STATISTICS SEMINAR

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Master's Defense
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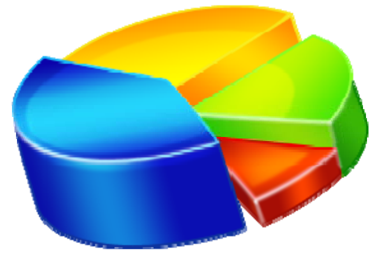
Dickens 106 – 1:00 PM
Refreshments 12:30 PM in Dickens 108



Model Checking in Tobit Regression Model via Nonparametric Smoothing

ABSTRACT

A nonparametric lack-of-fit test is proposed to check the adequacy of the presumed parametric form for the regression function in Tobit regression models by applying Zheng's device with weighted residuals. It is shown that testing the null hypothesis for the standard Tobit regression models is equivalent to test a new null hypothesis of the classic regression models. An optimal weight function is identified to maximize the local power of the test. The test statistic proposed is shown to be asymptotically normal under null hypothesis, consistent against some fixed alternatives, and has nontrivial power for some local nonparametric power for some local nonparametric alternatives. The finite sample performance of the proposed test is assessed by Monte-Carlo simulations. An empirical study is conducted based on the data of University of Michigan Panel Study of Income Dynamics for the year 1975.