



ΚΥΚΛΟΣ ΣΕΜΙΝΑΡΙΩΝ ΣΤΑΤΙΣΤΙΚΗΣ ΙΑΝΟΥΑΡΙΟΣ 2017

Άρης Σπανός

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Revisiting the Statistical Foundations of Panel Data modeling

ΤΡΙΤΗ 17/1/2017

13:00

**ΑΙΘΟΥΣΑ 607, 6^{ος} ΟΡΟΦΟΣ,
ΚΤΙΡΙΟ ΜΕΤΑΠΤΥΧΙΑΚΩΝ ΣΠΟΥΔΩΝ
(ΕΥΕΛΠΙΔΩΝ & ΛΕΥΚΑΔΟΣ)**

ΠΕΡΙΛΗΨΗ

The current literature on panel data modeling relies on extensions/modifications of the basic fixed and random effects models whose probabilistic structure is specified in terms of unobservable error terms. As the panel data models become more and more sophisticated it is impossible to know what probabilistic assumptions one is imposing on the data, rendering any attempt to test these assumptions futile. The primary objective of the paper is to revisit the statistical foundations of panel data modeling with a view to render their probabilistic assumptions testable vis-a-vis the data. This involves:

- (a) recasting the error assumptions in terms of the probabilistic structure of the observable processes underlying the data,
- (b) specifying panel data models in terms of a complete and internally consistent set of testable probabilistic assumptions, and
- (c) proposing general misspecification testing procedures for evaluating the validity of the model assumptions. An important dimension of this recasting, is to provide pertinent interpretations for the individual-specific fixed and random effects. This can be achieved by relating these terms to the probabilistic structure of the observable process underlying the data. The suggested interpretations for the fixed and random effects terms call into question the Munlak (1978) reformulation of the random effects model, as well as the conventional wisdom on the fixed vs. random effects issue.



AUEB STATISTICS SEMINAR SERIES JANUARY 2017

Aris Spanos

Wilson Schmidt Professor of Economics, Department of Economics, Virginia Tech, USA

Revisiting the Statistical Foundations of Panel Data modeling

TUESDAY 17/1/2017

13:00

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

ABSTRACT

The current literature on panel data modeling relies on extensions/modifications of the basic fixed and random effects models whose probabilistic structure is specified in terms of unobservable error terms. As the panel data models become more and more sophisticated it is impossible to know what probabilistic assumptions one is imposing on the data, rendering any attempt to test these assumptions futile. The primary objective of the paper is to revisit the statistical foundations of panel data modeling with a view to render their probabilistic assumptions testable vis-a-vis the data. This involves:

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