

Economics 2450A: Public Economics and Fiscal Policy I
Dept. of Economics, Harvard University
Fall 2024

Professors Raj Chetty and David Deming
Teaching Fellow: Matt Jacob

Course Description

This course covers core issues related to the design of public policies and is the first course offered in the Public Economics sequence at Harvard in 2024-25. The broad goal of the course is to familiarize students with empirical methods and theoretical models in applied microeconomics, with a focus on connecting theory to data to inform economic policy. The first half of the course will cover: (1) tax incidence, (2) welfare costs of taxation, (3) behavioral welfare analysis, (4) labor supply, and (5) corporate taxation. The second half of the course will cover (1) human capital investment, (2) ideas and growth, (3) welfare analysis and fiscal externalities, (4) inequality and social mobility, and (5) higher education financing.

Students are strongly encouraged to attend the Public Economics Seminar. The schedule of seminar speakers is available at <https://economics.harvard.edu/seminars-public-economics>.

Meeting Time and Location

Tuesdays and Thursdays 3:00PM-4:15PM, Harvard Hall 104. See schedule on next page for more details.

Course Website

<https://canvas.harvard.edu/courses/12953>

Syllabus, problem sets, problem set solutions, readings, and handouts/lecture slides will be available on the Canvas site.

Students with Documented Disabilities

Students who may need an academic accommodation based on the impact of a disability must initiate the request with the Office of Accessible Education (OAE). Professional staff will evaluate the request with required documentation, recommend reasonable accommodations, and prepare an Accommodation Letter for faculty dated in the current quarter in which the request is made. Students should contact the OAE as soon as possible since timely notice is needed to coordinate accommodations. The OAE is located at 1360 Massachusetts Avenue (<https://aeo.fas.harvard.edu>).

Economics 2450A Schedule *PRELIMINARY*

#	Date	Instructor	Topic
1	9/3		Introduction
2	9/5		Theory of Tax Incidence
3	9/10		Tax Incidence Applications
4	9/12		Efficiency Cost of Taxation I
5	9/17		Efficiency Cost of Taxation II
6	9/19		Behavioral Welfare Economics I
7	9/25		Behavioral Welfare Economics II
8	9/26		Behavioral Welfare Economics III
9	10/1		Income Taxation and Labor Supply I
10	10/3		Income Taxation and Labor Supply II
11	10/8		Income Taxation and Labor Supply III
12	10/10		Corporate Taxation I
13	10/15		Corporate Taxation II
14	10/17		Corporate Taxation III
15	10/22		Human Capital Investment I
16	10/24		Human Capital Investment II
17	10/29		Human Capital Development I
18	10/31		Human Capital Development II
19	11/5		Human Capital, Ideas, and Growth I
20	11/7		Human Capital, Ideas, and Growth II
21	11/12		Welfare Analysis and Fiscal Externalities I
22	11/14		Welfare Analysis and Fiscal Externalities II
23	11/19		Human Capital, Inequality, and Social Mobility I
24	11/21		Human Capital, Inequality, and Social Mobility II
25	11/26		Student Loans and Higher Education Financing I
	11/28		NO CLASS – Thanksgiving
26	12/3		Student Loans and Higher Education Financing II

Course Requirements

1. Two problem sets: 30% of grade. They will be assigned on XX (due YY), and XX (due YY). Problem sets are due on Canvas and no late problem sets will be accepted.
2. Referee report: 20% of grade. Details TBD.
3. Final examination: 50% of grade. The date will be set by the Registrar's Office later in the semester. Matt will hold a review section for the final a week before the exam.

Collaboration Policy

You are encouraged to consult with your classmates as you work on problem sets. However, after discussions with peers, make sure that you work through the problem yourself and ensure that any answers you submit for evaluation are the result of your own effort. In addition, you must list the names of students with whom you have collaborated on problem sets.

In contrast, all work on the research proposal should be entirely your own. You must use appropriate citation practices to acknowledge the use of books, articles, websites, lectures, discussions, etc., that you used to complete the proposal.

Professor Deming's Office Hours: Thursdays, 1:45pm – 2:45pm.
E-mail XX <YY> to schedule an appointment.

Professor Chetty's Office Hours: Tuesdays, 4:30pm– 5:30pm.
E-mail Kamana Jain <chetty_ea@opportunityinsights.org> to schedule an appointment.

