
Syllabus

ENVIRONMENTAL AND URBAN ECONOMICS

2nd Quarter 2023

Contact

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Location and times

Tue, Thu, 9am-11am

Course objectives and learning goals

This class is a graduate-level course that aims to provide insight into the fields of Environmental and Urban economics. The goal of this course is four-fold. The first goal of this class is to familiarize students with the classic literature and research questions in both fields, and to explore the current research frontier. The second goal is to practice scientific reading comprehension, presentation, and discussion skills. The third goal is to develop an independent research idea, and craft a proposal. The fourth goal is to familiarize students with reproducible and portable work flows in R and Rstudio, to enable students to generate reproducible research.

Grading

Your final course grade will be based on

- One introductory problem set (5 percent of total grade)
- Presentation of 1 research paper. Pick a paper from reading list marked with ★, or find a related paper in and confirm your choice with me. Presentation time: 45 minutes. (30 percent of total grade)

- Discussion of 1 research paper that your classmates present. Discussions will be randomly assigned. Upload your discussion slides to the class Github on the day before the presentation or discussion. (15 percent of total grade)
- Replication, and presentation of replication (30 percent of total grade)
- Research proposal (20 percent of total grade)

Presentation

(45 minutes, with slides prepared)

1. Choose 1 paper from the syllabus marked with ★, or suggest one from an economics journal (AEJ Policy, AEJ Applied, JEEM, JAERE, ERE, RSUE,...) published in or after 2010.
2. Confirm your choice of paper and your presentation date with me. Papers presented in previous years are not eligible.
3. Upload your presentation slides to the class Github on the day before the presentation or discussion.
4. Present this paper in class
5. You will be graded for slides, time management, and presentation
6. Make an effort to summarize concisely, dont copy-paste the paper on the slides.

Discussion

(10 minutes, with slides prepared).

1. Everyone will get randomly assigned to discuss a paper that one of your classmates presented as "Presentation"
2. Give a brief summary of the paper. What was the research question? What was the main result? What did we learn?
3. Strengths+weaknesses of the paper. Point out what the paper did well, and what points would benefit from more work.
4. Suggestions for improvements. Be constructive!

Replication exercise

1. Choose a paper from the syllabus, or suggest a paper (I need to approve it)
2. Papers replicated for this class in previous years are not eligible.
3. Replicate the estimation, preferably in R
4. Create replication reports using Rmarkdown or similar
5. Post your replication reports to our class Github, use .gitignore for large data sets
6. You may collaborate in groups of up to 3, depending on how complicated the estimation is
7. **By 15.05., you need to confirm which paper you will replicate and that you have the data available for your replication project.**
8. Present your replication project in class, and submit a written version to me.
9. Present your replication in class (30 minutes)

Research proposal

Present a research proposal (with slides prepared) and submit a written version of the proposal to me. A proposal contains

1. A research question. What do you want to find out that is not known yet?
2. What data would you use? The project needs to be feasible, i.e. you need to have actual access to all the data you would need to complete the project.
3. Present some summary statistics of your data
4. Describe what estimation strategy you would use to answer your question.
5. Plan to present your proposal in 20 minutes.

Participation and absence

Participation in class is highly encouraged. However, there will be no participation credit. I will not take attendance, however, excessive absence may result in grade reduction.

Course outline (tentative)

