INSTITUTO TECNOLÓGICO AUTÓNOMO DE MÉXICO

Departamento Académico de Estadística
*Río Hondo # 1, Col. Progreso Tizapán,*
*Ciudad de México, C.P. 01080, México*

# Seminario Aleatorio

*Sesión 412*

# Dynamic factor models with cluster structure

Angela Caro Navarro
Departamento de Estadística
Universidad Carlos III de Madrid
https://acaro55.wixsite.com/acaro

## Abstract

Abstract: Understanding whether the drivers of industrial energy prices are worldwide, group-specific or country-specific is a key issue in economics. This requires flexible econometric models to examine large data sets containing a significant variety of industrial sectors in different countries. To this end, an extension of a dynamic factor model with group structure is proposed to account for observable country-specific explanatory variables, and Monte Carlo simulations are developed to show its good finite sample performance. Using data from 12 industrial sectors in 30 countries during the period from 1995 to 2015, three drivers of energy prices are found: (i) a common factor, the main driving force, captures the worldwide dynamics; (ii) country-specific variables, mainly related to inflation and the use of renewable and waste resources; and (iii) group-specific factors, which are more related to country affiliation than to sector classification.
Paper: https://doi.org/10.1016/j.econmod.2022.106158

**Viernes 8 de septiembre de 2023,**
**13:00 horas de CDMX,**

Transmisión en línea:
https://itam.zoom.us/j/94446870531?pwd=cnBuakIwWDFmR2lvZkxLSU5hcFQyUT09

Meeting ID: 944 4687 0531
Passcode: 774808

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.