Teaching Fellow: Matt Jacob <mjacob@g.harvard.edu>
Section: TBD
Office Hours: TBD, on Zoom (<https://harvard.zoom.us/my/matthewjacob>)

Readings

A subset of readings for the course and background materials is included below.

Lecture slides

Slides and videos for previous iterations of Raj's part (prepared jointly with Gregory A. Bruich) are at: <https://rajchetty.com/research/public-economics-lectures-2nd-year-ph-d-course/>

The slides that have been posted should be used as a general guide rather than as a comprehensive list of the material that will be covered in this year's course. We will post updated slides shortly before each lecture on the course website.

Reading List

Tax Incidence and Efficiency

1. R. Chetty, A. Looney, and K. Kroft, 2009. “[Salience and Taxation: Theory and Evidence](#).” *American Economic Review* 99(4), pp. 1145-1177, Section V.C.
2. L. Kotlikoff and L. Summers, 1987. “[Tax Incidence](#),” in A. Auerbach and M. Feldstein, *Handbook of Public Economics*, Volume 2, 1043-1092, Sections 0, 1, 2.2.1-2.2.3, 2.3, 3.1, and 4.4.
3. A. Auerbach, 1985. “[The Theory of Excess Burden and Optimal Taxation](#)”, in A. Auerbach and M. Feldstein, *Handbook of Public Economics*, Volume 1, 61-127, Sections 1, 2, 3.1, and 4.
4. R. Chetty, 2009. “[Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods](#).” *Annual Review of Economics*, 1, pp. 451-488, Sections 2 and 6.

Behavioral Welfare Analysis

1. Raj Chetty, John N. Friedman, Søren Leth-Petersen, Torben Heien Nielsen, Tore Olsen, 2014. “[Active vs. Passive Decisions and Crowd-Out in Retirement Savings Accounts: Evidence from Denmark](#),” *Quarterly Journal of Economics*, Volume 129(3), pp. 1141–1219.
2. Chetty, Raj, Adam Looney, and Kory Kroft. 2009. “[Salience and Taxation: Theory and Evidence](#),” *American Economic Review*, 99 (4), pp. 1145-77.

Inequality and Intergenerational Mobility

1. R. Chetty, D. Grusky, M. Hell, N. Hendren, R. Manduca, and J. Narang, 2017. “[The Fading American Dream: Trends in Absolute Income Mobility Since 1940](#),” *Science* 356 (6336), pp. 398-406.
2. R. Chetty and N. Hendren, 2018. “The Impacts of Neighborhoods on Intergenerational Mobility [I \(Childhood Exposure Effects\)](#) and [II \(County Level Estimates\)](#),” *Quarterly Journal of Economics*.

Corporate Taxation

1. R. Chetty and E. Saez, 2010. “[Dividend and Corporate Taxation in an Agency Model of the Firm](#),” *American Economic Journal: Economic Policy* 2(3), pp. 1-31.
2. D. Yagan, 2015. “[Capital Tax Reform and the Real Economy: The Effects of the 2003 Dividend Tax Cut](#),” *American Economic Review* 105(12), pp. 3531–3563.
3. G. Zucman, 2014. “[Taxing across Borders: Tracking Personal Wealth and Corporate Profits](#),” *Journal of Economic Perspectives* 28(4), pp. 121-148.
4. G. Chodorow-Reich, M. Smith, O. Zidar, E. Zwick. [Tax Policy and Investment in a Global Economy](#). *Working Paper*, 2023.

Human Capital Investment

1. Ben-Porath, Yoram. "The production of human capital and the life cycle of earnings." *Journal of political economy* 75.4, Part 1 (1967): 352-365.
2. Heckman, James J., Lance Lochner, and Christopher Taber. "Explaining rising wage inequality: Explorations with a dynamic general equilibrium model of labor earnings with heterogeneous agents." *Review of economic dynamics* 1.1 (1998): 1-58.
3. Sanders, Carl, and Christopher Taber. "Life-cycle wage growth and heterogeneous human capital." *Annu. Rev. Econ.* 4.1 (2012): 399-425.
4. Huggett, Mark, Gustavo Ventura, and Amir Yaron. "Human capital and earnings distribution dynamics." *Journal of Monetary Economics* 53.2 (2006): 265-290.
5. Huggett, Mark, Gustavo Ventura, and Amir Yaron. "Sources of lifetime inequality." *American Economic Review* 101.7 (2011): 2923-2954.
6. Manuelli, Rodolfo E., and Ananth Seshadri. "Human capital and the wealth of nations." *American economic review* 104.9 (2014): 2736-2762.
7. Blandin, Adam. "Learning by doing and ben-porath: Life-cycle predictions and policy implications." *Journal of Economic Dynamics and Control* 90 (2018): 220-235.
8. Cavounidis, Costas, and Kevin Lang. Ben-Porath meets Lazear: Lifetime skill investment and occupation choice with multiple skills. No. w23367. National Bureau of Economic Research, 2017.