Tu, 11.04.	Review: Basics of environmental economics
Th, 13.04.	Environmental: Climate change + How to present
Tu, 18.04.	Environmental: Climate change + .Rprofile, tidyverse, here
Th, 20.04.	Environmental: VSL (<i>Sophie out of town</i>)
Tu, 25.04.	Environmental: Pollution and health
Th, 27.04.	Environmental: Heat
Tu, 02.05.	Environmental: Emissions regulation + Rmarkdown, notebooks, xaringan
Th, 04.05.	Environmental: Emissions regulation
Tu, 09.05.	Environmental: Energy
Th, 11.05.	Environmental: Resources
Tu, 16.05.	(Semana de provas?) Demand estimation + webscraping, API
Th, 18.05.	(Semana de provas?) Non-market valuation: Rosen 1974
Tu, 23.05.	Urban: Roback 1982, Chay Greenstone 2005
Th, 25.05.	Urban: Allen Arkolakis 2014
Tu, 30.05.	Urban: Ahlfeldt et al. 2015
Th, 01.06.	Urban: Residential sorting, BFM BMMT
Tu, 06.06.	Urban: Transportation
Th, 08.06.	<i>Holiday</i>
Tu, 13.06.	Present replications
Th, 15.06.	Present replications
Tu, 20.06.	(Semana de provas?) Present research proposals
Th, 22.06.	(Semana de provas?) Present research proposals

Literature

These are selected papers to familiarize students with each topic or method. This list of papers is not exhaustive. Naturally many sections overlap, and many papers fit into more than one section.

Climate change and damages

- Nordhaus (1991). Too Slow or Not Too Slow: The Economics of the Greenhouse Effect. *Economic Journal*

- Nordhaus (1993). Optimal Greenhouse-Gas Reductions and Tax Policy in the “DICE” Model. *American Economic Review*
- Nordhaus (1993). Rolling the “DICE”: An Optimal Transition Path for Controlling Greenhouse Gases. *Resource and Energy Economics*
- Deschenes, Greenstone (2007). The Economic Impacts of Climate Change: Evidence from Agricultural Output and Random Fluctuations in Weather. *American Economic Review*
- Schlenker, Roberts (2009). Nonlinear Temperature Effects Indicate Severe Damages to U.S. Crop Yields Under Climate Change. *PNAS*
- Hsiang, Kopp (2018). Climate Change: A Guide for Economists. *Journal of Economic Perspectives*
- Barrage (2019). The Nobel Memorial Prize for William D. Nordhaus. *Scandinavian Journal of Economics*
- Burke, Emerick (2016). Adaptation to Climate Change: Evidence from US Agriculture. *American Economic Journal*
- Auffhammer (2018). Climate Adaptive Response Estimation: Short and Long Run Impacts of Climate Change on Residential Electricity and Natural Gas Consumption Using Big Data. NBER Working Paper 24397
- Cruz Alvarez, Rossi-Hansberg (2021). The Economic Geography of Global Warming. NBER Working Paper 28466
- ★ Stern, Stiglitz (2021). The Social Cost of Carbon, Risk, Distribution, Market Failures: An Alternative Approach. NBER Working Paper 28472
- Burke, Driscoll, Xue, Heft-Neal, Burney, Wara (2021) The Changing Risk and Burden of Wildfire in the US. NBER Working Paper 27423
- Mukherjee, Sanders (2021). The Causal Effect of Heat on Violence: Social Implications of Unmitigated Heat Among the Incarcerated. NBER Working Paper 28987
- ★ Baylis, Boomhower (2022). Mandated vs. Voluntary Adaptation to Natural Disasters: The Case of U.S. Wildfires. NBER Working Paper 29621
- ★ Flammer, Giroux, Heal (2023). Biodiversity Finance. NBER Working Paper 31022
- ★ Angrist, Winseck, Patrinos, Graff Zivin (2023). Human Capital and Climate Change. NBER Working Paper 31000
- ★ Braun, Schlenker (2023). Cooling Externality of Large-Scale Irrigation. NBER Working Paper 30966

