

ECON 7387– Section 20222
ECONOMIC ANALYSIS OF URBAN AREAS

Meets TTh 1-2:30pm in 115 Bates Law

My office: 201-H Teaching Unit 2 (TU2), phone: 713-743-3799
hours: by appointment in person or via Zoom (send email request with “grad urban” plus topic in subject line)
email: jkohlhase@uh.edu
web pages: <http://www.uh.edu/~kohlhase> (general information)
<http://www.uh.edu/canvas> (class website on Canvas; password access)

TA: Ryan McGregor, a 5th year economics PhD student; office 49C TU2; email rpmcgregor@uh.edu. Office hours by appointment (in person or via TEAMS). Send Ryan an email request with “grad urban” plus topic in the subject line.

Overview: This course is a Ph.D.-level applied microeconomics course focusing on urban economics. The field is quite diverse and could easily take up a two-semester sequence, so we will only be able to cover selected topics in this one-semester course. The course begins by examining the monocentric city model by developing bid-rent functions and performing comparative static predictions of the model. We empirically test the predictions of the monocentric model and analyze extensions to polycentric cities. Other topics include the economics of agglomeration economies, hedonics and housing markets, neighborhood effects and sorting, spatial equilibrium across cities and urban transportation issues. We also explore some current issues in urban economics by looking at research about the impacts of natural disasters, climate change and COVID on the urban economy. Other topics may be added depending on the interests of the class.

Learning Outcomes:

- Students will attain through lectures, problem sets, readings and guided writing, substantive knowledge about the economics of cities and regions.
- Students will improve their technical knowledge about a number of modelling aspects, econometrics techniques, and the link between the two.
- Students will improve their critical thinking (and hopefully creativity) about existing research on cities and regions.
- Students will improve their ability to present complex research output in a clear and succinct way.

Logistics: Classes will meet face-to-face. However, occasionally classes may be delivered asynchronously online or synchronously online via Zoom depending on circumstances.

Prerequisites: Students should have completed the first-year Ph.D. sequence in microeconomic theory, and at least one course in econometrics. Familiarity with Stata is also assumed.

Recommended Textbooks:

Edward L. Glaeser, *Cities, Agglomeration and Spatial Equilibrium*,
2008, Oxford University Press, ISBN978-0-19-929044-4 (**Glaeser**)
Masahisa Fujita, *Urban Economic Theory: Land Use and City Size*,
1989, Cambridge University Press, ISBN 0-521-34662-2 (**Fujita**)

Handbooks of Urban and Regional Economics:

1. *Handbook of Urban and Regional Economics, vol. 2, Urban Economics*, edited by E.S. Mills (Amsterdam: Elsevier, 1988), (**Handbook 2**)
2. *Handbook of Urban and Regional Economics, vol. 3, Applied Urban Economics*, edited by P. Cheshire and E.S. Mills (Amsterdam: Elsevier, 1999), (**Handbook 3**)
3. *Handbook of Regional and Urban Economics, vol. 4, Cities and Geography*, edited by J.V. Henderson and J. F. Thisse (Amsterdam: Elsevier, 2006), (**Handbook 4**). Draft papers available at <http://www.econ.brown.edu/Faculty/henderson/handbook.html>.
4. *Handbook of Regional and Urban Economics, vol.5A & vol. 5B*, edited by Gilles Duranton, J. Vernon Henderson and William C. Strange (Amsterdam: Elsevier, 2015), (**Handbook 5**). Drafts of each chapter are available at <http://real.wharton.upenn.edu/~duranton/handbook.html>

Recommended Undergraduate Texts for intuition and background:

Jan K. Brueckner, *Lectures on Urban Economics*, MIT Press, 2011.

Arthur O'Sullivan, *Urban Economics*, 9th edition, McGraw-Hill, 2019.

Course Evaluation: (*subject to revision*)

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|-----|---|
| 40% | Research Project Proposal (ongoing throughout the semester) |
| 30% | Problem sets |
| 10% | Referee report on unpublished paper(s) |
| 20% | Class presentation on published research or your own project proposal |

There will be 3-4 problem sets, and at least one will involve the use of Stata. We may also learn some digital mapping and may use QGIS and/or ArcGIS. The goal of the research project proposal is to develop the beginnings of an urban empirical project

by the end of the course, with the ultimate goal to submit the finished project to a journal sometime after the course is completed. There will be guided steps provided to complete the research proposal throughout the course. Each student will also analyze one or more unpublished articles in the style of a written referee report (paper selection subject to my approval). Finally each student will present research to the class, either his/her own research proposal developed during the semester or published articles (subject to my approval) related to the research proposal.

