

The Structure of Cities
Syllabus

Class Meets TTh 9:00-10:20AM in 70 Waterman 203

This is the first of two graduate courses in urban economics. This course covers standard urban land use theory, Tiebout sorting across political jurisdictions, applied econometric methods for spatial data, hedonics, housing, segregation and crime. Empirical examples will be taken primarily from the United States. After taking the course, students will have an understanding of standard urban theory and of empirical evidence on various important applied urban topics. In addition, students will have an understanding of how to manipulate and analyze spatial data sets. This course will prepare students with many of the necessary tools to undertake their own research in urban economics or related fields.

There will be 4 assignments. Problem Set 1 will give students practice in manipulating the standard urban land use model. Problem Set 2 will be a Matlab simulation exercise. Problem Set 3 will be an empirical evaluation of theories covered in class using provided land use data. Assignment 4 will be a mock referee report of a paper to be provided. In addition, each student will have to present one paper on the reading list or of his/her choice with approval to the class. A final paper will be due at the end of January. Due dates for other assignments will be announced later.

Grading: 4 assignments (50%), class presentation (10%), class participation (10%) final paper (30%)

Below is the list of topics and readings. Readings will be announced before being discussed in class.

Students may wish to purchase Masahisa Fujita's book *Urban Economic Theory*, which will serve as a textbook for a few topics in the course.

1. Basic Land Use Theory: The Monocentric City Model

M. Fujita. "Urban Economic Theory". Cambridge University Press, Cambridge (1989). Chapters 1-4*

Brueckner, J., "The Structure of Urban Equilibria: A Unified Treatment of the Muth-Mills Model," in E. S. Mills, ed., *Handbook of Regional and Urban Economics*, Volume 2, 1987

Brueckner, J., "A Note on Sufficient Conditions for Negative Exponential Population Densities," *Journal of Regional Science*, August 1982.

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

E. S. Mills. An aggregative model of resource allocation in a metropolitan area. *The American Economic Review* 57(2), 197—210 (1967).

R. Muth. "Cities and Housing". University of Chicago Press, Chicago (1968).

P. Mieszkowski and E. S. Mills. "The causes of metropolitan suburbanization." *Journal of Economic Perspectives* 7(3), 135—147 (1993).

2. Non-Monocentric Cities & Land Use Empirics

M. Fujita and H. Ogawa. Multiple equilibria and structural transition of nonmonocentric urban configurations. *Regional Science and Urban Economics* 12(1), 161—196 (1982).*

Burchfield, Overman, Puga, Turner. "Causes of Sprawl: A Portrait From Space." *Quarterly Journal of Economics*, May 2006*

N. Baum-Snow. "Did Highways Cause Suburbanization?" *Quarterly Journal of Economics*, May 2007*

R. E. J. Lucas and E. Rossi-Hansberg. On the internal structure of cities. *Econometrica* 70(4), 1445—1476 (2002).

V. J. Henderson and A. Mitra. The new urban landscape: Developers and edge cities. *Regional Science and Urban Economics* 26, 613—643 (1996).

H. Ogawa and M. Fujita. "Equilibrium Land Use Patterns in a Nonmonocentric City" *Journal of Regional Science* 20(4), 455-475 (1980)

M. Fujita, J.-F. Thisse, and Y. Zenou. On the endogenous formation of secondary employment centers in a city. *Journal of Urban Economics* 41, 337—357 (1997).

A. Anas, R. Arnott, and K. Small. "Urban spatial structure." *Journal of Economic Literature* 36, 1426—1464 (1998).

Anas, Alex and Rong Xu, "Congestion, Land Use and Job Dispersion : A General Equilibrium Analysis", *Journal of Urban Economics* , 45,3, 451-473, 1999.

Anas, Alex and Ikki Kim, "General Equilibrium Models of Polycentric Urban Land Use with Endogenous Congestion and Job Agglomeration", *Journal of Urban Economics*, 40, 217-232, 1996.

