Quantitative Spatial Economics (Econ 881-05)

The class explores tools for analyzing questions with a spatial dimension, such as assessing the geographic impact of a policy. We will cover topics including quantitative urban models, regional spatial models, firm entry models, migration models, spatial growth dynamics, and the design and evaluation of spatial policies.

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Office hours: by appointment

The class generally meets Monday 4:40pm – 7:10pm in room 111, Social Sciences Building. An exception is the first week, when we will meet on Wednesday, January 8, at the regular time. This course is taking place over 7 weeks.

1. Quantitative Urban Model(s)

Ahlfeldt, Sturm, Redding, and Wolf (2015), "The Economics of Density: Evidence from the Berlin Wall," *Econometrica*

Dingel and Tintelnot (2023): "Spatial Economics for Granular Settings," Working Paper

Redding (2024), "Quantitative Urban Models," In preparation for the Handbook of Regional and Urban Economics

Allen, Arkolakis, and Li (2024): "On the Equilibrium Properties of Spatial Models," American Economic Review: Insights

Glaeser (2008): "Cities, Agglomeration and Spatial Equilibrium," Oxford University Press

Brueckner (2011): "Lectures on Urban Economics," MIT Press

2. Quantitative Spatial Model(s)

Allen and Arkolakis (2014): "Trade and the Topography of the Spatial Economy," Quarterly Journal of Economics

Allen and Arkolakis (2024): “Quantitative Economic Geography,” In preparation for the Handbook of Regional and Urban Economics

Roback (1982): “Wages, Rents, and the Quality of Life,” Journal of Political Economy

Rosen (1979): “Wage-Based Indexes of Urban Quality of Life,” Current Issues in Urban Economics

Krugman (1991): “Increasing Returns and Economic Geography,” Journal of Political Economy

3. Models of entry

Bresnahan and Reis (1991): “Empirical Models of Discrete Games, Journal of Econometrics

Heckman (1978): “Dummy Endogenous Variables in a Simultaneous Equation System,” Econometrica

Seim (2006): “An empirical model of firm entry with endogenous product-type choices,” American Economic Review

Jia (2008): “What Happens when Wal-Mart comes to Town: An Empirical Analysis of the Discount Retailing Industry,” Econometrica

Wollmann (2018): “Trucks without Bailouts: Equilibrium Product Characteristics for Commercial Vehicles,” American Economic Review

Holmes (2011): “The Diffusion of Walmart and the Economies of Density,” Econometrica

4. Models of migration

Kennan and Walker (2011): “The Effect of Expected Income on Individual Migration Decisions,” Econometrica

Caliendo, Dvorkin, and Parro (2019: “Trade and Labor Market Dynamics: General Equilibrium Analysis of the China Trade Shock,” Econometrica

Kleinman, Liu, and Redding (2023): “Dynamic Spatial General Equilibrium,” Econometrica

5. Spatial Growth

Desmet and Rossi-Hansberg (2014): “Spatial Development,” American Economic Review

Allen and Donaldson (2022): “Persistence and Path Dependence in the Spatial Economy,” Working Paper

De la Roca and Puga (2017): “Learning by working in big cities.” Review of Economic Studies

Crews (2024): “A Dynamic Spatial Knowledge Economy,” Working Paper

6. Spatial policies

Fajgelbaum and Schaal (2020): “Optimal transport networks in spatial equilibrium,” Econometrica

Fajgelbaum and Gaubert (2020): “Optimal spatial policies, geography, and sorting,” Quarterly Journal of Economics

Slattery (2024): “Bidding for Firms: Subsidy Competition in the U.S.” Journal of Political Economy

Holmes (1998): “The Effect of State Policies on the Location of Manufacturing: Evidence from State Borders,” Journal of Political Economy

Almagro, Barbieri, Castillo, Hickok, and Salz (2024): “Optimal Transportation Policy: Evidence from Chicago,” Working Paper

7. Miscalleneous Topics

Suggested topics: Spatial Climate Change, Spatial Environmental Economics, Local Labor Markets, Spatial Consumption, Segregation, Measurement of agglomeration effects, Transportation

Holmes (1999): “Localization of Industry and Vertical Disintegration,” Review of Economics and Statistics

Assignments:

1. Class Participation (15%)
2. Two Problem Sets (50%)
3. Class Presentation (35%)

We will have class presentations in week 7 of the course. Depending on the enrollment size, this will be an individual presentation or a group presentation. You can present a recent paper that fits under the Miscalleneous topics.