

REAL 946 – **Topics in Urban Economics**

Tuesday 3.00-6.00. Room: JMHH 304

Instructor: Gilles Duranton

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Office hours: By appointment.

Objectives: This course will explore a range of topics related to current research in urban and regional economics: the modelling and estimation of agglomeration economies; the costs of cities and their internal structure with emphasis on land use regulations and transportation; amenities and the local supply of labour; the sizes and functions of cities. Both theory and empirics will be covered. Special attention will be devoted to building bridges with other fields including labour, international, public, IO, and development.

General issues:

1. This course hopes to achieve several objectives:

- Provide you with substantive knowledge about the economics of cities and regions.
- Foster your technical knowledge about a number of modelling aspects, econometrics techniques, and the link between the two.
- Make you think critically (and hopefully creatively) about existing research.
- Improve your ability to present complex research output in a clear and synthetic way.

2. The course builds on standard microeconomic theory (adapted to the complications introduced by space) and econometrics. Familiarity with standard first year microeconomics and empirical methods will be assumed. Given the range of problems that urban and regional economists face, no single empirical approach is expected to fully dominate.

3. The assessment will be made of:

- One mid-term report for a research proposal (15%) due September 26 (week 5).

[[Maximum 5 double-spaced pages]]

- One "data" assignment (15%) due October 10 (week 7).

[[Objective: to replicate the main results of a published paper]]

- One critical evaluation of a paper (20%) due October 31 (week 10).

[[Maximum 5 double spaced pages. I will propose a list but proposals from you are welcome.]]

- One final report for a research proposal (35%) due at the end of term

[[Establish a research question, briefly survey the relevant literature, discuss possible existing data to analyse the question, provide a research design and critically comment it. Preliminary data analysis may also be provided. Alternatively, research proposals for an applied theory paper are also possible. Research proposals need to be discussed with me beforehand.]]

- Class participation (15%)

[[In the second part of the course, many sessions will be organised around one or two papers. For each paper, the discussion should be led by one of us. The others are expected to have looked at the paper as well.]]

4. The data assignment and the research proposal will require the use of Stata.

5. Announcements and other related items will be emailed. Please stay up to date with the course. Most course materials (readings and data) will be posted on Canvas.

6. Class attendance is fundamental. A lot of what you will learn will be during the class and the class will strongly complement everything else.

Syllabus:

1. Agglomeration: Theory

+ Duranton, Gilles and Diego Puga. 2004. Micro-foundations of urban agglomeration economies. In Vernon Henderson and Jacques-François Thisse (eds.) *Handbook of Regional and Urban Economics*, volume 4. Amsterdam: North-Holland, 2063–2117.

2. Agglomeration: Empirics

+ Combes, Pierre- Philippe and Laurent Gobillon. 2015. The empirics of agglomeration economies. In Gilles Duranton, J. Vernon Henderson, and William C. Strange (eds.) *Handbook of Regional and Urban Economics*, volume 5. Amsterdam: North-Holland.

IV:

- Combes, Pierre- Philippe, Gilles Duranton, Laurent Gobillon, and Sébastien Roux. 2010. Estimating agglomeration economies with history, geology, and worker effects. In Edward L. Glaeser (ed.) *The Economics of Agglomeration*. Cambridge (Mass.): NBER, 15–65.

Quasi-Experiments:

- Greenstone, Michael, Richard Hornbeck, and Enrico Moretti. 2010. Identifying agglomeration spillovers: Evidence from winners and losers of large plants openings. *Journal of Political Economy* 118(3):536–598.

3. Agglomeration: Empirics part 2

Structural:

+ Ahlfeldt Gabriel M, Stephen J. Redding, Daniel M. Sturm and Nikolaus Wolf. 2015. The economics of density: Evidence from the Berlin Wall. *Econometrica* 83(6): 2127-2189.

- Baum-Snow, Nathaniel and Ronni Pavan. 2010. Understanding the city size wage gap. *Review of Economic Studies* 79(1): 88-127.

- Holmes, Thomas J. 2011. The diffusion of Wal-Mart and economies of density. *Econometrica* 79(1): 253-302.

Identifying the sources of agglomeration:

- Combes, Pierre- Philippe, Gilles Duranton, Laurent Gobillon, Diego Puga and Sébastien Roux. 2012. The Productivity Advantages of Large Cities: Distinguishing Agglomeration from Firm Selection. *Econometrica* 80(6): 2543-2594.

+ De la Roca, Jorge and Diego Puga. 2017. Learning by working in big cities. *Review of Economic Studies* 84(1): 106-142

- Ellison, Glenn, Edward L. Glaeser, and William R. Kerr. 2010. What causes industry agglomeration? Evidence from coagglomeration patterns. *American Economic Review* 100(3):1195–1213.