R. E. J. Lucas. Externalities and cities. *Review of Economic Dynamics* 4, 245—274 (2001).

J. Yinger. City and suburb: Urban models with more than one employment center. *Journal of Urban Economics* 31(2), 181—205 (1992).

3. Tiebout sorting and local public finance

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

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, January (1998), 23-51.*

Calabrese, Epple & Romano, "Inefficiencies from Metropolitan Political and Fiscal Decentralization: Failures of Tiebout Competition" *NBER Working Paper No. 17251**

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

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

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

S. Calabrese, D. Epple and R. Romano "Inefficiencies from Metropolitan Political and Fiscal Decentralization: Failures of Tiebout Competition" working paper

C. De Bartolome. "Equilibrium and Efficiency in a Peer Group Model with Community Effects." *Journal of Political Economy* 98(1), 110-133 (1990)

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

L. Boustan "Was Postwar Suburbanization White Flight? Evidence from the Black Migration" *Quarterly Journal of Economics* (2010)

N. Baum-Snow & Byron Lutz "School Desegregation, School Choice, and Changes in Residential Location Patterns by Race" *American Economic Review* (2011)

C. de Bartolome & S. Ross. "Community Income Distributions in a Metropolitan Area". *Journal of Urban Economics*, Forthcoming

T. J. Nechyba. Local property and state income taxes: The role of interjurisdictional competition and collusion. *Journal of Political Economy* 105(2), 351—384 (1997).

Fujita Chapter 6

C. M. Tiebout. A pure theory of local expenditures. *Journal of Political Economy* 64(5), 416—424 (1956).

D. Epple "Interjurisdictional Sorting and Majority Rule: An Empirical Analysis," with T. Romer and H. Sieg, *Econometrica*, November 2001

4. Applied Spatial Econometrics

Anne Case. "Spatial Patterns in Household Demand," *Econometrica* (1991) 59:4 953-965*

T.G. Conley. "Spatial Econometrics," *New Palgrave Dictionary of Economics* 2009*

A. Case & H. Rosen. "Budget Spillovers and Fiscal Policy Interdependence: Evidence from the States," *Journal of Public Economics* (1993) 52 285-307.*

K. Baicker. "The Spillover Effects of State Spending," *Journal of Public Economics*, Vol. 89, no. 2-3, pp 529-544, February 2005*

T.G. Conley. "GMM Estimation With Cross-Sectional Dependence," *Journal of Econometrics* (1999) 92 1-45

X. Chen & T. Conley. "A New Semiparametric Spatial Model for Panel Time Series," *Journal of Econometrics* (2001) 105 59-83

Giuliano & Small. "Subcenters in the Los Angeles Region." *Regional Science and Urban Economics* (1992) 21:2 163-182

D. McMillen. "Nonparametric Employment Subcenter Identification," *Journal of Urban Economics* 50 (Nov. 2001), 448-473.

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

5. Urban Transportation and Mode Choice

K. Small. "Uncovering the Distribution of Motorists' Preferences for Travel Time and Reliability: Implications for Road Pricing," *Econometrica*, 73 (July 2005), pp. 1367-1382 (with Clifford Winston and Jia Yan)*

Small, Winston & Yan. "Differentiated Road Pricing, Express Lanes, and Carpools: Exploiting Heterogeneous Preferences in Policy Design," *Brookings-Wharton Papers on Urban Affairs* 2006 53-96.*

Ian Parry and K. Small. "Should Urban Transport Subsidies be Reduced?" *American Economic Review* (2009) 99:3 700-724.*

N. Baum-Snow & M. Kahn. "The Effects of Urban Rail Transit Expansions: Evidence from Sixteen Cities." *Brookings-Wharton Papers on Urban Affairs* (2005)*

Durantón & Turner "The Fundamental Law of Road Congestion: Evidence from U.S. Cities" *American Economic Review* (forthcoming)*

D. McFadden. "The Measurement of Urban Travel Demand," *Journal of Public Economics*, Vol. 3, No. 4, 303-328, 1974.

Leroy & Sonstelie. "Paradise Lost and Regained: Transportation Innovation, Income and Residential Location." *Journal of Urban Economics*, 13:1 67-89

Jan Brueckner "The Political Economy of Urban Transport-System Choice" (with Harris Selod), *Journal of Public Economics*, forthcoming (2005).

