General Discussion*

Eli Remolona thanked Asani Sarkar for his comments. In response to Sarkar's question regarding what information was allowing trades to matter on prices, he said that they had in mind order-flow information. During the LTCM episode, some dealers presumably knew more about what LTCM was trying to do than others, because LTCM was dealing with some dealers and not with others.

He said that the authors had looked at different ways of defining stress days. They could have estimated the benchmark equations every day—with hundreds of transactions each day, they had enough data. They could have estimated the benchmarks and looked at which days had the most effect to see whether they made sense as stress days.

Sarkar had wondered how unusual the asymmetries were. Remolona felt that this was a very good point. He said that the authors had not done that work, but that they would do so.

Remolona mentioned that they had experimented with the functional forms. Although they had better results with other functional forms, they decided to present the ones that are more comparable with Dufour and Engle. They tried the square root of time, for example, dividing by it, rather than multiplying by it. He said that there are some trades that are zero (time) between trades; they therefore gave it one second if it was zero so that a finite square root term could be used.

* Prepared by Mark Reesor.

Remolona said that they would look at the day-of-the-week effects. He added that in a sense it was the same as excluding atypically slow days. They had done work on this market before and had a sense of which days were bad and which were good.

He admitted that trading time was endogenous and that the authors did not know what to do about it. He said that perhaps they would consult some more with Sarkar.

Zhiwei Zhang had two comments. The first concerned the duration variable or the trade time in the bivariate vector autoregression (VAR). He suggested that it might be valuable to estimate a three-variable VAR instead of a two-variable VAR just to make it endogenous in that way. He thought that Engle and Dufour used their autoregressive conditional duration (ACD) model to have a separate model to describe the duration dynamics. He added that it might be challenging in terms of the technical difficulties, but the authors might also be able to tell an interesting story with three variables.

Zhang's other comment touched on the coefficients. He suggested that it might be useful to make them time-varying, for example, to make them a function of some measure of the intensity of crisis or of just how stressful it is in the market situation.