4. Dispersion: Theory

+ Duranton, Gilles, and Diego Puga. 2015. Urban land use (section 2-5). In Gilles Duranton, J. Vernon Henderson, and William C. Strange (eds.) *Handbook of Regional and Urban Economics*, volume 5. Amsterdam: North-Holland.

5. Dispersion: Empirics

+ Duranton, Gilles, and Diego Puga. 2014. Urban land use (section 6-9). In Gilles Duranton, J. Vernon Henderson, and William C. Strange (eds.) *Handbook of Regional and Urban Economics*, volume 5. Amsterdam: North-Holland.

6. Dispersion: Empirics, part 2

+ Combes, Pierre-Philippe, Gilles Duranton, and Laurent Gobillon. 2017. The costs of agglomeration: Housing and land prices in French cities. Processed, University of Pennsylvania.

+ Hsieh, Chang-Tai, and Enrico Moretti. 2017. Housing constraints and spatial misallocation. Processed, University of California Berkeley.

- Hsieh, Chang-Tai and Peter J. Klenow. 2009. Misallocation and manufacturing TFP in China and India. *Quarterly Journal of Economics* 124(4):1403–1448.

7. Local labour supply and amenities: Theory

- Glaeser, Edward L. and Joshua D. Gottlieb. 2009. The wealth of cities: Agglomeration economies and spatial equilibrium in the United States. *Journal of Economic Literature* 47(4):983–1028.

- Kline, Patrick and Enrico Moretti. 2014. People, places and public policy: some simple welfare economics of local economic development programs. *Annual Review of Economics* 6(0), 629-662.

+ Moretti, Enrico. 2011. Local labor markets. In Orley Ashenfelter and David Card (eds.) *Handbook of Labor Economics*, volume 4. Amsterdam: North-Holland. 1237-1313.

8. Local labour supply and amenities: Empirics

- Albouy, David. 2012. Are big cities really bad places to live? Improving quality-of-life estimates across cities. Processed, University of Michigan.

- Beaudry, Paul, Green, David A., and Sand, Ben. 2014. Spatial equilibrium with unemployment and wage bargaining: Theory and estimation. *Journal of Urban Economics* 79(0), 2–19.

+ Diamond, Rebecca. 2014. The determinants and welfare implications of US workers' diverging location choices by skill: 1980-2000. *American Economic Review* 106(3), 479-524.

- Ganong, Peter and Daniel Shoag. 2017. Why has regional income convergence in the U.S. declined? *Journal of Urban Economics*, forthcoming.

- Lee, Sanghoon and Jeffrey Lin. 2017. Natural amenities, neighborhood dynamics, and persistence in the spatial distribution of income. *Review of Economic Studies*, forthcoming.

- Rappaport, Jordan. 2004. Moving to nice weather. *Regional Science and Urban Economics* 37(3): 375-398.

- Blanchard, Olivier Jean and Lawrence F. Katz. 1992. Regional Evolutions. *Brookings Papers on Economic Activity* 0(1): 1-61.

9. Systems of cities

+ Behrens, Kristian, and Frédéric Robert-Nicoud, 2015. Agglomeration theory with heterogeneous agents. In Gilles Duranton, J. Vernon Henderson, and William C. Strange (eds.) *Handbook of Regional and Urban Economics*, volume 5. Amsterdam: North-Holland.

+ Duranton, Gilles and Diego Puga. 2014. The growth of cities. In Philippe Aghion and Steven N. Durlauf (eds.) *Handbook of Economic Growth*, volume 2B. Amsterdam: North-Holland, 781-853.

10. Urban growth and Zipf's law

+ Duranton, Gilles and Diego Puga. 2014. The growth of cities. In Philippe Aghion and Steven N. Durlauf (eds.) *Handbook of Economic Growth*, volume 2B. Amsterdam: North-Holland, 781-853.

11. Policy (in general equilibrium)

- Kline, Patrick and Enrico Moretti. 2014. Local economic development, agglomeration economies and the big push: 100 years of evidence from the Tennessee Valley Authority. *Quarterly Journal of Economics* 129(1), 275-331.

- Owens, Raymond, III, Esteban Rossi-Hansberg, and Pierre-Daniel Sarte. 2017. Rethinking Detroit. Processed, Princeton University.

- Suárez Serrato, Juan Carlos and Owen Zidar. 2016. Who benefits from state corporate tax cuts? A local labor market approach with heterogeneous firms. *American Economic Review*, 106(9): 2582-2624.

Background

- Glaeser, Edward L. and Joshua D. Gottlieb. 2008. The economics of place-making policies. *Brookings Papers on Economic Activity* 0(1):155–253.

12. Transportation

- Brinkman, Jeffrey and Jeff Lin. 2017. Freeway revolt! Work in progress, Federal Reserve Bank of Philadelphia.