Fujita Chapter 7

Jan Brueckner "Transport Subsidies, System Choice, and Urban Sprawl," *Regional Science and Urban Economics*, forthcoming (2005).

W. S. Vickrey. Congestion theory and transport investment. *American Economic Review* 59(2), 251—260 (1969).

W. Wheaton. Income and urban residence: An analysis of consumer demand for location. *American Economic Review* 67(4), 620—632 (1977).

K. Small. Urban Transportation Economics, *Harwood Fundamentals of Pure and Applied Economics series*, 1992.

6. Hedonics & Cross-Market Location Equilibrium

Rosen, Sherwin. "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition." *Journal of Political Economy*, January-February 1974, 82(1) 34-55.*

Albouy, David "What are Cities Worth? Land Rents, Local Productivity, and the Value of Amenities." Working Paper*

Dahl, Gordon "Mobility and the Return to Education: Testing a Roy Model with Multiple Markets" *Econometrica*, 2002, Vol. 70, No. 6, pp. 2367-2420.*

Bartik, T., "The Estimation of Demand Parameters in Hedonic Price Models," *Journal of Political Economy*, February 1987.*

Bayer, McMillan, Murphy, & Timmins, "A Dynamic Model of Demand for Houses and Neighborhoods" ERID Working Paper Number 107 <http://ssrn.com/abstract=1890630>*

Baum-Snow, Nathaniel and Ronni Pavan, "Understanding the City Size Wage Gap" *Review of Economic Studies*, forthcoming*

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

Ekeland, I., J. Heckman and L. Nesheim, "Identification and Estimation of Hedonic Models," *Journal of Political Economy* 112(1-2) pp. S60-S109

Brown, J. and H. Rosen, "On the Estimation of Structural Hedonic Price Models," *Econometrica*, May 1982.

Ekeland, I., J. Heckman and L. Nesheim, "Identifying Hedonic Models," *American Economic Review*, May 2002.

Quigley, J., "Nonlinear Budget Constraints and Consumer Demand: An Application to Public Programs for Residential Housing," *Journal of Urban Economics*, September 1982.

K. Chay & M. Greenstone. "Does Air Quality Matter? Evidence from the Housing Market." April 2005, *Journal of Political Economy*

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

David N. Figlio and Maurice E. Lucas, "What's in a Grade? School Report Cards and the Housing Market," *American Economic Review*, 94(3), 2004: 591-605.

William J. Collins and Robert A. Margo, "The Economic Aftermath of the 1960s Riots: Evidence from Property Values," *Journal of Economic History*

7. Housing

E.L. Glaeser and J. Gyourko, "Urban Decline and Durable Housing," *Journal of Political Economy*, April 2005, pp. 345-376.*

Saiz, Albert, "The Geographic Determinants of Housing Supply" *Quarterly Journal of Economics*, 2010*

Bajari, Patrick, and Matthew E. Kahn. 2005. "Estimating Housing Demand with an Application to Explaining Racial Segregation in Cities." *Journal of Business and Economic Statistics*, 23(1):20–33.*

Mian & A. Sufi "The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis" *Quarterly Journal of Economics* Nov. 2009 124(4)

Keys, Mukherjee, Seru "Did Securitization Lead to Lax Screening? Evidence from Subprime Loans" *Quarterly Journal of Economics*, forthcoming

Baum-Snow, Nathaniel "The Effects of Low Income Housing Tax Credit Developments on Neighborhoods", *Journal of Public Economics*

John M. Quigley and Steven Raphael, "Regulation and the High Cost of Housing in California," *American Economic Review*, 95(2), 2005.