Human Capital Development

1. Cunha, Flavio, and James Heckman. "The technology of skill formation." *American economic review* 97.2 (2007): 31-47.
2. Cunha, Flavio, James J. Heckman, and Susanne M. Schennach. "Estimating the technology of cognitive and noncognitive skill formation." *Econometrica* 78.3 (2010): 883-931.
3. Carneiro, Pedro Manuel, and James J. Heckman. "Human capital policy." (2003).
4. Heckman, James J., and Dimitriy V. Masterov. "The productivity argument for investing in young children." (2007).
5. Almond, Douglas, Janet Currie, and Valentina Duque. "Childhood circumstances and adult outcomes: Act II." *Journal of Economic Literature* 56.4 (2018): 1360-1446.
6. Deming, David. "Early childhood intervention and life-cycle skill development: Evidence from Head Start." *American Economic Journal: Applied Economics* 1.3 (2009): 111-134.
7. Johnson, Rucker C., and C. Kirabo Jackson. "Reducing inequality through dynamic complementarity: Evidence from Head Start and public school spending." *American Economic Journal: Economic Policy* 11.4 (2019): 310-349.
8. Mbiti, Isaac, et al. "Inputs, incentives, and complementarities in education: Experimental evidence from Tanzania." *The Quarterly Journal of Economics* 134.3 (2019): 1627-1673.
9. Rossin-Slater, Maya, and Miriam Wüst. "What is the added value of preschool for poor children? Long-term and intergenerational impacts and interactions with an infant health intervention." *American Economic Journal: Applied Economics* 12.3 (2020): 255-286.
10. Malamud, Ofer, Cristian Pop-Eleches, and Miguel Urquiola. Interactions between family and school

environments: Evidence on dynamic complementarities?. No. w22112. National Bureau of Economic Research, 2016.

Human Capital, Ideas, and Growth

1. Romer, Paul M. "Endogenous technological change." *Journal of political Economy* 98.5, Part 2 (1990): S71-S102.
2. Romer, Paul M. "Increasing returns and long-run growth." *Journal of political economy* 94.5 (1986): 1002-1037.
3. Romer, Paul M. "The origins of endogenous growth." *Journal of Economic perspectives* 8.1 (1994): 3-22.
4. Jones, Charles I. "Sources of US economic growth in a world of ideas." *American economic review* 92.1 (2002): 220-239.
5. Hsieh, Chang-Tai, et al. "The allocation of talent and US economic growth." *Econometrica* 87.5 (2019): 1439-1474.
6. Jones, Benjamin F. "The human capital stock: a generalized approach." *American Economic Review* 104.11 (2014): 3752-3777.
7. Caselli, Francesco, and Antonio Ciccone. "The human capital stock: A generalized approach: Comment." *American Economic Review* 109.3 (2019): 1155-1174.
8. Jones, Benjamin F. "The human capital stock: a generalized approach: reply." *American Economic Review* 109.3 (2019): 1175-1195.
9. Hendricks, Lutz, and Todd Schoellman. "Human capital and development accounting: New evidence from wage gains at migration." *The Quarterly Journal of Economics* 133.2 (2018): 665-700.
10. Hendricks, Lutz, and Todd Schoellman. "Skilled labor productivity and cross-country income differences." *American Economic Journal: Macroeconomics* 15.1 (2023): 240-268.
11. Martellini, Paolo, Todd Schoellman, and Jason Sockin. "The global distribution of college graduate quality." *Journal of Political Economy* 132.2 (2024): 434-483.

