

國立中山大學應用數學系

學術演講

講者：Prof. Martin Lukusa (成功大學統計學系)

講題：Semiparametric Kernel-Assisted Estimations of a Zero-Inflated Model When Some Regressors Are Partially Observed

時間：2023/06/01 (Thursday) 14:10~15:00

地點：理 SC 4009-1 教室

茶會：13:30

Abstract

Count data with excess of zeros are common in various areas of applied statistics including Transportation, Ecology, Epidemiology, Manufacturing, etc. Accordingly, the traffic data will be used to motivate my talk. These many zeros arise from the events of interest which never occurred and which did not occur. A popular approach to dealing with the excess of zeros is to use the zero-inflated regression models, which are mixtures of two distributions including a count distribution and the zero mass distribution. A problem of estimation in zero-inflated Poisson regression model with missing data is considered. We assume that some regressors used to model the count part and the zero part are missing at random. Under this assumption, the naive estimation is biased. Thus, we propose two semiparametric kernel-assisted multiple imputation estimators. The proposed estimators are unbiased and asymptotically normal distributed in large sample. To investigate the finite sample performance of the proposed methods, we conduct a simulation study and explore an example of traffic data. The overall result is satisfactory.

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