

# Spatial Economics

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Chair of Economics and Social Policy



# Syllabus

- Prerequisites: Microeconomics, Econometrics I
- Language: English
- Availability: annually (summer semester)
- Credits can be earned for MSc Economics (Public Economics & Labor Economics)
- Workload 150 h (including 60 contact hours)  $\equiv$  5 ECTS
- Lecture (2 h per week) + tutorial (2 h per week) (2021 via ZOOM)
- 60-minutes written examination (80%) + presentation (20%)
- Exam covers lecture + tutorial
- Voluntary presentation on a research paper to improve the grade by up to 0.7
- Slides, papers, exercises, data etc. on StudON (password protected)
- Instructor: Luisa Schneider (luisa.schneider@fau.de)

## Aim

- At the end of this course,
  - Students are able to describe and to internationally compare the regional patterns of major economic activities in terms of stylized facts.
  - Students are able to present, interpret, and discuss selected theories in regional and urban economics.
  - Students are able to assess empirical tests of selected hypotheses derived from theories in regional and urban economics to evaluate and critically examine their informative value.
  - Students are able to discuss and critically examine economic policy implications of selected theories in regional and urban economics.
  - Students are able to assess, evaluate and discuss selected recent research papers in English.

# Contents

- Part I: Foundations
- Part II: Fundamentals of theoretical spatial economics
- Part III: Fundamentals of empirical spatial economics
- Part IV: Compensating differentials
- Part V: New Economic Geography - the core-periphery model
- Part VI: Selected studies

## Textbooks

- Brakman, S., Garretsen, H. & van Marrewijk, C. (2019). *An Introduction to Geographical and Urban Economics: A Spiky World*. Third Edition. Cambridge, UK: Cambridge University Press.
- Brueckner, J.K. (2011). *Lectures on Urban Economics*. Cambridge: MIT Press.
- Combes, P.-P., Mayer, T. & Thisse, J.-F. (2008). *Economic Geography*. Princeton and Oxford: Princeton University Press.
- Elhorst, J.P. (2014b). *Spatial Econometrics*. Berlin, Heidelberg: Springer-Verlag.
- Fujita, M. & Thisse, J.-F. (2002). *Economics of Agglomeration. Cities, Industrial Location, and Regional Growth*. Cambridge, UK: Cambridge University Press.

## Selected surveys

- Baum-Snow, N. & Ferreira, F. (2015). Causal Inference in Urban and Regional Economics. In: Duranton, G. Henderson, J.V. & Strange, W.C. (Ed.) *Handbook of Regional & Urban Economics*. Vol. 5A. 3-68.
- Elhorst, J.P. (2014a). Spatial Panel Methods. In: Fischer, M.M. & Nijkamp P. (Ed.) *Handbook of Regional Science*. Berlin, Heidelberg: Springer-Verlag. 1637-1652
- Moretti, E. (2011). Local Labor Markets. In: D. Card & O. Ashenfelter (Ed.). *Handbook of Labor Economics*. Vol. 4b. 1237-1313.
- Neumark, D. & Simpson, H. (2015). Place-Based Policies. In: Duranton, G. Henderson, J.V. & Strange, W.C. (Ed.) *Handbook of Regional & Urban Economics*. Vol. 5B. 1198-1287.
- Redding, St.J. & Rossi-Hansberg, E. (2017). Quantitative Spatial Economics. *Annual Reviews of Economics* 9. 21-58.

## Academic field journals

- Spatial economics:
  - Journal of Urban Economics
  - Journal of Economic Geography
  - Regional Science and Urban Economics
  - Journal of Regional Science
  - Land Economics
  - Urban Studies
  - Annals of Regional Science
  - Papers in Regional Science
- Related fields:
  - Journal of Public Economics
  - Transportation Research Part B: Methodological

## Papers intended for mandatory presentations

- Asher, S. & Novosad, P. (2020). Rural Roads and Local Economic Development. *American Economic Review* 110 (3). 797-823.
- Becker, S.O., Grosfeld, I., Grosjean, P., Voigtländer, N. & Zhuravskaya, E. (2020). Forced Migration and Human Capital: Evidence from Post-WWII Population Transfers. *American Economic Review* 110 (5). 1430-1463.
- Gonzalez, R.M. (2021). Cell Phone Access and Election Fraud: Evidence from a Spatial Regression Discontinuity Design in Afghanistan. *American Economic Journal: Applied Economics* 13 (2). 1-51.
- Harari, M. (2020). Cities in Bad Shape: Urban Geometry in India. *American Economic Review* 110 (8). 2377-2421.