VSL

- Viscusi, Aldy (2003). The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World. *Journal of Risk and Uncertainty*
- Davis (2004). The Effect of Health Risk on Housing Values: Evidence from a Cancer Cluster. *American Economic Review*.
- Hall, Jones (2007). The Value of Life and the Rise in Health Spending. *Quarterly Journal of Economics*
- Aldy, Viscusi (2008). Adjusting the Value of a Statistical Life for Age and Cohort Effects. *Review of Economics and Statistics*
- U.S. Environmental Protection Agency (2011). Benefits and Costs of the Clean Air Act from 1990 to 2020.
- Kniesner, Viscusi, Woock, Ziliak (2012). The Value of a Statistical Life: Evidence from Panel Data. *Review of Economics and Statistics*
- Banzhaf (2014). The Cold War Origins of the Value of a Statistical Life, *Journal of Economic Perspectives*
- Lee, Taylor (2019). Randomized Safety Inspections and Risk Exposure on the Job: Quasi-Experimental Estimates of the Value of a Statistical Life. *American Economic Journal: Economic Policy*
- Evans, Taylor (2020). Using Revealed Preference Methods to Estimate the Value of Reduced Mortality Risk: Best Practice Recommendations for the Hedonic Wage Model. *Review of Environmental Economics and Policy*
- ★ Ketcham, Kuminoff, Saha (2020). Valuing Statistical Life using Seniors Medical Spending. Working Paper

Pollution and health

- Chay, Greenstone (2003). The Impact of Air Pollution on Infant Mortality: Evidence from Geographic Variation in Pollution Shocks Induced by a Recession. *Quarterly Journal of Economics*
- Currie, Neidell (2005). Air Pollution and Infant Health: What Can We Learn from California's Recent Experience? *Quarterly Journal of Economics*
- Currie, Schmieder, Neidell (2009). Air Pollution and Infant Health: Lessons from New Jersey
- Currie, Walker (2011). Traffic Congestion and Infant Health: Evidence from E-ZPass. *American Economic Journal: Applied Economics*

- Graff-Zivin, Neidell (2012). The Impact of Pollution on Worker Productivity. *American Economic Review*
- Currie, Davis, Greenstone, Walker (2015). Do Housing Prices Reflect Environmental Health Risks? Evidence from More than 1,600 Toxic Plant Openings and Closings. *American Economic Review*
- Schlenker, Walker (2016). Airports, Air Pollution, and Contemporaneous Health. *Review of Economic Studies*
- Barreca, Clay, Deschenes, Greenstone, Shapiro (2016). Adapting to Climate Change: The Remarkable Decline in the U.S. Temperature-Mortality Relationship over the Twentieth Century. *Journal of Political Economy*
- Isen, Rossin-Slater, Walker (2017). Every Breath You Take, Every Dollar You'll Make: The Long-Term Consequences of the Clean Air Act of 1970. *Journal of Political Economy*
- Aizer, Currie, Simon, Vivier (2018). Do Low Levels of Blood Lead Reduce Children's Future Text Scores? *American Economic Journal: Applied Economics*
- Bishop, Ketcham, Kuminoff (2018). Hazed and Confused: The Effect of Air Pollution on Dementia. NBER Working Paper 24970
- Deryugina, Heutel, Miller, Molitor, Reif (2019). The Mortality and Medical Costs of Air Pollution: Evidence from Changes in Wind Direction. *American Economic Review*
- ★ Dave, Yang (2021). Lead in Drinking Water and Birth Outcomes: A Tale of Two Water Treatment Plants. NBER Working Paper 27996
- ★ Deryugina, Miller, Molitor, Reif (2021). Geographic and Socioeconomic Heterogeneity in the Benefits of Reducing Air Pollution in the United States. NBER Working Paper 27357
- ★ Burke, Childs, De la Cuesta, Qiu, Li, Gould, Heft-Neal, Wara (2023). Wildfire Influence on Recent US Pollution Trends. NBER Working Paper 30882
- ★ Hill (2022). The Impact of Oil and Gas Extraction on Infant Health. NBER Working Paper 30684
- ★ Gilrain, Zheng (2022). Air Pollution and Student Performance in the U.S. NBER Working Paper 30061

Regulation

- Fowlie (2009). Incomplete Environmental Regulation, Imperfect Competition, and Emissions Leakage. *American Economic Journal: Economic Policy*
- Fowlie (2010). Emissions Trading, Electricity Restructuring, and Investment in Pollution Abatement. *American Economic Review*

