

Public Economics Course Description

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1 Aim of the course

Public economics studies the public sector in its broadest sense.

The aims of this course are to:

- discuss key issues in public economics;
- provide an overview of the theoretical tools and empirical strategies used in the study of the public sector;
- develop a coherent understanding of practical issues in the implementation of public sector policies.

Students successfully completing this course should be able to:

- critically discuss key issues in public economics;
- understand the basic economic modeling of the public sector;
- engage critically with the empirical public economics literature.

2 Course outline

After an introductory part, that covers an overview of public economics, we cover three broad areas. First, we discuss taxes and transfers and engage thoroughly with the theoretical and empirical literature on tax incidence, behavioral responses to taxes and transfers, optimal taxation, and income redistribution. Second, we discuss social insurance as an umbrella that covers unemployment insurance, health insurance, and social security and pensions. Finally, we discuss public goods and externalities. We also aim to discuss local provision of public goods and education as an important sector with great involvement of the government.

Below is a brief list of topics. You can find the full reading list in section 4.

Part 0: A introduction to public economics

Part I: Taxation and redistribution

- Tax incidence
- Taxation and efficiency
- Labour supply and income taxes and transfers
- Elasticity of taxable income
- Optimal commodity taxation
- Optimal taxes and transfers
- Tax evasion and avoidance

Part II: Social Insurance

- Unemployment insurance
- Health insurance
- Social security and pensions

Part III: Externalities and public goods

- Externalities
- Public goods
- Local public goods and fiscal federalism
- Education policy

3 Course administration

Lectures and classes

Lectures will be held on *Saturday* and *Monday* 13:30-15:00, Class 6.

There will be tutorial classes where you will have a chance to discuss your solutions to assignments. Time and location to be confirmed.

Attendance in both lectures and classes is *mandatory* and I will monitor your record carefully.

Evaluation

- Midterm exam (30%): closed book three hour written exam.
- Final exam (30%): closed book three hour written exam.
- Assignments (15%): 6 problem sets due on Mondays indicated on course calendar.
- Referee report (10%): You would need to write a referee report on a paper.
- Project (15%): A review and analysis of one government program in Iran in an area related to course topics. Theoretical engagement and careful description of the context/program are essential. Students must submit a 3000-word essay on the topic and present their findings at the end of the term.

4 Reading list

This course is mostly based on journal papers but the following textbook is also used extensively:

[AS]: A. Atkinson and J. Stiglitz. Lectures on Public Economics, New York: McGraw Hill, 1980.

The following textbooks provide an undergraduate-level explanation of the topics and are very useful for understanding the broad view of topics. I recommend you read relevant chapters from one of these books for each topic.

[G]: J Gruber (2013) Public Finance and Public Policy, 3rd edition, Worth Publishers.

[SR]: J E. Stiglitz and J. K. Rosengard (2015), Economics of the Public Sector, 4th edition, W W Norton Company, Inc.

H Rosen and T Gayer (2007), Public Finance, 8th ed., McGraw Hill.

Other useful textbooks for the course topics are as follows:

- [S] B. Salanie. The Economics of Taxation, Cambridge: MIT Press, 2003.
Myles, G. Public Economics, Cambridge University Press, Cambridge, 1995.
Kaplow, L. The Theory of Taxation and Public Economics, Princeton University Press, Princeton, 2008.

The following materials are also useful and we will use them extensively in the course:

- Auerbach, A. J. and M. Feldstein (eds.), Handbook of Public Economics, vol. 1 (1985), vol. 2 (1987), vol. 3 (2002), vol. 4 (2002) Elsevier, Amsterdam.
Auerbach, A. J., Chetty, R., Feldstein, M., & Saez, E. (Eds.). (2013). Handbook of public economics (Vol. 5). Newnes.
Institute for Fiscal Studies (2010, 2011). The Mirrlees Review: Reforming the Tax System for the 21st Century, Volume 1 (Dimensions of Tax Design) and Volume 2 (Tax by Design), Oxford University Press, Oxford.

Part 0: A introduction to public economics

Required readings

- [AS] Chapters 1, 11.
[SR] Chapter 1.

Further readings

- Dreze, J. H. (1995). Forty years of public economics: a personal perspective. Journal of Economic Perspectives, 9(2), 111-130.
Golosov, M., & Tsyvinski, A. (2015). Policy implications of dynamic public finance. Annual Review of Economics, 7(1), 147-171.
Mullainathan, S., Schwartzstein, J., & Congdon, W. J. (2011). A reduced-form approach to behavioral public finance, Annual Review of Economics, 4(1), 511-540.

Part I: Taxation and redistribution

Topic 1: Tax incidence

Definition, partial equilibrium tax incidence, general equilibrium models, non-competitive settings.

Required readings

[AS] chapter 6-7.

Kotlikoff, L. and L. Summers. "Tax Incidence," in A. Auerbach and M. Feldstein, Volume 2, 1043-1092.

