



The University of Chicago
Department of Statistics

Seminar Series

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**Latent Variable Models Under Misspecification:
Two Stage Least Squares (2SLS) and Full Information
Maximum Likelihood (FIML) Estimators**

MONDAY, April 30, 2007 at 4:00 PM
133 Eckhart Hall, 5734 S. University Avenue

Refreshments following the seminar in Eckhart 110.

ABSTRACT

This talk compares Full Information Maximum Likelihood (FIML) estimation to three variants of Two Stage Least Squares (2SLS) estimation in latent variable structural equation models. We use models that are both correctly and incorrectly specified. Using simulated data we assess bias, efficiency, and accuracy of hypothesis tests. Generally, 2SLS with reduced sets of instrumental variables performs similarly to FIML when models are correctly specified. Under correct specification, both estimators have little bias except at the smallest sample sizes and are approximately equally efficient. As predicted, when models are incorrectly specified, we find that 2SLS generally performs better, having less bias and more accurate hypothesis tests. Our results suggest that a 2SLS estimator should be considered when structural misspecifications in a model are likely.