- Holland (2012). Emissions Taxes Versus Intensity Standards: Second-Best Environmental Policies With Incomplete Regulation. *Journal of Environmental Economics and Management*
- Greenstone, Jack (2015). Envirodevonomics: A Research Agenda for an Emerging Field. *Journal of Economic Literature*
- Jacobsen, Benthem (2015). Vehicle Scrappage and Gasoline Policy. *American Economic Review*
- Fowlie, Reguant, Ryan (2016). Market-Based Emissions Regulation and Industry Dynamics. *Journal of Political Economy*
- Keiser, Shapiro (2019). Consequences of the Clean Water Act and the Demand for Water Quality. *Quarterly Journal of Economics*
- ★ Aldy, Kotchen, Evans, Fowlie, Levinson, Palmer (2021). Co-Benefits and Regulatory Impact Analysis: Theory and Evidence from Federal Air Quality Regulations. NBER Working Paper 27603
- ★ Hollingsworth, Jaworski, Kitchens, Rudik (2022). Economic Geography and the Efficiency of Environmental Regulation. NBER Working Paper 29845
- Tanaka, Teshima, Verhoogen (2022). North-South Displacement Effects of Environmental Regulation: The Case of Battery Recycling. NBER Working Paper 29146
- ★ Fullerton, He (2021). Do Market Failures Create a ‘Durability gap’ in the Circular Economy? NBER Working Paper 29073
- ★ Jacobsen, Sallee, Shapiro, van Benthem (2022). Regulating Untaxable Externalities: Are Vehicle Air Pollution Standards Effective and Efficient? NBER Working Paper 30702

Energy

- Borenstein (2012). The Private and Public Economics of Renewable Electricity Generation. *Journal of Economic Perspectives*
- Davis, Wolfram (2012). Deregulation, Consolidation, and Efficiency: Evidence from US Nuclear Power. *American Economic Journal: Applied Economics*
- Ito (2014). Do Consumers Respond to Marginal or Average Price? Evidence from Nonlinear Electricity Pricing. *American Economic Review*
- Fabra, Reguant (2014). Pass-Through of Emissions Costs in Electricity Markets. *American Economic Review*
- Borenstein, Bushnell (2015). The U.S. Electricity Industry After 20 Years of Restructuring. *Annual Review of Economics*

- Auffhammer, Baylis, Hausman (2017). Climate Change Climate Change is Projected to Have Severe Impacts on the Frequency and Intensity of Peak Electricity Demand across the United States. Proceedings of the National Academies of Sciences
- Jack, Smith (2020). Charging Ahead: Prepaid Metering, Electricity Use, and Utility Revenue. American Economic Journal: Applied Economics
- Davis, Holladay, Sims (2021). Coal-Fired Power Plant Retirements in the U.S. NBER Working Paper 28949
- ★ Burlig, Bushnell, Rapson, Wolfram (2021). Low Energy: Estimating Electric Vehicle Electricity Use. NBER Working Paper 28451
- ★ Hahn, Metcalfe (2021). Efficiency and Equity Impacts of Energy Subsidies. NBER Working Paper 28371
- ★ Rapson, Muehlegger (2021). The Economics of Electric Vehicles. NBER Working Paper 29093
- ★ Bushnell, Muehlegger, Rapson (2022). Energy Prices and Electric Vehicle Adoption. NBER Working Paper 29842

Resources

- Bornstein, Krusell, Rebelo (2021). A World Equilibrium Model of the Oil Market. Working Paper
- ★ Englander et al (2023). Input Subsidies and the Destruction of Natural Capital: Chinese Distant Water Fishing. NBER Working Paper 31008
- ★ Harleman, Manohar, Hill (2023). Negotiations of Oil and Gas Auxiliary Lease Clauses: Evidence from Pennsylvania's Marcellus Shale. NBER Working Paper 30806