Welfare Analysis and Fiscal Externalities

1. Hendren, Nathaniel, and Ben Sprung-Keyser. "A unified welfare analysis of government policies." *The Quarterly Journal of Economics* 135.3 (2020): 1209-1318.
2. Heckman, James J., et al. "The rate of return to the HighScope Perry Preschool Program." *Journal of public Economics* 94.1-2 (2010): 114-128.
3. Hendren, Nathaniel. "The policy elasticity." *Tax Policy and the Economy* 30.1 (2016): 51-89.
4. Denning, Jeffrey T., Benjamin M. Marx, and Lesley J. Turner. "ProPelled: The effects of grants on graduation, earnings, and welfare." *American Economic Journal: Applied Economics* 11.3 (2019): 193-224.
5. Deming, David J. "Four facts about human capital." *Journal of Economic Perspectives* 36.3 (2022): 75-102.
6. Rea, David, and Tony Burton. "New evidence on the Heckman curve." *Journal of Economic Surveys* 34.2 (2020): 241-262.

7. Finkelstein, Amy, and Nathaniel Hendren. "Welfare analysis meets causal inference." *Journal of Economic Perspectives* 34.4 (2020): 146-167.
8. Jackson, C. Kirabo, and Claire L. Mackevicius. "What impacts can we expect from school spending policy? Evidence from evaluations in the United States." *American Economic Journal: Applied Economics* 16.1 (2024): 412-446.
9. Daruich, Diego. *The Macroeconomic Consequences of Early Childhood Development Policies*. (r&r JPE)

Human Capital, Inequality, and Social Mobility

1. Deming, David J., and Mikko Silliman. "Skills and Human Capital in the Labor Market." In preparation for the *Handbook of Labor Economics*.
2. Chetty, Raj, David J. Deming, and John N. Friedman. *Diversifying society's leaders? The causal effects of admission to highly selective private colleges*. No. w31492. National Bureau of Economic Research, 2023.
3. Chetty, Raj, et al. "Income segregation and intergenerational mobility across colleges in the United States." *The Quarterly Journal of Economics* 135.3 (2020): 1567-1633.
4. Bleemer, Zachary. "Affirmative action, mismatch, and economic mobility after California's Proposition 209." *The Quarterly Journal of Economics* 137.1 (2022): 115-160.
5. Khanna, Gaurav. "Large-scale education reform in general equilibrium: Regression discontinuity evidence from india." *Journal of Political Economy* 131.2 (2023): 549-591.
6. Hendricks, Lutz, Christopher Herrington, and Todd Schoellman. "College quality and attendance patterns: A long-run view." *American Economic Journal: Macroeconomics* 13.1 (2021): 184-215.
7. Belley, Philippe, and Lance Lochner. "The changing role of family income and ability in determining educational achievement." *Journal of Human capital* 1.1 (2007): 37-89.
8. Eppe, Dennis, et al. "A general equilibrium analysis of state and private colleges and access to higher education in the US." *Journal of Public Economics* 155 (2017): 164-178.
9. Hoxby, Caroline M. "The changing selectivity of American colleges." *Journal of Economic perspectives* 23.4 (2009): 95-118.
10. Hermo, Santiago, et al. "Labor market returns and the evolution of cognitive skills: Theory and evidence." *The Quarterly Journal of Economics* 137.4 (2022): 2309-2361.
11. Katz, Lawrence F., and Kevin M. Murphy. "Changes in relative wages, 1963–1987: supply and demand factors." *The quarterly journal of economics* 107.1 (1992): 35-78.
12. Goldin, Claudia, and Lawrence F. Katz. "The race between education and technology: the evolution of US educational wage differentials, 1890 to 2005." (2007).
13. Autor, David, Claudia Goldin, and Lawrence F. Katz. "Extending the race between education and technology." *AEA papers and proceedings*. Vol. 110. 2014 Broadway, Suite 305, Nashville, TN 37203: American Economic Association, 2020.

