

Spatial Economics

Econ 33550

Mondays and Wednesdays, 8:00am to 9:20am

Saieh Hall for Economics 203

University of Chicago

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Syllabus

Overview: This is a graduate second-year Ph.D. course in the Trade and Growth sequence. The course will discuss recent advances in spatial modeling and quantification that allow us to study trade, migration, as well as urban, regional, national, and global growth in a unified spatial general equilibrium framework. These frameworks can be quantified using a variety of data to perform detailed policy counterfactual exercises. These exercises can help us understand the impact of trade and migration policy as well as local and national fiscal policy, transportation policy, and the effect of regional shocks including the ones associated with climate change.

Grading: Your grade for this course will be based on two problem sets and class participation (including a paper presentation if enrollment permits). Please do the required reading ahead of time and come to class prepared to discuss the related topics.

Outline and Readings

- **Quantitative Spatial Economics**

- Required Readings:

- Redding and Rossi-Hansberg. 2017. “**Quantitative Spatial Economics**,” *Annual Review of Economics*.

- Optional Readings:

- Desmet and Henderson. 2015. “**The Geography of Development within Countries**,” Chapter 22 in the *Handbook of Regional and Urban Economics*.
 - Duranton and Puga. 2011. “**Micro-Foundations of Urban Agglomeration Economies**,” Chapter 48 in the *Handbook of Urban and Regional Economics*.
 - Proost and Thisse. 2019. “**What Can Be Learned from Spatial Economics?**,” *Journal of Economic Literature*.

- **Two Quantitative Models for Regions**

- Required Readings:
 - Allen and Arkolakis. 2014. "Trade and the Topography of the Spatial Economy," *Quarterly Journal of Economics*.
 - Caliendo, et al. 2018. "The Impact of Regional and Sectoral Productivity Changes on the U.S. Economy," *Review of Economic Studies*.
- Optional Readings:
 - Redding. 2016. "Goods Trade, Factor Mobility and Welfare," *Journal of International Economics*.
 - Rossi-Hansberg. 2005. "A Spatial Theory of Trade," *American Economic Review*.
 - Krugman 1991. "Increasing Returns and Economic Geography," *Journal of Political Economy*.

- **Commuting in Urban and Regional Models**

- Required Readings:
 - Monte, et al. 2018. "Commuting, Migration and Local Employment Elasticities," *American Economic Review*.
- Optional Readings:
 - Ahlfedlt, et al. 2015. "The Economics of Density: Evidence from the Berlin Wall," *Econometrica*.
 - Desmet and Rossi-Hansberg. 2013. "Urban Accounting and Welfare," *American Economic Review*.
 - Lucas and Rossi-Hansberg, 2002, "On the Internal Structure of Cities," *Econometrica*.

- **Transportation Networks**

- Required Readings:
 - Fajgelbaum and Schaal, 2020, "Optimal Transport Networks in Spatial Equilibrium," *Econometrica*.
- Optional Readings:
 - Allen and Arkolakis, 2022, "The Welfare Effects of Transportation Infrastructure Improvements," *Review of Economic Studies*.

- **Optimal Spatial Policy**

- Required Readings:
 - Fajgelbaum and Gaubert. 2020. "Optimal Spatial Policies, Geography, and Sorting," *Quarterly Journal of Economics*.
 - Rossi-Hansberg, et al. 2022. "Cognitive Hubs and Spatial Redistribution," working paper.
- Optional Readings:

- Fajgelbaum et al. 2019. “**State Taxes and Spatial Misallocation**,” *Review of Economic Studies*.
 - Gaubert et al. 2020. “**Place-based Redistribution**,” working paper.
 - Owens, et al. 2020. “**Rethinking Detroit**,” AEJ: Economic Policy.
 - Rossi-Hansberg. 2004. “**Optimal Urban Land Use and Zoning**,” *Review of Economic Dynamics*.
- **Labor Markets Frictions and Dynamic Adjustments**
 - Required Readings:
 - Caliendo, et al. 2019. “**Trade and Labor Market Dynamics**,” *Econometrica*
 - Bilal. 2023. “**The Geography of Unemployment**,” *Quarterly Journal of Economics*.
 - Optional Readings:
 - Caliendo, et al. 2021. “**Goods and Factor Market Integration: A Quantitative Assessment of EU Enlargement**,” *Journal of Political Economy*.
 - Teulings and Gautier. 2009. “**Search and the City**,” *Regional Science and Urban Economics*.
- **Spatial Growth**
 - Required Readings:
 - Desmet, et al. 2018. “**The Geography of Development**,” *Journal of Political Economy*
 - Kleinman, et al. 2023. “**Dynamic Spatial General Equilibrium**,” *Econometrica*.
 - Optional Readings:
 - Ahlfeldt, et al. 2021. “**Quality of Life in a Dynamic Spatial Model**,” working paper.
 - Allen and Donaldson. 2022. “**Persistence and Path Dependence in the Spatial Economy**,” working paper.
 - Crews. 2023. “**A Dynamic Spatial Knowledge Economy**,” working paper.
 - Desmet and Rossi-Hansberg. 2014. “**Spatial Development**,” *American Economic Review*.
- **Urban Growth and the Size Distribution of Cities**
 - Required Readings:
 - Gabaix. 1999. “**Zipf's Law for Cities: An Explanation**,” *Quarterly Journal of Economics*.
 - Rossi-Hansberg and Wright. 2007. “**Urban Structure and Growth**,” *Review of Economic Studies*.
 - Optional Readings:
 - Black and Henderson. 1999. “**A Theory of Urban Growth**,” *Journal of Political Economy*.
 - Bleakley and Lin. 2012. “**Portage and Path Dependence**,” *Quarterly Journal of Economics*.

