



The University of Chicago  
Department of Statistics

Seminars for Fourth Year Ph.D. Students

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**DALE ROSENTHAL**

Department of Statistics  
The University of Chicago

**Trade Signing and Nearly-Gamma Random Variables**

**MONDAY, December 10, 2007 at 4:30 PM**  
**110 Eckhart Hall, 5734 S. University Avenue**

**ABSTRACT**

Many financial events involve delays. I consider data delays and propose metrics for other phenomena: the mean time to deletion from a financial index, the weighted-average prepayment time for a loan portfolio, and the weighted-average default time for a loan portfolio. Under reasonable conditions, these are all nearly-gamma distributed; thus various small-sample approximations are examined. This approach also yields a metric of loan portfolio diversity similar to one used in rating collateralized debt obligations. Finally, the approximations are used to create a model for signing trades. The model is flexible enough to encompass the midpoint, tick, and EMO methods and yields probabilities of correct predictions.