Course Policies: I expect you to attend all classes and to be an active participant in each. Problem sets and other course materials will be posted on our class Canvas website. I may have to post large data sets on Dropbox. All assignments are mandatory. No late assignments accepted. You may form study-groups (in fact I encourage you to do so), but each student must turn in her/his own problem sets. Each problem set in must be unique and original. **The Honesty code of the University of Houston applies in this course:** (see <http://publications.uh.edu/content.php?catoid=33&navoid=12165>)

Use of Artificial Intelligence (AI) Resources

You may use AI programs (e.g. ChatGPT etc.) to help generate ideas and brainstorm. However, you should note that the material generated by these programs may be inaccurate, incomplete, or otherwise problematic. Beware that their use may also stifle your own independent thinking and creativity.

You may not submit any work generated by an AI program as your own. If you include material generated by an AI program, it must be cited like any other reference material.

Any plagiarism or other form of cheating will be dealt with severely under relevant UH policies.

Required Information from the University of Houston

Mental Health and Wellness Resources

The University of Houston has a number of resources to support students' mental health and overall wellness, including [CoogsCARE](#) and the [UH Go App](#). UH [Counseling and Psychological Services \(CAPS\)](#) offers 24/7 mental health support for all students, addressing various concerns like stress, college adjustment and sadness. CAPS provides individual and couples counseling, group therapy, workshops and connections to other support services on and off-campus. For assistance visit uh.edu/caps, call 713-743-5454, or visit a [Let's Talk](#) location in-person or virtually. [Let's Talk](#) are daily, informal confidential consultations with CAPS therapists where no appointment or paperwork is needed.

The [Student Health Center](#) offers a Psychiatry Clinic for enrolled UH students. Call 713-743-5149 during clinic hours, Monday through Friday 8 a.m. - 4:30 p.m. to schedule an appointment.

The [A.D. Bruce Religion Center](#) offers spiritual support and a variety of programs centered on well-being.

Need Support Now?

If you or someone you know is struggling or in crisis, help is available. Call CAPS crisis support 24/7 at 713-743-5454, or the National Suicide and Crisis Lifeline: call or text [988](tel:988), or chat 988lifeline.org.

Academic Honesty Policy

High ethical standards are critical to the integrity of any institution, and bear directly on the ultimate value of conferred degrees. All UH community members are expected to contribute to an atmosphere of the highest possible ethical standards. Maintaining such an atmosphere requires that any instances of academic dishonesty be recognized and addressed. The [UH Academic Honesty Policy](#) is designed to handle those instances with fairness to all parties involved: the students, the instructors, and the University itself. All students and faculty of the University of Houston are responsible for being familiar with this policy.

Title IX/Sexual Misconduct

Per the UHS Sexual Misconduct Policy, your instructor is a “responsible employee” for reporting purposes under Title IX regulations and state law and must report incidents of sexual misconduct (sexual harassment, non-consensual sexual contact, sexual assault, sexual exploitation, sexual intimidation, intimate partner violence, or stalking) about which they become aware to the Title IX office. Please know there are places on campus where you can make a report in confidence. You can find more information about resources on the Title IX website at <https://uh.edu/equal-opportunity/title-ix-sexual-misconduct/resources/>.

Reasonable Academic Adjustments/Auxiliary Aids

The University of Houston is committed to providing an academic environment and educational programs that are accessible for its students. Any student with a disability who is experiencing barriers to learning, assessment or participation is encouraged to contact the Justin Dart, Jr. Student Accessibility Center (Dart Center) to learn more about academic accommodations and support that may be available to them. Students seeking academic accommodations will need to register with the Dart Center as soon as possible to ensure timely implementation of approved accommodations. Please contact the Dart Center by visiting the website: <https://uh.edu/accessibility/> calling (713) 743-5400 or emailing jdcenter@Central.UH.EDU.

Excused Absence Policy

Regular class attendance, participation, and engagement in coursework are important contributors to student success. Absences may be excused as provided in the University of Houston [Undergraduate Excused Absence Policy](#) and [Graduate Excused Absence Policy](#) for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Under these policies, students with excused absences will be provided with an opportunity to make up any quiz, exam or other work that contributes to the course grade or a satisfactory alternative. Please read the full policy for details regarding reasons for excused absences, the approval process, and extended

absences. Additional policies address absences related to [military service](#), [religious holy days](#), [pregnancy and related conditions](#), and [disability](#).