## Papers intended for voluntary presentations

- Davis, D.R., Dingel, J.I., Monras, J. & Morales, E. (2019). How Segregated Is Urban Consumption? *Journal of Political Economy* 127 (4). 1684-1738.
- Diamond, R., McQuade, T. & Qian, F. (2019). The Effects of Rent Control Expansion on Tenants, Landlords, and Inequality: Evidence from San Francisco. *American Economic Review* 109(9). 3365-3394.
- Grant, M. (2020). Why Special Economic Zones? Using Trade Policy to Discriminate across Importers. *American Economic Review* 110 (5). 1540-1571.
- Heblich, S., Redding, S. & Sturm D. (2020). The Making of the Modern Metropolis: Evidence from London. *Quarterly Journal of Economics* 135 (4). 2059–2133.
- Lee, S. & Lin, J. (2017). Natural Amenities, Neighbourhood Dynamics, and the Persistence in the Spatial Distribution of Income. *Review of Economic Studies* 85. 663-694.
- Monte, F., Redding, St.J. & Rossi-Hansberg E. (2018). Commuting, Migration, and Local Employment Elasticities. *American Economic Review* 108 (12). 3855-3890.

## Papers intended for selected studies

- Ahlfeldt G.M., Redding St.J., Sturm D.M. & Wolf N. (2015). The Economics of Density: Evidence from the Berlin Wall. *Econometrica* 83 (6). 2127–2189.
- Allen, T., Arkolakis, C. & Takahashi Y. (2020). Universal Gravity. *Journal of Political Economy* 128 (2). 393-433.
- De la Roca, J. & Puga, D. (2017). Learning by Working in Big Cities. *Review of Economic Studies* 84 (1). 106-142.
- Gaubert, C., Kline, M. & Yagan, D. (2021). Place-Based Redistribution. NBER Working Paper No. 28337.
- Turner, M.A., Haughwout, A. & van der Klaauw, W. (2014). Land Use Regulation and Welfare. *Econometrica* 82 (4). 1341-1403.

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- Albouy, D. & Bert Lue, B. (2015). Driving to Opportunity: Local Rents, Wages, Commuting, and Sub-metropolitan Quality of Life. *Journal of Urban Economics* 89. 74-92.
- Alonso, W. (1964). *Location and Land Use*. Cambridge: Harvard University Press.
- Arntz, M., Gregory, T. & Lehmer, F. (2011). Unequal Pay or Unequal Employment? What Drives the Skill-Composition of Labor Flows in Germany?. ZEW Discussion Paper No. 11-074.
- Baumgardner, J.R. (1988). The Division of Labor, Local Markets, and Worker Organization. *Journal of Political Economy* 96 (3). 509-527.
- Cameron, A., Gelbach, J. & Miller, D. (2011). Robust Inference With Multiway Clustering. *Journal of Business & Economic Statistics* 29(2). 238-249.
- Cameron, A.C. & Miller, D.L. (2015). A Practitioner's Guide to Cluster-Robust Inference. *Journal of Human Resources* 50 (2). 317–372.

- Cameron, A.C. & Trivedi, P.K. (2009). *Microeconometrics. Methods and Applications*. New York: Cambridge University Press.
- Desmet, K., D. K. Nagy, & Rossi-Hansberg, E. (2018). The Geography of Development. *Journal of Political Economy* 126(3). 903-983.
- Drukker, D.M., I.R. Prucha, & R. Raciborski (2013a). Maximum Likelihood and Generalized Spatial Two-stage least-squares Estimators for a Spatial-autoregressive Model with Spatial-autoregressive Disturbances. *Stata Journal* 13. 221-241.
- Drukker, D.M., I.R. Prucha, & R. Raciborski (2013b). A Command for Estimating Spatial-autoregressive Models with Spatial-autoregressive Disturbances and Additional Endogenous Variables *Stata Journal* 13. 287-301.
- Duranton, G. & Overman, H.G. (2005). Testing for Localization Using Micro-Geographic Data. *Review of Economic Studies* 72 (4). 1077–1106.
- Duranton, G. & Puga, D. (2004). Micro-foundations of Urban Agglomeration Economies. In: Henderson, J.V. & Thisse, J.F. (Eds.). *Handbook of Regional and Urban Economics*. Vol 4. 2063-2117.