Student Loans and Higher Education Financing

1. Lochner, Lance J., and Alexander Monge-Naranjo. "The nature of credit constraints and human capital." *American economic review* 101.6 (2011): 2487-2529.
2. Herbst, Daniel, and Nathaniel Hendren. "Opportunity unraveled: Private information and the missing markets for financing human capital." *American Economic Review* 114.7 (2024): 2024-2072.
3. Marx, Benjamin M., and Lesley J. Turner. "Borrowing trouble? Human capital investment with opt-in costs and implications for the effectiveness of grant aid." *American Economic Journal: Applied Economics* 10.2 (2018): 163-201.
4. Looney, Adam, and Constantine Yannelis. "The consequences of student loan credit expansions: Evidence from three decades of default cycles." *Journal of Financial Economics* 143.2 (2022): 771-793.
5. Catherine, Sylvain, and Constantine Yannelis. "The distributional effects of student loan forgiveness." *Journal of Financial Economics* 147.2 (2023): 297-316.
6. Looney, Adam, and Constantine Yannelis. "What Went Wrong with Federal Student Loans?." *Journal of Economic Perspectives* 38.3 (2024): 209-236.
7. Rothstein, Jesse, and Cecilia Elena Rouse. "Constrained after college: Student loans and early-career occupational choices." *Journal of Public Economics* 95.1-2 (2011): 149-163.
8. Kane, Thomas J., et al. "Higher education appropriations and public universities: Role of Medicaid and the business cycle [with comments]." *Brookings-Wharton papers on urban affairs* (2005): 99-146.
9. Deming, David J., and Christopher R. Walters. "The impact of price caps and spending cuts on US postsecondary attainment. No. w23736. National Bureau of Economic Research, 2017.
10. Bound, John, and Sarah Turner. "Cohort crowding: How resources affect collegiate attainment." *Journal of public Economics* 91.5-6 (2007): 877-899.
11. Avery, Christopher, and Sarah Turner. "Student loans: Do college students borrow too much—or not enough?." *Journal of Economic Perspectives* 26.1 (2012): 165-192.
12. Cohodes, Sarah R., and Joshua S. Goodman. "Merit aid, college quality, and college completion: Massachusetts' Adams scholarship as an in-kind subsidy." *American Economic Journal: Applied Economics* 6.4 (2014): 251-285.
13. Jacob, Brian, Brian McCall, and Kevin Stange. "College as country club: Do colleges cater to students' preferences for consumption?." *Journal of Labor Economics* 36.2 (2018): 309-348.
14. Dynarski, Susan, Lindsay Page, and Judith Scott-Clayton. "College costs, financial aid, and student decisions." *Handbook of the Economics of Education*. Vol. 7. Elsevier, 2023. 227-285.
15. Angrist, Joshua, David Autor, and Amanda Pallais. "Marginal effects of merit aid for low-income students." *The Quarterly Journal of Economics* 137.2 (2022): 1039-1090.

BACKGROUND READING AND REFERENCES

General Public Economics

- A. Atkinson and J. Stiglitz, *Lectures on Public Economics*. McGraw Hill, 1980.
- A. Auerbach and M. Feldstein, eds., [*Handbook of Public Economics*](#) (4 volumes). Amsterdam: North Holland, 1985, 1987, 2002, and 2003.
- R. Chetty. [Public Economics Lecture Videos](#).
- L. Kaplow. *The Theory of Taxation and Public Economics*. Princeton University Press, 2008.
- J.J. Laffont, *Fundamentals of Public Economics*. MIT Press, 1988.
- G. Myles, *Public Economics*. Cambridge University Press, 1995.
- B. Salanie. *The Economics of Taxation*, Cambridge: MIT Press, 2011
- E. Saez Berkeley public economics lecture [notes](#):

References for a simple description of the U.S. tax system and government programs

- J. Gruber, *Public Finance and Public Policy*. Worth Publishers, 2008.
- J. Stiglitz, *Economics of the Public Sector*. Norton, 1999.
- J. Slemrod and J. Bakija. *Taxing Ourselves: A Citizen's Guide to the Debate over Taxes*. MIT Press, 2004.

References for applied econometrics methods used in this course

- A. Angrist and J.S. Pischke, *Mostly Harmless Econometrics*. Princeton University Press, 2008.
- E. Duflo. [Empirical Methods](#). MIT mimeo, 2002.
- E. Duflo, R. Glennerster, and M. Kremer. "[Using Randomization in Development Economics Research: A Toolkit](#)," in T. Schultz and J. Strauss (eds.), *Handbook of Development Economics* Vol 4, 2007, pp3896-62.
- Guido Imbens, and Jeffrey Wooldridge (2007) What's New in Econometrics? [NBER Summer Institute Mini Course](#).