- Akbar, Prottoy A. and Gilles Duranton. 2017. Measuring the cost of congestion in a highly congested city: Bogota. Mimeographed, University of Pennsylvania.

- Arnott, Richard, André de Palma, and Robin Lindsey. 1993. A structural model of peak-period congestion: A traffic bottleneck with elastic demand. *American Economic Review* (1):161–179.

Background

- de Palma, André, Robin Lindsey, and Nathalie Picard. Urban passenger travel demand. In Richard J. Arnott and Daniel P. McMillen (eds.) *A Companion to Urban Economics*. Oxford: Blackwell, 261-280.

- Redding, Stephen J. and Matthew A. Turner, 2015. Transportation costs and the spatial organization of economic activity. In Gilles Duranton, J. Vernon Henderson, and William C. Strange (eds.) *Handbook of Regional and Urban Economics*, volume 5. Amsterdam: North-Holland.

13. Transportation in general equilibrium (theory/quantitative)

- Fajgelbaum, Pablo D. and Edouard Schaal. 2017. Optimal Transport Networks in Spatial Equilibrium. Processed, UCLA.

- Allen, Treb and Costas Arkolakis. 2016. The welfare effects of transportation infrastructure improvements. Processed, Yale University.

14. Land use regulation

- Glaeser, Edward L., Joseph Gyourko, and Raven Saks. 2005. Why is Manhattan so expensive? Regulation and the rise in housing prices. *Journal of Law and Economics* 48(2):331–369.

- Haughwout, Andrew, Matthew A. Turner, and Wilbert van der Klaauw. 2014. Land use regulation and welfare. *Econometrica* 82(4), 1341-1403.

- Saiz, Albert. 2010. The geographic determinants of housing supply. *Quarterly Journal of Economics* 125(3):1253–1296.

15. Measurement and big data

- Burchfield, Marcy, Henry G. Overman, Diego Puga, and Matthew A. Turner. 2006. Causes of sprawl: A portrait from space. *Quarterly Journal of Economics* 121(2): 587–633.
- Duranton, Gilles and Henry G. Overman. 2005. Testing for localisation using microgeographic data. *Review of Economic Studies* 72(4):1077–1106.
- Henderson, Vernon, Adam Storeygard, and David N. Weil. 2012. Measuring economic growth from outer space. *American Economic Review* 102(2), 994-1028.
- Rozenfeld, Hernán D., Diego Rybski, Xavier Gabaix, and Hernán A. Maske. 2011. The area and population of cities: New insights from a different perspective on cities. *American Economic Review* 111(5), 2205-2225.
- Naik, Nikhil, Scott Duke Kominers, Ramesh Raskar, Edward L. Glaeser, and Cesar A. Hidalgo. 2017. Computer Vision Uncovers Predictors of Physical Urban Change. *Proceedings of the National Academy of Sciences* 114(29): 7571-7576.
- Davis, Donald R., Jonathan I. Dingel, Joan Monras, and Eduardo Morales. 2016. How Segregated is Urban Consumption? Processed, Columbia University.

16. Development: slums

- Baruah, Neeraj, Dzhamilya Nigmatulina, Guy Michaels, Ferdinand Rauch, and Tanner Regan. Upgrade slums or invest before they form? Evidence from Tanzania. Work in progress, London School of Economics.
- Henderson, J. Vernon, Tanner Regan, and Anthony J. Venables. 2017. Building the city: urban transition and institutional frictions. Processed, London School of Economics.
- Harari, Mariaflavia and Maisy Wong. 2017. Long-term impacts of slum upgrading: Evidence from the Kampung Improvement Program in Indonesia. Processed, University of Pennsylvania.

17. Urban resilience?

- Hornbeck, Richard and Daniel Keniston. 2017. Creative destruction: Barriers to urban growth and the Great Boston Fire of 1872. *American Economic Review*, forthcoming.
- Michaels, Guy and Ferdinand Rauch. 2017. Resetting the Urban Network: 117-2012. *Economic Journal*, forthcoming.
- Kocornik-Mina, Adriana, Thomas McDermott, Guy Michaels, and Ferdinand Rauch. 2015. Flooded cities. Oxford Department of Economics Discussion Paper, Number 772.

Other possible topics:

- Neighbourhood and urban change (Couture and Handbury wp 2017, Baum-Snow and Hartley 2016, Guerrieri et al JPubEc 2013)
- Structural modelling of housing supply (Murphy wp 2016, Bayer et al E 2016).
- Land assembly and institutions (Libecap and Lueck JPE 2011, Brooks and Lutz unp 2013).
- Real estate and agglomeration (Liu, Rosenthal and Strange, ?)
- Microstructure of housing markets (Han and Strange JUE 2016, Diamon McQuade and Qian wp 2017)
- Innovation and cities