INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO

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Seminario Aleatorio

Sesión 406

Factor Network Autoregressions (FNAR)

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Abstract

We propose a factor network autoregressive (FNAR) model for time series with complex network structures. The coefficients of the model reflect many different types of connections between economic agents ("multilayer network"), which are summarized into a smaller number of network matrices ("network factors") through a novel tensor-based principal component approach. We provide consistency results for the estimation of the factors and the coefficients of the FNAR. Our approach combines two different dimension-reduction techniques and can be applied to ultra-high dimensional datasets. In an empirical application, we use the FNAR to investigate the cross-country interdependence of GDP growth rates based on a variety of international trade and financial linkages.

(Joint work with Giuseppe Cavaliere and Graziano Moramarco)

https://arxiv.org/pdf/2208.02925.pdf

Viernes 24 de marzo de 2023,
11:00 horas de CDMX,

Zoom link https://itam.zoom.us/j/97246561779?pwd=d28wRkVJVUFtNUlkcWU0TXFQVDFXdz09
Meeting ID: 972 4656 1779
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El Seminario Aleatorio del Departamento de Estadística del ITAM está destinado tanto a profesores como a estudiantes, por lo que se agradece a los profesores que colaboren invitando a sus alumnos a estas sesiones.