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Seminario Aleatorio

Sesión 325

Panel Data with Cross-Sectional Dependence Characterized by a Multi-Level Factor Structure

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Abstract

A panel data model with a multi-level cross-sectional dependence is proposed. The factor structure is driven by top-level common factors as well as non-pervasive factors. I propose a method to filter out the full factor structure that overcomes limitations in standard procedures. Both stationary and non-stationary cases are considered in the paper. The model proposed takes into account other relevant features that make it well suited to the analysis of many types of time series frequently addressed in macroeconomics and finance. The model makes it possible to examine the time series and cross sectional dynamics of variables allowing for a rich fractional cointegration analysis. A Monte Carlo simulation is conducted to examine the finite sample features of the suggested procedure. Findings indicate that the methodology proposed works well in a wide variety of data generation processes and has much lower biases than the alternative estimation methods either in the I(0) or I(d) cases. Finally, an empirical application to the long-run relationship between energy consumption and economic growth is included.

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El Seminario Aleatorio está destinado tanto a profesores como a estudiantes, por lo que el Departamento de Estadística agradece a los profesores que colaboren invitando a sus alumnos a estas sesiones.

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