

Macro-Spatial Economics

Course Introduction

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Why Does Space Matter for Macroeconomics?

A software engineer in San Francisco earns twice as much as an equally skilled one in Cleveland. Why doesn't that gap close?

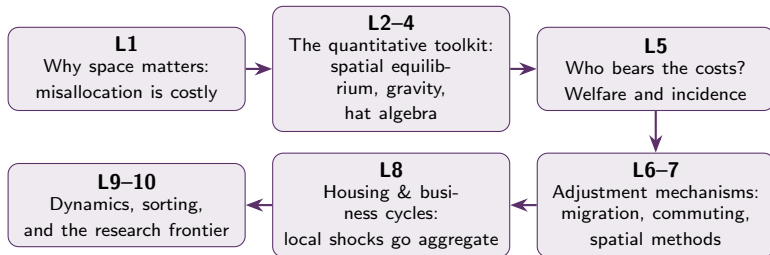
Young Italians and Spaniards move to Northern Europe while Southern regions stagnate. What prevents labour markets from adjusting?

After the 2008 crisis, some US cities recovered in two years, others in ten. Why do local housing shocks become national recessions?

Should governments subsidise declining regions or help workers move to productive ones? How do we even measure the right answer?

How This Course Tackles These Questions

The 10 lectures build a single cumulative argument — each answering a question raised by the previous one.



From **static misallocation** → **dynamic adjustment** → **open frontier questions**

About Me

Roberto Pancrazi

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Research Interests: Macroeconomics, International Economics, and Spatial Economics

Selected Publications

- *Endogenous Partial Insurance and Inequality*, *JEEA* (2020)
- *Real Business Cycles in Emerging Countries?*, *AER* (2010) — with Garcia-Cicco & Uribe

Current Research (Spatial)

Inter-generational Congestion and Spatial Labour Market Outcomes

Age-Income Gaps: The Role of Skill Congestion

Spatial autocorrelation in macroeconomic spatial models

This Course

Guaitoli, Pancrazi & Raimondo (2026): an OLG spatial model with intergenerational congestion → studied in **Lecture 10**

Course Structure

| Lec. | Date | Topic | Key Paper(s) |
|------|--------|-----------------------------------|--|
| 1 | 8 Apr | Why Space Matters for Macro | Hsieh & Moretti (2019) |
| 2 | 9 Apr | Facts, Models, Simple Frameworks | Allen & Arkolakis (2025), §1–3 |
| 3 | 10 Apr | The General Spatial Framework | Allen & Arkolakis (2025), §4–6 |
| 4 | 13 Apr | Empirical Methods & Applications | Allen & Arkolakis (2025), §7+ |
| 5 | 15 Apr | Welfare and Incidence | Desmet & Rossi-Hansberg (2013); Hornbeck & Moretti (2024) |
| 6 | 17 Apr | Migration, Commuting & Adjustment | Monte, Redding & Rossi-Hansberg (2018); Notowidigdo (2020) |
| 7 | 20 Apr | Spatial Econometrics (R) | Sarrias (2020) |
| 8 | 22 Apr | Business Cycles & Housing | Beraja, Hurst & Ospina (2019); Mian, Rao & Sufi (2013) |
| 9 | 23 Apr | Dynamic Spatial Models | Greaney, Parkhomenko & VNW (2025); Caliendo, Dvorkin & Parro (2019) |
| 10 | 24 Apr | Sorting & Optimal Spatial Policy | Guaitoli, Pancrazi & Raimondo (2026); Fajgelbaum & Gaubert (2020) |

Materials and readings: robertopancrazi.com/macro-spatial-eui/

What You Will Learn

Theoretical Tools

- Spatial equilibrium framework (Roback, Krugman)
- General quantitative spatial model (Allen & Arkolakis)
- Welfare and incidence accounting
- Dynamic and OLG spatial equilibrium models

Empirical Tools

- Gravity equation estimation
- Exact hat algebra for counterfactuals
- Shift-share (Bartik) instruments
- Spatial econometrics: Moran's I, spatial lag & error models
- R: `sf`, `spdep`

The Full Pipeline

By the end of this course you will be able to take a spatial question, build a structural model, bring it to data, and evaluate a policy counterfactual — the complete workflow of modern spatial macroeconomics.

Assessment

10% — Attendance

Regular attendance is expected and contributes to the final grade.

90% — Referee Report

- I will select a set of recent **job market papers** in spatial macroeconomics
- Each student chooses **one paper** and writes a referee report
- Goal: assess the paper's contribution, identify what must be fixed, and propose research extensions

Finding Papers

A good source for recent JMPs:

tradediversion.net

Important: use only papers in **spatial economics** — not trade papers.

Look for JMPs on topics covered in this course: spatial misallocation, housing, migration, sorting, dynamic spatial models.

This exercise trains a core academic skill: critical reading and constructive engagement with frontier research.

Referee Report: Structure

- 1 Summary** *(1–2 paragraphs)*
Brief, precise description of what the paper does: research question, methodology, main finding. No evaluation yet.
- 2 Assessment of the Contribution**
How does this paper advance the literature covered in the course? What is genuinely new — in theory, in data, or in method? Be specific.
- 3 Major Concerns** *must address for publication*
What prevents publication in a top journal? Issues with identification, internal consistency, missing robustness checks, or fundamental model limitations.
- 4 Minor Concerns** *second-order but required*
Additional issues that must be addressed but do not threaten the core contribution: presentation, notation, missing references, extensions.
- 5 Research Ideas** *relevant for the course*
What interesting questions does this paper open up? What would be worth investigating next, and how might one approach it?