- Duranton. 2007. “Urban Evolutions: The Fast, the Slow, and the Still,” *American Economic Review*.
- Eeckhout. 2004. “Gibrat's Law for (All) Cities,” *American Economic Review*.
- Gabaix and Ioannides. 2003. “The Evolution of City Size Distributions,” Chapter 53 of the *Handbook of Economic Geography*.
- Glaeser and Gyourko. 2005. “Urban Decline and Durable Housing,” *Journal of Political Economy*.

- **Sorting, Migration, and Location Decisions**

- Required Readings:

- Behrens, et al. 2014. “Productive Cities: Sorting, Selection, and Agglomeration,” *Journal of Political Economy*.
- Bilal and Rossi-Hansberg. 2021. “Location as an Asset,” *Econometrica*.
- Diamond and Gaubert. 2022. “Spatial Sorting and Inequality,” *Annual Review of Economics*.
- De la Roca and Puga. 2017. “Learning by Working in Big Cities,” *Review of Economic Studies*.
- Eeckhout, et al. 2014. “Spatial Sorting,” *Journal of Political Economy*.

- Optional Readings:

- Bryan and Morten. 2019. “The Aggregate Productivity Effects of Internal Migration: Evidence from Indonesia,” *Journal of Political Economy*.
- Couture, et al. 2023. “Income Growth and the Distributional Effects of Urban Spatial Sorting,” *Review of Economic Studies*.
- Miyauchi, et al. 2022. “Consumption Access and the Spatial Concentration of Economic Activity: Evidence from Smartphone Data,” working paper.

- **Firm and Plant Location Across Space**

- Required Readings:

- Gaubert. 2018. “Firm Sorting and Agglomeration,” *American Economic Review*.
- Hsieh and Rossi-Hansberg. 2023. “The Industrial Revolution in Services,” *Journal of Political Economy: Macroeconomics*.
- Oberfield, et al. 2023. “Plants in Space,” forthcoming in the *Journal of Political Economy*.

- Optional Readings:

- Combes, et al. 2012. “The Productivity Advantages of Large Cities: Distinguishing Agglomeration from Firm Selection,” *Econometrica*.
- Holmes. 2011. “The Diffusion of Walmart and Economies of Density,” *Econometrica*.
- Rossi-Hansberg, et al. 2021. “Diverging Trends in National and Local Concentration,” *NBER Macroeconomics Annual*.

- **Climate Change and Spatial Economics**

- Required Readings:

- Cruz and Rossi-Hansberg. 2023. "The Economic Geography of Global Warming," forthcoming in the *Review of Economic Studies*.
- Desmet, et al. 2021. "Evaluating the Economic Cost of Coastal Flooding", *American Economic Journals: Macroeconomics*
- Desmet and Rossi-Hansberg. 2023. "Climate Change Economics over Time and Space," forthcoming in *Annual Review of Economics*.

- Optional Readings:

- Bilal and Rossi-Hansberg. 2023. "Anticipating Climate Change Across the United States," working paper.
- Castro-Vincenzi. 2023. "Climate Hazards and Resilience in the Global Car Industry," working paper.
- Conte, et al. 2021. "Local Sectoral Specialization in a Warming World." *Journal of Economic Geography*.
- Cruz. 2023. "Global Warming and Labor Market Reallocation," working paper.
- Desmet and Rossi-Hansberg. 2015. "On the Spatial Economic Impact of Global Warming," *Journal of Urban Economics*.
- Farrokhi and Lashkaripour. 2022. "Can Trade Policy Mitigate Climate Change," working paper.
- Nath, 2023. "Climate Change, The Food Problem, and the Challenge of Adaptation through Sectoral Reallocation," working paper.
- Rudik, et al. 2023. "The Economic Effects of Climate Change in Dynamic Spatial Equilibrium," working paper.