Arnott, Davidson, Pines. "Housing Quality, Maintenance and Rehabilitation," *Review of Economic Studies* 1983 50 467-494

Sieg, Holger "Interjurisdictional Housing Prices in Locational Equilibrium ." *Journal of Urban Economics*, 2002, 52, 131-153. (with V. K. Smith, S. Banzhaf and R. Walsh).

Daniel McMillen & John McDonald. "Land Values in a Newly Zoned City," *Review of Economics and Statistics* 84 (Feb. 2002), 62-72

E. Rossi-Hansberg. Optimal urban land use and zoning. *Review of Economic Dynamics* 7(1), 69—106 (2004).

Rosenthal, Stuart. "Residential Buildings and the Cost of Construction: New Evidence on the Efficiency of the Housing Market," *Review of Economics and Statistics*, 81(2): 288-302 (1999).

J. Gyourko and A. Saiz, "Reinvestment in the Housing Stock: The Role of Construction and Supply Side Costs," *JUE*, March 2004, pp. 238-256.

Bui, Linda and Christopher Mayer. 2003. "Regulation and Capitalization of Environmental Amenities: Evidence From the Toxic Release Inventory in Massachusetts." *Review of Economics and Statistics*, 85(3), pp. 693-708.

Sinai & Waldfoegel. "Do Low Income Housing Subsidies Increase the Occupied Housing Stock?" *Journal of Public Economics*, 89(11-12) 2137-2164 (Dec. 2005)

Gyourko, J. and Linneman, P., "Rent Controls and Rental Housing Quality: A Note on the Effect of New York City's Old Controls," *Journal of Urban Economics*, May 1990.

Glaeser & Luttmer "The Misallocation of Housing Under Rent Control" *American Economic Review*, 2003, 93(4), 1027-1046.

John M. Quigley, Steven Raphael, and Eugene Smolensky, "Homeless in California, Homeless in America," *Review of Economics and Statistics*, 83(1), 2001: 37-51.

8. Ghettoes and Crime

Cutler, Glaeser & Vigdor "The Rise and Decline of the American Ghetto." *Journal of Political Economy* 107 (1999) S225-S258*

Kling, J, J. Ludwig & L. Katz. "Neighborhood Effects on Crime for Female and Male Youth: Evidence from a Randomized Housing Mobility Experiment," *Quarterly Journal of Economics* (2005) 120 87-130*

Kling, J, J. Liebman and L. Katz. "Experimental Analysis of Neighborhood Effects" *Econometrica* 75 (Jan. 2007) 83-119*

Kline, Patrick "Assessing the Incidence and Efficiency of a Prominent Place Based Policy" working paper*

"Government Programs Can Improve Local Labor Markets: Evidence from State Enterprise Zones, Federal Empowerment Zones and Federal Enterprise Communities" (with C. Swenson, A. Imrohorglu, H Song), Forthcoming, *Journal of Econometrics*.*

Cullen & Levitt. "Crime, Urban Flight and the Consequences for Cities." *Review of Economics and Statistics* (1999) 81:2 159-169

Kain, John, "Housing Segregation, Negro Employment, and Metropolitan Decentralization", *Quarterly Journal of Economics*, 1968. Vol 82 No 2. pp. 175-197.

E. Glaeser & B. Sacerdote. "Why is there more crime in cities?" *Journal of Political Economy* (Dec. 1999) 107:6 S225-S258

D. Cutler & E. Glaeser "Are Ghettoes Good or Bad?" (1997) *Quarterly Journal of Economics* 112:3 827-872

Yinger, J. "Measuring Racial Discrimination With Fair Housing Audits: Caught in the Act." *American Economic Review* 76(5) 881-893

Brueckner & Zenou. "Space and Unemployment: The Labor-Market Effects of Spatial Mismatch", *Journal of Labor Economics* 21, 242-266 (January 2003).