Recording of Class

Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the [Justin Dart, Jr. Student Accessibility Center](#). If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructor's recordings for their own studying and notetaking. Instructor's recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.

Other Helpful Information from the University of Houston

Emergency Updates (weather and other): www.uh.edu/emergency

Student Health Center: <https://uh.edu/class/english/lcc/current-students/student-health-center/index.php>

Course Outline and Reading List

Note: The course outline is subject to revision; not all papers and topics will be covered. More papers may be added.

Pre-1. Symposiums & Review Articles about Urban Economics

Anas, Alex, Richard Arnott and Kenneth A. Small, “Urban Spatial Structure,” *Journal of Economic Literature*, vol 36 (Sept. 1998), pp. 1426-1464.

Glaeser, Edward L. & Joshua D. Gottlieb, “The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States,” *Journal of Economic Literature*, 47 (4) (Dec. 2009), pp.983-1028.

Symposiums: Productivity Advantages of Cities, Place-Based Policies & Cities in Developing Countries, 8 articles in the *Journal of Economic Perspectives*, vol. 34 (3), Summer 2020.

Special Issue on the Delineation of Urban Areas, 10 articles in the *Journal of Urban Economics*, September 2021.

1. The Monocentric City Model

Glaeser, Chapter 2.

Fujita, Chapter 2.

Zenou, Yves, “Appendix A: Basic Urban Economics,” in *Urban Labor Markets*, 2009, Cambridge University Press.

Brueckner, Jan, “The Structure of Urban Equilibria: A Unified Treatment of the Muth-Mills Model,” *Handbook 2*.

Anas, Alex, Richard Arnott, and Kenneth A. Small, “Urban Spatial Structure,” *Journal of Economic Literature* 36 (1998), 1426-1464.

Berliant, Marcus and Courtney LaFountain, “Space in General Equilibrium,” in Richard J. Arnott and Daniel P. McMillen (eds.), *A Companion to Urban Economics* (2006), 109-127.

Kraus, Marvin, “Monocentric Cities,” in Richard J. Arnott and Daniel P. McMillen (eds.), *A Companion to Urban Economics* (2006), 96-108.

Three Classics:

W. Alonso, *Location and Land Use*, Harvard University Press (1964).

E. S. Mills, “An Aggregative Model of Resource Allocation in a Metropolitan Area. *The American Economic Review* 57:2 (1967), 197—210.

R.F. Muth, *Cities and Housing*, University of Chicago Press (1969).

2. The Monocentric City Model--Extensions

Glaeser, Chapter 2

Baum-Snow, Nathaniel, "Suburbanization and Transportation in the Monocentric Model," *Journal of Urban Economics* 62 (2007), 405-423.

Brueckner, Jan K., "Residential Succession and Land-Use Dynamics in a Vintage Model of Urban Housing," *Regional Science and Urban Economics* 10 (1980), 225-240.

Brueckner, Jan K., "A Dynamic Model of Housing Production," *Journal of Urban Economics* 10 (1981), 1-14.

Brueckner, Jan K., Jacques-Francois Thisse, and Yves Zenou, "Why is Central Paris Rich and Downtown Detroit Poor? An Amenity-Based Theory," *European Economic Review* 43 (1999), 91-107.

Hanson, Andrew, Kurt Schnier, and Geoffrey K. Turnbull, "Drive 'Til You Qualify: Credit Quality and Household Location," *Regional Science and Urban Economics*, 42 (2012), pp.63-77.

Leroy, Stephen F. and Jon Sonstelie, "Paradise Lost and Regained: Transportation Innovation, Income, and Residential Location," *Journal of Urban Economics* 13 (1983), 67-89.

Wheaton, William C., "Urban Spatial Development with Durable but Replaceable Capital," *Journal of Urban Economics* 12 (1982): 53-67.

3. The Monocentric City Model--Empirics

Ahlfeldt, Gabriel M. and Nicolai Wendland, "Fifty Years of Urban Accessibility: The Impact of Urban Railway Network on the Land Gradient in Berlin 1890-1936," *Regional Science and Urban Economics*, 41:2 (March 2011), 77-88.