Demand estimation

- Li, Timmins, von Haefen (2009). How Do Gasoline Prices Affect Fleet Fuel Economy. American Economic Journal: Economic Policy
- Bento, Hughes, Kaffine (2013). Carpooling and Driver Responses to Fuel Price Changes: Evidence from Traffic Flows in Los Angeles. Journal of Urban Economics
- Busse, Knittel, Zettelmeyer (2013). Are Consumers Myopic? Evidence from New and Used Car Purchases. American Economic Review
- Ito (2014). Do Consumers Respond to Marginal or Average Price? Evidence from Non-Linear Electricity Pricing. American Economic Review

- Sallee, West, Fan (2016). Do Consumers Recognize the Value of Fuel Economy? Evidence from Used Car Prices and Gasoline Price Fluctuations. *Journal of Public Economics*
- Davis (2021). Estimating the Price Elasticity of Demand for Subways: Evidence from Mexico. NBER Working Paper 28244
- Levinsohn, Sager (2021). Who Values Future Energy Savings? Evidence from American Drivers. NBER Working Paper 28219
- ★ Wolak (2021). Long-Term Resource Adequacy in Wholesale Electricity Markets with Significant Intermittent Renewables. NBER Working Paper 29033
- ★ Ito, Ida, Tanaka (2021). Selection on Welfare Gains: Experimental Evidence from Electricity Plan Choice. NBER Working Paper 28413

Discrete choice estimation. Introduction

- McFadden (1974). The Measurement of Urban Travel Demand. *Journal of Public Economics*
- Berry (1994). Estimating Discrete-Choice Models of Product Differentiation. *RAND Journal of Economics*
- Berry, Levinsohn, Pakes (1995). Automobile Prices in Market Equilibrium. *Econometrica*
- Nevo (2000). A Practitioner's Guide to Estimation of Random Coefficients Logit Models of Demand. *Journal of Economics and Management Strategy*
- Manski (2001). Daniel McFadden and the Econometric Analysis of Discrete Choice. *Scandinavian Journal of Economics*
- Textbook: Cameron, Trivedi. *Microeconometrics: Methods and Application*
- Textbook: Train, *Discrete Choice Methods with Simulation*
- Kennan, Walker (2011). The Effect of Expected Income on Individual Migration Decisions. *Econometrica*
- Matejka, McKay (2015). Rational Inattention to Discrete Choices: A New Foundation for the Multinomial Logit Model. *American Economic Review*
- ★ Dorsey, Langer, McRae (2022). Fueling Alternatives: Gas Station Choice and the Implications for Electric Charging. NBER Working Paper 29831

Revealed preferences: WTP for environmental quality

- Rosen (1974). Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition. *Journal of Political Economy*
- Sieg, Smith, Banzhaf, Walsh (2004). Estimating the General Equilibrium Benefits of Large Changes in Spatially Delineated Public Goods. *International Economic Review*
- Bajari, Benkard (2005). Demand Estimation With Heterogeneous Consumers and Unobserved Product Characteristics: A Hedonic Approach. *Journal of Political Economy*
- Chay and Greenstone (2005). Does Air Quality Matter? Evidence from the Housing Market. *Journal of Political Economy*
- Kuminoff (2009). Decomposing the Structural Identification of Nonmarket Values. *Journal of Environmental Economics and Management*
- Bishop, Timmins (2016). Using Panel Data to Easily Estimate Hedonic Demand Functions. *Journal of the Association of Environmental and Resource Economists*
- Deschenes, Greenstone, Shapiro (2017). Defensive Investments and the Demand for Air Quality: Evidence from the NOx Budget Program. *American Economic Review*
- Ito, Zhang (2020). Willingness to Pay for Clean Air: Evidence from Air Purifier Markets in China. *Journal of Political Economy*
- ★ Greenstone, He, Jia, Liu (2021). Can Technology Solve the Principal-Agent Problem? Evidence from China's War on Air Pollution. NBER Working Paper
- ★ Keys, Mulder (2021). Neglected No More: Housing Markets, Mortgage Lending, and Sea Level Rise. NBER Working Paper 27930

