

STANFORD UNIVERSITY
DEPARTMENT OF STATISTICS
DEPARTMENT SEMINAR

4:15 p.m., Tuesday, February 12, 2002
Sequoia Hall Room 200
(Cookies at 3:45 in 1st Floor Lounge)

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Analysis of Exchange Rate Volatility to Guide Arbitration

During the weekend of February 25 and 26, 1995, the Barings Bank in Singapore collapsed. Surprisingly, the volatility of international currencies traded in the Chicago Mercantile Exchange (CME) did not experience a noticeable increase until March 2 and 3. We discuss the statistical analyses performed on behalf of one of the largest traders in British Pounds (BP) in the CME, whom we will refer to as Claimant. Claimant suffered losses in the hundreds of millions of dollars during the week of February 28, 1995, and argues that such losses were due to the actions of his account managers at a bank that we will call Respondent. A legal claim, to be resolved by arbitration, was initiated by Claimant against Respondent. Final agreement was recently reached on the claim.

We use a stochastic nonlinear model to analyze the volatility of puts, calls, and futures contracts and also spot prices for BP during the week of February 28, 1995. A straightforward extension of the model permits estimating volatility as a function of lagged volume traded. Results from the analyses suggested that the increase in volatility of all BP contracts observed during March 2 and 3 might have been precipitated by Respondent's liquidation of the extensive positions of Claimant.