Burchfield, Marcy, Henry G. Overman, Diego Puga, and Matthew A. Turner, "Causes of Sprawl: A Portrait from Space," *Quarterly Journal of Economics* 121 (2006), 587-633.

Coulson, N. Edward, "Really Useful Tests of the Monocentric City Model," *Land Economics* (1991), 299-307.

Gin, Alan and Jon Sonstelie, "The Streetcar and Residential Location in Nineteenth Century Philadelphia," *Journal of Urban Economics* 32 (1992), 92-107.

Glaeser, Edward L., Matthew E. Kahn, and Jordan Rappaport, "Why Do the Poor Live in Cities? The Role of Public Transportation," *Journal of Urban Economics* 63 (2008), 1-24.

Glaeser, Edward L. and Matthew E. Kahn, "Sprawl and Urban Growth," in J.V. Henderson and J.F. Thisse (eds.), *Handbook 4* (2004), 2481-2527.

Hamilton, Bruce W., "Wasteful Commuting," *Journal of Political Economy* 90 (1982), 1035-58.

Kau, James B., and C.F. Sirmans, "Urban Land Value Functions and the Price Elasticity of Demand for Housing," *Journal of Urban Economics* 6 (1979), 112-121.

McGrath, Daniel T., "More Evidence on the Spatial Scale of Cities," *Journal of Urban Economics* 58 (2005), 1-10.

McMillen, Daniel P., "One Hundred Fifty Years of Land Values in Chicago: A Nonparametric Approach," *Journal of Urban Economics* 40 (1996) 100-124.

McMillen, Daniel P., "Testing for Monocentricity," in Richard J. Arnott and Daniel P. McMillen (eds.), *A Companion to Urban Economics* (2006), 128-140.

McMillen, Daniel, Ronald Jarmin & Paul Thorsnes, "Selection Bias and Land Development in the Monocentric City Model," *Journal of Urban Economics* 31 (1992), 273-284.

Albouy, David, Gabriel Ehrlich and Minchui Shin, "Metropolitan Land Values," *Review of Economics and Statistics* (2018), 100(3), 454-466.

Ahlfeldt, Gabriel and Jason Barr, "The Economics of Skyscrapers: a Synthesis" *Journal of Urban Economics*, May 2022, vol. 129, 103419.

Brueckner, Jan K. and Richi Singh. 2020. Stringency of land-use regulations: Building Heights in US Cities. *Journal of Urban Economics* 116.

The Classic:

Clark, Colin, "Urban Population Densities," *Journal of the Royal Statistical Society, Series A* (1951), 490-496.

4. Agglomeration Economies—Theory and Empirics

Glaeser, Chapter 4.

Krugman, Paul, Ch. 2 "Localization" and Appendix C "Labor Pooling," in *Geography and Trade*, 1991.

Rosenthal, Stuart S. and William C. Strange, "Evidence on the Nature and Sources of Agglomeration Economies," *Handbook 4*, 2119-2171.

Duranton, Gilles and Diego Puga, "Micro-foundations of urban agglomeration economies." *Handbook 4*, 2063-2117.

Combes, Peirre-Philippe and Laurent Gobillon, "The Empirics of Agglomeration Economies," *Handbook 5*, 247-348.

Diodato, Dario, Frank Neffke, Neave O'Clery, "Why do industries coagglomerate? How Marshallian externalities differ by industry and have evolved over time," *Journal of Urban Economics* (2018), 106: 1-26.

Baum-Snow, Nathaniel, Matthew Freedman, and Ronni Pavan, "Why Has Urban Inequality Increased?" *American Economic Journal: Applied Economics* (2018), 10(4): 1-42.

Arbia, Giuseppe, Giuseppe Espa, Diego Giuliani, and Andrea Mazzitelli, "Detecting the Existence of Space-Time Clustering of Firms," *Regional Science and Urban Economics* 40 (2010), 311-323.

Ciccone, Antonio and Robert E. Hall, "Productivity and the Density of Economic Activity," *American Economic Review* 86 (1996), 54-70.

Durantont, Gilles and Henry G. Overman, "Testing for Localisation using Microgeographic Data," *Review of Economic Studies* 72 (2005), 1077-1106.

Ellison, Glenn and Edward L. Glaeser, "Geographic Concentration in U.S. Manufacturing Industries: A Dartboard Approach," *Journal of Political Economy* 105 (1997), 889-927.

