

## Course Outline Spatial Panel Econometrics 2023

This course introduces advanced models for analyzing data that are cross-sectionally dependent. A distinction will be made between local (spatial) dependence and common factors.

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Lecture 1: Spatial econometric models, spatial lags, spatial spillovers, illustration: cigarette demand in the US.

- LeSage, J.P., Pace, R.K. (2009). Introduction to Spatial Econometrics. Boca Raton, FL: Taylor and Francis. Chs.1 and 2.
- Elhorst, J.P. (2014) Spatial Econometrics: From Cross-sectional Data to Spatial Panels. Springer, Heidelberg New York Dordrecht London. Ch.2.

Lecture 2: Spatial weight matrices and normalization, SLX approach, dynamic spatial econometric models, fixed vs. random effects.

- Halleck Vega, S., Elhorst J.P. (2015) The SLX model. *Journal of Regional Science* 55(3): 339-363.
- Elhorst J.P. (2019) Spatial Panel Models and Common Factors. In: Fischer M., Nijkamp P. (eds) *Handbook of Regional Science*. Springer, Berlin, Heidelberg. [https://doi.org/10.1007/978-3-642-36203-3\\_86-1](https://doi.org/10.1007/978-3-642-36203-3_86-1). Download the improved version for this course from Nestor.

Lecture 3: Common factors and replication.

- Elhorst J.P. (2021) Spatial Panel Models and Common Factors. In: Fischer M., Nijkamp P. (eds) *Handbook of Regional Science*. Springer, Berlin, Heidelberg. An improved version will be made available.
- Elhorst, J.P. (2021) The dynamic general nesting spatial econometric model for spatial panels with common factors: Further raising the bar. *Review of Regional Research*, 1-19, <https://doi.org/10.1007/s10037-021-00163-w>.
- Pesaran, M.H. (2015) Testing weak cross-sectional dependence in large panels. *Econometric Reviews*, 34: 1088-1116.
- Bailey, N., Kapetanios, G., Pesaran, M.H. (2016) Exponent of cross-sectional dependence: estimation and inference. *Journal of Applied Econometrics*, 31: 929-960.
- Shi, W., Lee, L.-f. (2017) Spatial dynamic panel data model with interactive fixed effects. *Journal of Econometrics* 197: 323-347.
- Tziolas, I., Elhorst, J.P. (2022) The rise and spread of female labour force participation at the U.S. county level. *Spatial Economic Analysis*, <https://www.tandfonline.com/doi/full/10.1080/17421772.2022.2123111>