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SPEAKER/ABSTRACT

Paul Speckman, University of Missouri
"Data Fusion for Correlated, Shape-Restricted Curves with Varying Support"

Abstract:
Data fusion methods are implemented to estimate multiple bond yield curves. A bond yield curve describes the relationship between the yield of a particular class of bonds (expressed as an annual interest rate) to the time to maturity for all bonds traded on a given day. These curves are theoretically smooth with possible shape restrictions (e.g., monotonic). The curves for different rating classes are theoretically ordered and may have different support. Application is made to data from the Chinese bond market, where data may be sparse. Thus it is imperative that estimates combine information across different classes and multiple days. The methods discussed here are based in part on interaction smoothing splines to estimate curves for multiple classes. A weighted least squares approach is used to fuse estimates across multiple days. Fully automatic estimation has proved elusive, and provision for expert opinion must be incorporated.