- Eckey, H.-F., Kosfeld, R. & Türck, M. (2006). Abgrenzung deutscher Arbeitsmarktregionen. *Raumforschung und Raumordnung* 64 (4). 299–309.
- Ellison, G. & Glaeser, E. L. (1997). Geographic Concentration in U.S. Manufacturing Industries: A Dartboard Approach. *Journal of Political Economy* 105. 889-927.
- Fujita, M. (1989). *Urban Economic Theory: Land Use and City Size*. Cambridge: Cambridge University Press.
- Fujita, M. (2010). The Evolution of Spatial Economics: From Thünen to the New Economic Geography. *Japanese Economic Review* 61. 1-32.
- Gibbons, S. & Overman, H.G. (2012). Mostly Pointless Spatial Econometrics? *Journal of Regional Science* 52. 172-191.
- Helpman, E. (1988). The Size of Regions. In: Pines, D., Sadka, E. & Zilcha, I. (Eds.). *Topics in Public Economics. Theoretical and Empirical Analysis*. Cambridge: Cambridge Univ. Press. 33–54.
- Helsley, R.W. & Strange, W.C. (1990). Matching and Agglomeration Economies in a System of Cities. *Regional Science and Urban Economics* 20(2). 189-212.

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- Kropp P. & Schwengler B. (2011). Probleme der kreisscharfen Abgrenzung von Arbeitsmarktregionen und ein Vergleich von funktionalen Arbeitsmarktabgrenzungen. In: Dreger C., Kosfeld R. & Türck M. (Eds). *Empirische Regionalforschung heute*. Gabler.
- Kropp P., & Schwengler, B. (2016). Three Step Method for Delineating Functional Labour Market Regions. *Regional Studies* 50. 429-445.
- Krugman, P. (1991a). *Geography and Trade*. Cambridge, MA: MIT Press.
- Krugman, P. (1991b). Increasing Returns and Economic Geography. *Journal of Political Economy* 99. 483-499.
- Launhardt, W. (1882). Der zweckmässigste Standort einer gewerblichen Anlage. *Zeitschrift des Vereines deutscher Ingenieure* 26. 106–115.

- LeSage, J. & Pace, R.K. (2009). *Introduction to Spatial Econometrics*. Boca Raton: CRC Press.
- Lucas, R.E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics* 22(1). 3-42.
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- McFadden, D. (1973). Conditional Logit Analysis of Qualitative Choice Behavior. In: Zarembka, P. (Ed.). *Frontiers in Econometrics*. Academic Press. New York. 105-142.
- McMillen, D.P. & Redfearn, C.L. (2010). Estimation and Hypothesis Testing for Nonparametric Hedonic House Price Functions. *Journal of Regional Science* 50. 712-733.
- Mills, E.S. (1967). An Aggregative Model of Resource Allocation in a Metropolitan Area. *American Economic Review* 57. 197-210.
- Muth, R.F. (1969). *Cities and Housing*. Chicago: University of Chicago Press.
- Newman M.E.J. & Girvan, M. (2004). Finding and Evaluating Community Structure in Networks. *Physical Review* E69, 026113.

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- Pflüger, M. & Südekum, J. (2008). Integration, Agglomeration and Welfare. *Journal of Urban Economics* 63. 544-566.
- Pinkse, J. & Slade, M.E. (2010). The Future of Spatial Econometrics. *Journal of Regional Science* 50. 103-117.
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- Weber, A. (1909). *Über den Standort der Industrien*. Mohr. Tübingen.
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- Wrede, M. (2015b). Wages, Rents, Unemployment, and the Quality of Life: A Consistent Theory-based Measure. *Journal of Regional Science* 55. 609-625.
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