Cities

- Roback (1982). Wages, Rents, and the Quality of Life. *Journal of Political Economy*
- Blomquist, Berger, Hoehn (1988). New Estimates of Quality of Life in Urban Areas. *American Economic Review*
- Glaeser (1998). Are Cities Dying? *Journal of Economic Perspectives*
- Graves, Waldman (1991). Multimarket Amenity Compensation and the Behavior of the Elderly. *American Economic Review*
- Costa, Kahn (2000). Power Couples: Changes in the Locational Choice of the College Educated, 1940-1990. *Quarterly Journal of Economics*
- Shapiro (2006). Smart Cities: Quality of Life, Productivity, and the Growth Effects of Human Capital. *Review of Economics and Statistics*

- Gyourko, Mayer, Sinai (2013). Superstar Cities. *American Economic Journal: Economic Policy*
- Allen, Arkolakis (2014). Trade and the Topography of the Spatial Economy. *Quarterly Journal of Economics*
- Ahlfeldt, Redding, Sturm, Wolf (2015). The Economics of Density: Evidence from the Berlin Wall. *Econometrica*
- Albouy, Graf, Kellogg, Wolff (2016). Climate Amenities, Climate Change, and American Quality of Life. *Journal of the Association of Environmental and Resource Economists*
- Glaeser, Gyourko (2018). The Economic Implications of Housing Supply. *Journal of Economic Perspectives*
- Miyauchi, Nakajima, Redding (2021). Consumption Access and Agglomeration: Evidence from Smartphone Data. NBER Working Paper 28497
- Kreindler, Miyauchi (2021). Measuring Commuting and Economic Activity inside Cities with Cell Phone Records. NBER Working Paper 28516
- ★ Graff Zivin, Liao, Panassie (2021). How Hurricanes Sweep Up Housing Markets: Evidence from Florida. NBER Working Paper 27542
- ★ Holland, Mansur, Muller, Yates (2021). The Environmental Benefits from Transportation Electrification: Urban Buses. NBER Working Paper 27285
- Cook, Currier, Glaeser (2022). Urban Mobility and the Experienced Isolation of Students and Adults. NBER Working Paper 29645
- Leonardi, Moretti (2022). The Agglomeration of Urban Amenities: Evidence from Milan Restaurants. NBER Working Paper 29663
- ★ Van Nieuwerburgh (2022). The Remote Work Revolution: Impact on Real Estate Values and the Urban Environment. NBER Working Paper 30662
- ★ Turner, Mehrotra, Uribe (2023). Does the US have an Infrastructure Cost Problem? Evidence from the Interstate Highway System. NBER Working Paper 30989
- ★ Eckert, Juneau, Peters (2023). Sprouting Cities: How Rural America Industrialized. NBER Working Paper 30874
- ★ Almagro, Chyn, Stuart (2023). Urban Renewal and Inequality: Evidence from Chicago's Public Housing Demolitions. NBER Working Paper 30838

