

# RESEARCH WORK

Advanced Econometrics

2025-2

Professor: [Gustavo A. García](#)

Email: [ggarci24@eafit.edu.co](mailto:ggarci24@eafit.edu.co)

School of Finance, Economics and Government

Universidad EAFIT

The idea of this exercise is to write a research work using some of the econometrics models seen during the second part of the course and one of the databases in the list. There are several datasets and papers on different topics. It is possible that a group wants to write a paper on ideas that is not on the proposed list, so that it must get approval to do this.

Some rules:

- The paper should be written in groups of maximum 1 student
- The paper can be written in Spanish or English, I recommend the latter
- The final document should have a scientific paper structure, I mean, it should have an introduction, literature review (short), a section of data and descriptive statistics, econometric model used, results, conclusions and a section of references. You can see others rules on the structure of the paper in the following [link](#). You can also look at the following examples on papers using spatial panel models with data for Colombia: [Aristizábal and García \(2021\)](#) or [García et al. \(2024\)](#).
- The final document should be present in [Quarto](#) format (html or pdf)
- In separates files should be sent the code (.qmd) and final database (excel, shapes, dataframes...) used
- The final paper should be delivered and presented by **Thursday 4th August**

## List of databases

### 1. Cigar

Baltagi, B.H. and D. Levin (1986) “Estimating dynamic demand for cigarettes using panel data: the effects of bootlegging, taxation and advertising reconsidered”, *Review of Economics and Statistics*, 68(1), 148–155.

Baltagi, B.H., J.M. Griffin and W. Xiong (2000) “To pool or not to pool: homogeneous versus heterogeneous estimators applied to cigarette demand”, *Review of Economics and Statistics*, 82(1), 117–126.

Baltagi BH, Li D (2004). Prediction in the panel data model with spatial autocorrelation. In: Anselin L, Florax RJGM, Rey SJ (eds) *Advances in spatial econometrics: Methodology, tools, and applications*. Springer, Berlin Heidelberg New York, pp 283–295

Data: A panel of 46 U.S. states from 1963 to 1992

## **2. Michigan**

Papke, L. (2005). “The Effects of Spending on Test Pass Rates: Evidence from Michigan”, *Journal of Public Economics*, 89(5-6): 821-839.

Data: A panel data of school district in Michigan for the years between 1992 and 1998

## **3. Seatbelts**

Einav, L. and Cohen, A. (2003). “The Effects of Mandatory Seat Belt Laws on Driving Behavior and Traffic Fatalities”, *Review of Economics and Statistics*, 2003, 85(4): 828-843.

Stock, J. and Watson, M (2012). *Introduction to Econometrics*, Pearson, chapter 10, Empirical exercise E10.2.

Data: A panel of 50 U.S. states plus the District of Columbia from 1983 to 1997

## **4. Crime**

Cornwell, C. and W.N. Trumbull (1994) “Estimating the economic model of crime with panel data”, *Review of Economics and Statistics*, 76(2), 360–366.

Baltagi, B. H. (2006) “Estimating an economic model of crime using panel data from North Carolina”, *Journal of Applied Econometrics*, 21(4): 543-547.

Data: A panel of U.S. counties from 1981 to 1987

## **5. Productivity**

Munnell, A. (1990) “Why has productivity growth declined? Productivity and public investment”, *New England Economic Review*, 3–22.

Baltagi, B. H. and N. Pinnoi (1995) “Public capital stock and state productivity growth: further evidence”, *Empirical Economics*, 20(2): 351–359.

Data: A panel of 48 U.S. states from 1970 to 1986

## **6. NCOVR**

Baller, R., L. Anselin, S. Messner, G. Deane and D. Hawkins (2001). “Structural covariates of US county homicide rates: incorporating spatial effects”, *Criminology* 39, 561-590.

Data: A panel data of U.S. counties for four decennial census years: 1960, 1970, 1980 and 1990.

## **7. Cigarette**

Stock, J. and Watson, M (2012). *Introduction to Econometrics*, Pearson, chapter 12.

Data: A panel of 48 U.S. states from 1985 to 1995

## **8. Mafia**

Acconcia, A., Corsetti, G. and Simonelli, S. (2014) “Mafia and Public Spending: Evidence on the Fiscal Multiplier Form a Quasi-experiment”, *American Economic Review*, 104(7), 2189-2209.

Data: A panel of 95 Italian provinces from 1986 to 1999

## **9. HousePricesUS**

Holly, S., Pesaran, M.G. and Yamagata, T. (2010) “A Spatio-temporal Model of House Prices in the USA”, *Journal of Econometrics*, 158(1), 160–173.

Millo, Giovanni (2015) “Narrow Replication of 'A Spatio-temporal Model of House Prices in the USA', Using R”, *Journal of Applied Econometrics*, 30(4), 703–704.

Data: A panel of 49 U.S. states from 1976 to 2003