation matrix, as needed in stress testing, for example, without violating its essential properties, such as that it must be positive (semi) definite.

Next, Anderluh and Meester present a new technique for Monte Carlo simulation of path-dependent derivatives whose payoffs involve hitting or crossing a price barrier during the life of the contract. They begin by simulating the barrier hitting points and then fill in the path backward from those points. This can produce large improvements in performance, and the problem becomes smooth enough with their formulation that substantial further improvement is possible using Richardson extrapolation. Finally, Ratcliff takes another look at extracting information about expected future returns from the volatility skew in the options market. Earlier research has suggested that the smile or skew pattern in option implied volatilities is due to the presence of non-diffusive jumps in the returns process, or of stochastic volatility that is negatively correlated with returns. This article confirms that there is useful return information in the skew and that it seems to be unrelated to either of these factors.

OK, I officially give up trying to rationalize the persistently low level of the VIX index and the high degree of uncertainty about U.S. economic policy produced by Congress, at least for a while. Instead, I will simply wish all of our readers a happy holiday season and a successful new year. We can breathe easy because the U.S. is not going to default on our Treasury bonds before February.

**Stephen Figlewski**
**Editor**