Residential sorting

- Tiebout (1956). A Pure Theory of Local Expenditures. *Journal of Political Economy*
- Epple, Filimon, Romer (1993). *Regional Sciences and Urban Economics*
- Epple, Platt (1998). Equilibrium and Local Redistribution in an Urban Economy When Households Differ in Both Preferences and Income. *Journal of Urban Economics*
- Epple, Sieg (1999). Estimating Equilibrium Models of Local Jurisdictions. *Journal of Political Economy*
- Smith, Sieg, Banzhaf, Walsh (2004). General Equilibrium Benefits for Environmental Improvements: Projected Ozone Reductions under EPA's Prospective Analysis for the Los Angeles Air Basin. *Journal of Environmental Economics and Management*
- Bayer, Ferreira, McMillan (2007). A Unified Framework for Measuring Preference for Schools and Neighborhoods. *Journal of Political Economy*
- Banzhaf, Walsh (2008). Do People Vote With Their Feet? An Empirical Test of Tiebout's Hypothesis. *American Economic Review*
- Bayer, Keohane, Timmins (2009). Migration and Hedonic Valuation: The Case of Air Quality. *Journal of Environmental Economics and Management*
- Kuminoff, Smith, Timmins (2013). The New Economics of Equilibrium Sorting and Policy Evaluation Using Housing Markets. *Journal of Economic Literature*
- Bayer, MacMillan, Murphy, Timmins (2016). A Dynamic Model of Demand for Houses and Neighborhoods. *Econometrica*
- Diamond (2016). The Determinants and Welfare Implications of U.S. Workers' Diverging Location Choices by Skill: 1980-2000. *American Economic Review*
- Sinha, Caulkins, Cropper (2018). Household Location Decisions and the Value of Climate Amenities. *Journal of Environmental Economics and Management*
- Pellegrina, Sotelo (2021). Migration, Specialization, and Trade: Evidence from Brazil's March to the West. NBER Working Paper 28421
- ★ Liang, Song, Timmins (2021). Frictional Sorting. NBER Working Paper 27643
- ★ Bernstein, Billings, Gustafson, Lewis (2021). Voting with their Sandals: Partisan Residential Sorting on Climate Change Risk. NBER Working Paper 27989
- ★ Ferreira, Wong (2021) Estimating Preferences for Neighborhood Amenities Under Imperfect Information. NBER Working Paper 28165
- Cosar, Demir, Ghose, Young (2021). Road Capacity, Domestic Trade and Regional Outcomes. NBER Working Paper 29228
- ★ Gao, Song, Timmins (2021). The Role of Information in the Rosen-Roback Framework. NBER Working Paper 28943

- ★ Bock, Cardazzi, Humphreys (2021). Where the Rubber Meets the Road: Pavement Damage Reduces Traffic Safety and Speed. NBER Working Paper 29176
- ★ Cohen, Coughlin, Crews, Ross (2021). Immediate and Longer-Term Housing Market Effects of a Major U.S. Airport Closure. NBER Working Paper 29385
- Anagol, Ferreira, Rexer (2021). Estimating the Economic Value of Zoning Reform. NBER Working Paper 29440

Transportation

- Tsivanidis (2022). Evaluating the Impact of Urban Transit Infrastructure: Evidence from Bogota's TransMilenio. Working Paper
- ★ Conwell, Eckert, Mobarak (2023). More Roads or Public Transit? Insights from Measuring City-Center Accessibility. NBER Working Paper 30877

Environmental justice

- Brooks, Sethi (1997). The Distribution of Pollution: Community Characteristics and Exposure to Air Toxics. *Journal of Environmental Economics and Management*
- Cameron, McConnaha (2006). Evidence of Environmental Migration. *Land Economics*
- Black, Devereux, Salvanes (2007). From the Cradle to the Labor Market? The Effect of Birth Weight on Adult Outcomes. *Quarterly Journal of Economics*
- Currie (2011). Inequality at Birth: Some Causes and Consequences. *American Economic Review*
- Bento, Freedman, Lang (2015). Who Benefits From Environmental Regulation? Evidence from the Clean Air Act. *Review of Economics and Statistics*
- Depro, O'Neil, Timmins (2015). White Flight and Coming to the Nuisance: Can Residential Mobility Explain Environmental Injustice? *Journal of the Association of Environmental and Resource Economists*
- Banzhaf, Ma, Timmins (2019). Environmental Justice: The Economics of Race, Place, and Pollution. *Journal of Economic Perspectives*
- Hsiang, Oliva, Walker (2019). The Distribution of Environmental Damages. *Review of Environmental Economics and Policy*
- Hernandez-Cortes, Meng (2020). Do Environmental Markets Cause Environmental Injustice? Evidence from California's Carbon Market. NBER Working Paper 27205
- Shapiro, Walker (2021). Where is Pollution Moving? Environmental Markets and Environmental Justice. NBER Working Paper 28389

★ Graff Zivin, Singer (2023). Disparities in Pollution Capitalization Rates: The Role of Direct and Systemic Discrimination. NBER Working Paper 30814