Colloquium
Michigan State University
Department of Statistics and Probability

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Complementary Properties of an F-Test and a Spectral Diagnostic for Detecting Seasonality in Unadjusted and Seasonally Adjusted Time Series

Tuesday, November 6, 2012
10:20 a.m. - 11:10 a.m.
Refreshments 10:00am
C405 Wells Hall

Abstract

We consider the comparative strengths of spectral diagnostics and the FM test statistic of Lytras, Feldpausch and Bell (2007) for detecting significant seasonality in two contexts: (i) Deciding whether a time series meets the minimum requirement to be a candidate for seasonal adjustment, the focus of the comparisons of Lytras et al. (ii) Deciding whether a seasonally adjusted time series still has seasonality that is detectable in its more recent data. Our results show that the best ways to apply the diagnostics differ according to the context. The scope of the results is increased by the analysis of simulation results for stationary seasonal autoregressive models and a theoretical result showing their relevance. Some additional background on seasonal adjustment will be presented, including ARIMA model-based seasonal adjustment.

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