ΟΙΚΟΝΟΜΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ
ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS

ΣΧΟΛΗ ΕΠΙΣΤΗΜΩΝ & ΤΕΧΝΟΛΟΓΙΑΣ ΤΗΣ ΠΛΗΡΟΦΟΡΙΑΣ
SCHOOL OF INFORMATION SCIENCES & TECHNOLOGY

ΤΜΗΜΑ ΣΤΑΤΙΣΤΙΚΗΣ
DEPARTMENT OF STATISTICS

ΚΥΚΛΟΣ ΣΕΜΙΝΑΡΙΩΝ ΣΤΑΤΙΣΤΙΚΗΣ – ΑΠΡΙΛΙΟΣ 2016

Andrei Sirchenko
ICEF, Higher School of Economics, Moscow

Modeling discrete-valued time series with abundant and heterogeneous zeros

ΠΑΡΑΣΚΕΥΗ 15/4/2016
13:30

ΑΙΘΟΥΣΑ 607, 6ος ΟΡΟΦΟΣ,
ΚΤΙΡΙΟ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΣΠΟΥΔΩΝ
(ΕΥΕΛΠΙΔΩΝ & ΛΕΥΚΑΔΟΣ)

ΠΕΡΙΛΗΨΗ

The decisions to reduce, leave unchanged, or increase a choice variable (such as policy interest rates, prices, etc) are often characterized by abundant status quo outcomes that can be generated by different processes. The decreases and increases may also be driven by distinct decision-making paths. Neither standard nor zero-inflated models for ordinal responses adequately address these issues. In this talk I will review the recent developments in modeling discrete-valued time series with abundant and heterogeneous zeros, and present a new flexible mixture model with endogenously switching regimes. Three latent regimes, which are interpreted in the interest rate setting context as loose, neutral and tight policy stances, create separate processes for rate hikes and cuts and overlap at a status quo outcome, generating three different types of zeros. The new model exhibits acceptable small-sample performances in Monte Carlo experiments, whereas traditional models deliver biased estimates. In the empirical application, the new model is not only highly favored by the statistical tests but also produces economically more meaningful inference with respect to existing models.

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AUEB STATISTICS SEMINAR SERIES – APRIL 2016

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FRIDAY 15/4/2016
13:30

ROOM 607, 6th FLOOR,
POSTGRADUATE STUDIES BUILDING
(EVELPIDON & LEFKADOS)

ABSTRACT

The decisions to reduce, leave unchanged, or increase a choice variable (such as policy interest rates, prices, etc) are often characterized by abundant status quo outcomes that can be generated by different processes. The decreases and increases may also be driven by distinct decision-making paths. Neither standard nor zero-inflated models for ordinal responses adequately address these issues. In this talk I will review the recent developments in modeling discrete-valued time series with abundant and heterogeneous zeros, and present a new flexible mixture model with endogenously switching regimes. Three latent regimes, which are interpreted in the interest rate setting context as loose, neutral and tight policy stances, create separate processes for rate hikes and cuts and overlap at a status quo outcome, generating three different types of zeros. The new model exhibits acceptable small-sample performances in Monte Carlo experiments, whereas traditional models deliver biased estimates. In the empirical application, the new model is not only highly favored by the statistical tests but also produces economically more meaningful inference with respect to existing models.