Henderson, J. Vernon, "Marshall's Scale Economies," *Journal of Urban Economics* 53 (2003), 1-28.

Holmes, Thomas J., "The Effects of State Policies on the Location of Manufacturing: Evidence from State Borders," *Journal of Political Economy* 106 (1998), 667-705.

Kim, Sukkoo, "Regions, Resources, and Economic Geography, "Sources of U.S. Regional Comparative Advantage, 1880-1987," *Regional Science and Urban Economics* 29 (1999), 1-32.

McMillen, Daniel P. and Thomas Klier, "Evolving Agglomeration in the U.S. Auto Industry," *Journal of Regional Science* 48 (2008), 245-267.

Melo, Patricia, Daniel J. Graham, and Robert B. Noland, "A Meta-Analysis of Urban Agglomeration Economies," *Regional Science and Urban Economics* 39 (2009), 332-342.

Rosenthal, Stuart S. and William C. Strange, "The Determinants of Agglomeration," *Journal of Urban Economics* 50 (2001), 191-229.

Combes, Pierre-Philippe, Gilles Durantont, Laurent Gobillon, Diego Puga, Sebatien Roux, "The Productivity Advantages for Large Cities: Distinguishing Agglomeration from Firm Selection," *Econometrica*, 80:6 (2012), 2543-3594.

5. Polycentric Cities--Theory

Fujita, M. and F. Ogawa, "Multiple Equilibria and Structural Transition of Non-Monocentric Urban Configurations," *Regional Science and Urban Economics* 12 (1982), 161-196.

Ogawa, M. and M. Fujita, "Equilibrium Land Use Patterns in a Non-Monocentric City," *Journal of Regional Science* 20 (1980), 455-465.

Berliant, Marcus and Ping Wang, "Urban Growth and Subcenter Formation: A Trolley Ride from the Staples Center to Disneyland and the Rose Bowl," *Journal of Urban Economics* 63 (2008), 679-693.

Jan K. Brueckner, "A Model of Non-Central Production in a Monocentric City," *Journal of Urban Economics* 6 (1979), 444-463.

A. Anas and I. Kim, "General Equilibrium Models of Polycentric Urban Land Use with Endogenous Congestion and Job Agglomeration," *Journal of Urban Economics* 40 (1996), 232-256.

Fujita, M., J.F. Thisse, and Y. Zenou, "On the Endogenous Formation of Secondary Employment Centers in a City," *Journal of Urban Economics* 41 (1997), 337-357.

Henderson, J.V. and A. Mitra, "The New Urban Landscape: Developers and Edge Cities," *Regional Science and Urban Economics* 26 (1996), 613-643.

Henderson, J.V. and E. Slade, "Development Games in Non-Monocentric Cities," *Journal of Urban Economics* 34 (1993), 207-229.

6. Polycentric Cities--Empirics

Baumont, C., C. Ertur, and J. LeGallo, Spatial Analysis of Employment and Population Density: The Case of the Agglomeration of Dijon 1999," *Geographical Analysis*, **36**, 146-176 (2004).

Craig, S. and P. Ng, "Using Quantile Smoothing Splines to Identify Employment Subcenters in a Multicentric Urban Area," *Journal of Urban Economics* 49 (2001), 100-120.

McDonald, John F., "The Identification of Urban Employment Subcenters," *Journal of Urban Economics* 21 (1987), 242-258.

Giuliano, Genevieve, Christian Redfearn, Ajay Agarwal, Chen Li, and Duan Zhuang, "Employment Concentrations in Los Angeles, 1980-2000," *Environment and Planning A* 39 (2007), 2935-2957.

Craig, Steven, Janet Kohlhase and Adam Perdue, "Empirical Polycentricity: The Complex Relationship Between Employment Centers," *Journal of Regional Science*, 56(1), January (2016), 25-52.

Giuliano, Genevieve and Kenneth A. Small, "Subcenters in the Los Angeles Region," *Regional Science and Urban Economics* 21 (1991), 163-182.

McMillen, Daniel P., "Nonparametric Subcenter Identification," *Journal of Urban Economics* 50 (2001), 448-473.

McMillen, Daniel P., "Identifying Urban Subcenters using Contiguity Matrices," *Urban Studies* 40 (2003), 57-69.

McMillen, Daniel P. and Stefani C. Smith, "The Number of Subcenters in Large Urban Areas," *Journal of Urban Economics* 53 (2003), 321-338.

