THE UNIVERSITY OF CHICAGO

Department of Statistics

MASTER'S THESIS PRESENTATION

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Nonparametric Specification Test for Regression Models with Correlated Errors

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Jones 304, 5747 S. Ellis Avenue

ABSTRACT

We propose two nonparametric specification tests for time series regression model with correlated errors. For the first part, we obtain the asymptotic distribution of the maximum deviations of the Nadaraya-Watson nonparametric regression estimator, and construct its simultaneous confidence surface thereby; For the second part, we introduce a kernel-based test statistics based on a distance function. The asymptotic properties of the test statistics are established. Simulation results illustrate the performance of these two test techniques. An application to Fama-French three-factor model data also demonstrates the usefulness of our methods in practice.

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