Syllabus:
Introduction to spatial and urban economics mini course

Jordan Rosenthal-Kay*

Federal Reserve Bank of San Francisco
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Meeting: February 11th, 18th, 25th; 2:30-4:00pm, Large conference room

Overview

This mini course consists of three lectures and is intended for both first and second year research assistants. The first two lectures are on **Cities** and **Regions**. These lectures combine theory and highlights of the empirical literature, and focus on using models to interpret data. The last lecture is on **Quantitative Spatial Economics**, aimed at teaching the building blocks of a quantitative spatial model and highlighting frontiers in the use of spatial (e.g., GIS) data.

The material draws on a range of classic and modern contributions. Most papers mentioned will serve as a springboard to discuss material, and the paper itself will not be studied in depth. This comes with a few exceptions denoted with a star*. The notes contain many more references, for the curious!

Logistics

- Format: Three 90-minute sessions
- Materials: Notes provided day-of
- No prerequistes, but I'll assume some knowledge of microeconomics and econometrics.

Course outline on next page.

*The views expressed herein do not necessarily reflect the views of the Federal Reserve Bank of San Francisco or the Federal Reserve System. All errors are my own.

Schedule

Lecture 1 — Cities

- Introduction: what is so special about cities?
  - Cities and economic development
  - Theories of agglomeration economies
- Causal effects, sorting, or selection: The identification of agglomeration effects
  - Combes et al. (2011)* – "The identification of agglomeration economies"
  - Chetty et al. (2016) – "The effects of exposure to better neighborhoods on children"
  - Jane Jacobs vs. Alfred Marshall; Glaeser et al. (1992) – "Growth in cities"
  - De La Roca and Puga (2017) – "Learning by working in big cities"
- Models of urban land use:
  - von Thünen
  - Alonso-Muth-Mills via Duraton and Puga (2015)* – "Urban land use"
  - Lucas and Rossi-Hansberg (2002) – "On the internal structure of cities"

Lecture 2 — Regions

- Systems of cities and the new economic geography
  - Henderson (1974)* – "The sizes and types of cities"
  - Krugman (1991)* – "Increasing returns and economic geography"
  - Krugman and Venables (1995) – "Globalization and the inequality of nations"
- The location of cities and path dependence
  - Gabaix (1999) – "Zipf's law: an explanation"
  - Davis and Weinstein (2002)* – "Bones, bombs, and break points"
  - Bleakley and Lin (2012)* – "Portage and path dependence"
  - Kline and Moretti (2014) – "Local economic development"

Lecture 3 — Quantitative Spatial Economics

- Rosen-Roback models and spatial equilibrium
- Quantitative spatial models: trade, migration, commuting and structural gravity
  - Allen and Arkolakis (2014)* – "Trade and the topography of the spatial economy"
  - Bryan and Morten (2019) – "The aggregate productivity effects of internal migration"

  - Ahlfeldt et al. (2015) – "The economics of density: Evidence from the Berlin Wall"

- Spatial data frontiers (In progress)
  - Nightlights: Henderson et al. (2011, 2018) – "A bright idea for measuring economic growth"
  - Traffic data – TBD
  - Cell phone data – TBD

Selected References

Ahlfeldt, Gabriel M et al. (2015). "The economics of density: Evidence from the Berlin Wall". In: *Econometrica* 83.6, pp. 2127–2189.

Allen, Treb and Costas Arkolakis (2014). "Trade and the Topography of the Spatial Economy". In: *The Quarterly Journal of Economics* 129.3, pp. 1085–1140.

Bleakley, Hoyt and Jeffrey Lin (2012). "Portage and path dependence". In: *The quarterly journal of economics* 127.2, pp. 587–644.

Bryan, Gharad and Melanie Morten (2019). "The aggregate productivity effects of internal migration: Evidence from Indonesia". In: *Journal of Political Economy* 127.5, pp. 2229–2268.

Chetty, Raj, Nathaniel Hendren, and Lawrence F Katz (2016). "The effects of exposure to better neighborhoods on children: New evidence from the moving to opportunity experiment". In: *American Economic Review* 106.4, pp. 855–902.

Combes, Pierre-Philippe, Gilles Duranton, and Laurent Gobillon (2011). "The identification of agglomeration economies". In: *Journal of economic geography* 11.2, pp. 253–266.

Davis, Donald R and David E Weinstein (2002). "Bones, bombs, and break points: the geography of economic activity". In: *American economic review* 92.5, pp. 1269–1289.

Duranton, Gilles and Diego Puga (2015). "Urban land use". In: *Handbook of regional and urban economics*. Vol. 5. Elsevier, pp. 467–560.

Gabaix, Xavier (1999). "Zipf's law for cities: an explanation". In: *The Quarterly journal of economics* 114.3, pp. 739–767.

Glaeser, Edward et al. (1992). "Growth in cities". In: *Journal of political economy* 100.6, pp. 1126–1152.

Henderson, J Vernon (1974). "The sizes and types of cities". In: *The American Economic Review* 64.4, pp. 640–656.

Henderson, Vernon, Adam Storeygard, and David N Weil (2011). "A bright idea for measuring economic growth". In: *American Economic Review* 101.3, pp. 194–199.

Kline, Patrick and Enrico Moretti (2014). "Local economic development, agglomeration economies, and the big push: 100 years of evidence from the Tennessee Valley Authority". In: *The Quarterly journal of economics* 129.1, pp. 275–331.

Krugman, Paul (1991). "Increasing returns and economic geography". In: *Journal of political economy* 99.3, pp. 483–499.

Krugman, Paul and Anthony J Venables (1995). "Globalization and the Inequality of Nations". In: *The quarterly journal of economics* 110.4, pp. 857–880.

Lucas, Robert E and Esteban Rossi-Hansberg (2002). "On the internal structure of cities". In: *Econometrica* 70.4, pp. 1445–1476.

Roca, Jorge De La and Diego Puga (2017). "Learning by working in big cities". In: *The Review of Economic Studies* 84.1, pp. 106–142.