Redfearn, Christian, "Persistence in Urban Form: The Long-Run Durability of Employment Centers in Metropolitan Areas," *Regional Science and Urban Economics* 39 (2009), 224-232.

Small, K.A. and S. Song, "Population and Employment Densities: Structure and Change," *Journal of Urban Economics* 36 (1994), 292-313.

7. Spatial Equilibrium across Cities

Glaeser, Chapter 3.

N. Baum-Snow, Matthew Freedman and Ronni Pavan, "Why Has Urban Inequality Increased?" *American Economic Journal: Applied Economics*, (forthcoming), WP August 2017.

Desmet, Klaus, and Esteban Rossi-Hansberg, "Urban Accounting and Welfare." *American Economic Review*, 103:6 (2013), 2296-2327.

Albouy, David, "What are Cities Really Worth? Local Rents, Local Productivity, and the Total Value of Amenities," *RESTAT*, 98:3 (July 2016), 477-487 (earlier version NBER working paper 14981).

Albouy, David, "Are Big Cities Really Bad Places to Live? Improving Quality of Life Estimates across Cities," (2012) working paper.

Beeson, Patricia E. and Randall W. Eberts, "Identifying Productivity and Amenity Effects in Interurban Wage Differentials," *Review of Economics and Statistics* 71 (1989), 443-452.

Blomquist, M.C., M.C. Berger, and J.P. Hoehn, "New Estimates of Quality of Life in Metropolitan Areas," *American Economic Review* 78 (1988), 89-107.

Carlino, Gerald and N. Edward Coulson, "Compensating Differentials and the Social Benefits of the NFL," *Journal of Urban Economics* 56 (2004), 25-50.

Chan, Yong and Stuart S. Rosenthal, "Local Amenities and Life-Cycle Migration: Do People Move for Jobs or Fun," *Journal of Urban Economics* 64 (2008), 519-537.

Gabriel, Stuart A. and Stuart S. Rosenthal, "Quality of Business Environment versus the Quality of Life: Do Firms and Households Like the Same Cities," *Review of Economics and Statistics* 86 (2004), 438-444.

Gyourko, Joseph and Joseph Tracy, "The Structure of Local Public Finance and the Quality

of Life,” *Journal of Political Economy* 99 (1991), 774-806.

Gyourko, Joseph, Matthew Kahn, and Joseph Tracy, “Quality of Life and Environmental Considerations,” in Paul Cheshire and Edwin Mills, eds., *Handbook of Regional and Urban Economics Vol. 3* (1999).

Gyourko, Joseph, Christopher Mayer, and Todd Sinai, “Superstar Cities,” *American Economic Journal: Economic Policy*, 5(4): 167-99.

Rappaport, Jordan, “Moving to Nice Weather,” *Regional Science and Urban Economics* 37 (2007), 375-398.

Rappaport, Jordan, “Consumption Amenities and City Population Density,” *Regional Science and Urban Economics* 38 (2008), 533-552.

Edward L. Glaeser & Joshua D. Gottlieb, 2009. "The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States," *Journal of Economic Literature*, vol. 47(4), pp. 983-1028, (earlier version as NBER Working Paper #14806).

The Classic:

Roback, Jennifer, “Wages, Rents, and the Quality of Life,” *Journal of Political Economy* 90, 1257-1278 (1982).

8. Tiebout Sorting, Local Public Finance Theory and Fiscal Federalism

R. Fernandez and R. Rogerson. Income distribution, communities, and the quality of public education. *Quarterly Journal of Economics* 111:1 (1996), 135—164.

Epple, Dennis and Glenn J. Platt, "Equilibrium and Local Redistribution in an Urban Economy when Households Differ by Preferences and Incomes," *Journal of Urban Economics*, 43, (1998), 23-51.

D. Epple and H. Sieg. Estimating equilibrium models of local jurisdictions. *Journal of Political Economy* 107:4 (1999), 645—681.

Bayer, Patrick F. Ferreira, R. McMillan, “A Unified Framework for Measuring Preferences for Schools and Neighborhoods,” *Journal of Political Economy* (2007), 115(4): 558-638.

H.S. Banzhaf & R. Walsh. 2008. “Do People Vote with Their Feet? An Empirical Test of Tiebout’s Mechanism” *American Economic Review*, 98:3 (2008), 843-863.

