1037-91-118   **Victor Goodman*** (`goodmanv@indiana.edu`), Mathematics Department, Indiana University, Bloomington, IN 47405. *Principal Component Analysis of Forward Interest Rates.*

Observations of forward interest rates determine a high-dimensional covariance matrix that summarizes the volatility of yields within a central bank's bond market. A principal component analysis of these rates, using data from different decades and from different countries, displays a common pattern under the assumption of a Gaussian trading noise. I will describe this (well-known) pattern and will also describe a mathematical obstacle which has prevented any viable model from expressing the PCA results. Then I show that, by conditioning on certain favorable market events, we can produce three factor models which have the volatility characteristics of PC market-data analyses. (Received January 28, 2008)