Calabrese, Epple & Romano, “Inefficiencies from Metropolitan Political and Fiscal Decentralization: Failures of Tiebout Competition” *Review of Economic Studies*, 79: 3 (July 2012), 1081-1111.

L. Boustan “Was Postwar Suburbanization White Flight? Evidence from the Black Migration” *Quarterly Journal of Economics*, 125:1 (2010), 417-443.

Alesina, R. Baqir, and C. Hoxby. Political jurisdictions in heterogeneous communities. *Journal of Political Economy* 112:2 (2004), 348—396.

Bucovetsky “Optimal Jurisdictional Fragmentation and Mobility” *Journal of Public Economics*, 16:2 (1981), 171-191.

P. Rhode & K. Strumpf “Assessing the Importance of Tiebout Sorting: Local Heterogeneity from 1850 to 1990,” *American Economic Review*, 93 (2003) 1648-77

N. Baum-Snow & Byron Lutz “School Desegregation, School Choice, and Changes in Residential Location Patterns by Race” *American Economic Review*, 101:7 (2011), 3019-46.

T. J. Nechyba, “Local Property and State Income Taxes: The Role of Interjurisdictional Competition and Collusion,” *Journal of Political Economy* 105:2 (1997) , 351—384

Fujita Chapter 6

Two Classics:

Oates, W. E., *Fiscal Federalism*, New York: Harcourt Brace Jovanovich (1972).

C. M. Tiebout, “A Pure Theory of Local Expenditures,” *Journal of Political Economy* 64:5 (1956), 416—424.

9. Hedonic Models

Garcia-Lopen, Miquel-Angel, Jordi Jofre-Monseny, Rodrigo Martinez-Mazza & Mariona Segu, “Do Short-Term Rental Platforms Affect Housing Markets? Evidence from Airbnb in Barcelona,” *Journal of Urban Economics*, vol. 119 (Sept. 2020).

Bajari, Patrick and Lanier Benkard, “Demand Estimation with Heterogeneous Consumers and Unobserved Product Characteristics: A Hedonic Approach,” *Journal of Political Economy* 113 (2005), 1239-1276.

Bajari, Patrick and Matthew E. Kahn, “Estimating Housing Demand with an Application to Explaining Racial Segregation in Cities,” *Journal of Business and Economic Statistics* 23 (2005), 20-33.

Bartik, Timothy J., “The Estimation of Demand Parameters in Hedonic Price Models,” *Journal of Political Economy* 95 (1987), 81-88.

Ekeland, Ivar, James J. Heckman, and Lars Nesheim, “Identification and Estimation of Hedonic Models,” *Journal of Political Economy* 112 (2004), S60-S108.

Sheppard, Stephen, “Hedonic Analysis of Housing Markets,” in Paul Cheshire and E.S. Mills, (eds.), *Handbook 3*.

Kohlhase, Janet, "The Impact of Toxic Waste Sites on Housing Values," *Journal of Urban Economics*, 30, (July 1991), 1-26.

N. Kuminoff, V. Kerry Smith and Christopher Timmins, "The New Economics of Equilibrium Sorting and Policy Evaluation Using Housing Markets" *Journal of Economic Literature*, 51:4 (2013), 1007-1062.

Sandra Black, "Do Better Schools Matter? Parental Valuation of Elementary Education," *Quarterly Journal of Economics*, 114:2 (1999), 577-599.

The Classic:

Rosen, Sherwin, "Hedonic Markets and Implicit Prices," *Journal of Political Economy* 82 (1974), 34-55.

10. Housing Supply

Albert Saiz, "The Geographic Determinants of Housing Supply" *Quarterly Journal of Economics*, 125:3 (2011), 1253-1296.

D. Epple, Holger Sieg, B. Gordon "A New Approach for Estimating the Housing Production Function" *American Economic Review* 100:3 (2010), 905-924.

Davidoff, 2017. Supply Constraints are Not Valid Instrumental Variables for Home Prices Because They are Correlated with Many Demand Factors, *Critical Finance Review*, 5:2 (2016), 177-206.

11. House Price Dynamics

Bailey, M. J., R. Muth, and H. O. Nourse, "A Regression Method for Real Estate Price Index Construction," *Journal of the American Statistical Association* 4 (1963), 933-942

Bostic, Raphael W., Stanley D. Longhofer, and Christian L. Redfearn, "Land Leverage: Decomposing Home Price Dynamics," *Real Estate Economics* 35 (2007), 183-208.

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