Further readings

Chetty, R., A. Looney, and K. Kroft (2009). Saliency and taxation: Theory and evidence. *American Economic Review*, 99(4):1145–1177.

Cutler, D. "Tax Reform and the Stock Market: An Asset Price Approach," *American Economic Review*, 78(5), December 1988, 1107-1117

Diamond, P., "Tax Incidence in a Two-Good Model," *Journal of Public Economics*, 9(3), June 1978, 283-299.

Fullerton, D., & G. E. Metcalf (2002). Tax incidence. *Handbook of public economics*, 4, 1787-1872.

Harberger, A. C. (1962). The incidence of the corporation income tax. *Journal of Political Economy*, 70(3):215– 240

Poterba, J. "Tax Subsidies to Owner-Occupied Housing: An Asset Market Approach," *Quarterly Journal of Economics*, 99(4), November 1984, 729-752.

Rothstein, J. (2010). Is the EITC as good as an NIT? Conditional cash transfers and tax incidence. *American economic Journal: economic policy*, 2(1), 177-208.

Topic 2: Taxation and efficiency

Efficiency loss of taxation, income effects, welfare economics.

Required readings

Auerbach, A. "The Theory of Excess Burden and Optimal Taxation", in A. Auerbach and M. Feldstein, *Handbook of Public Economics*, Volume 1, 61-127. Amsterdam: North Holland, 1985.

Chetty R. (2009). "Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods." *Annual Review of Economics* 1, 451-488.

Further readings

Auerbach, A. and J. Hines , "Taxation and Economic Efficiency", in A. Auerbach and M. Feldstein, *Handbook of Public Economics*, Volume 3, Chapter 21, Amsterdam: North Holland, 2002.

Chetty, R., Looney, A., & Kroft, K. (2009). Saliency and taxation: Theory and evidence. *American economic review*, 99(4), 1145-77.

Harberger, A. "The Measurement of Waste", American Economic Review, 54(3), 1964, 58-76.

Hausman, J. A. (1981). Exact consumer's surplus and deadweight loss. American Economic Review, 71(4):662- 76.

Topic 3: Labour supply and income taxes and transfers

Theoretical models of labour supply, empirical strategies to estimate labour supply elasticities, key findings.

Required readings

[AS] chapter 2

Blundell, R. and T. MaCurdy (1999). "Labor Supply: A Review of Alternative Approaches," in O. Ashenfelter and D. Card (eds.), Handbook of Labor Economics vol. 3A, Elsevier, Amsterdam.

Chetty, R., Friedman, J. N., Olsen, T., & Pistaferri, L. (2011). Adjustment costs, firm responses, and micro vs. macro labor supply elasticities: Evidence from Danish tax records. The quarterly journal of economics, 126(2), 749-804.

Eissa, N. (1995). "Taxation and Labor Supply of Married Women: The Tax Reform Act of 1986 as a Natural Experiment." NBER Working Paper No. 5023.

Eissa, N. and J. Liebman (1996). "Labor Supply Response to the Earned Income Tax Credit." Quarterly Journal of Economics 61, 605-37.

Further readings

Ashenfelter, O. and M. Plant, "Non-Parametric Estimates of the Labor Supply Effects of Negative Income Tax Programs", Journal of Labor Economics, vol. 8, 1990, 396-415.

Blundell, R., A. Duncan and C. Meghir, "Estimating Labor Supply Responses Using Tax Reforms," Econometrica 66 (July 1998), 827-862.

Blundell, R., Bozio, A. and G. Laroque. (2013), "Extensive and Intensive Margins of Labour Supply: Work and Working Hours in the US, UK and France", Fiscal Studies, 34(1), 1-29.

Chetty, Raj. (2012) "Bounds on Elasticities with Optimization Frictions: A Synthesis of Micro and Macro Evidence on Labor Supply", Econometrica 80(3), 969-1018.

Chetty, Raj, John N. Friedman, and Emmanuel Saez, "Using Differences in Knowledge across Neighborhoods to Uncover the Impacts of the EITC on Earnings", American Economic Review 103.7 (2013): 2683-2721.

Kleven, H. J. (2016). Bunching. Annual Review of Economics, 8, 435-464.

Kleven, H. and M. Waseem (2013). "Using Notches to Uncover Optimization Frictions and Structural Elasticities: Theory and Evidence from Pakistan." Quarterly Journal of Economics 128, 669-723.

Lemieux, T. , B. Fortin, and P. Fréchette (1994), “The Effect of Taxes on Labor Supply in the Underground Economy”, *American Economic Review*, 84, 231-254.

MaCurdy, T. (1981), “An Empirical Model of Labor Supply in a Life Cycle Setting”, *Journal of Political Economy*, 89(6), 1059-1089

Meyer, B. and D. Rosenbaum (2001). “Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers.” *Quarterly Journal of Economics* 66, 1063-1114.

Michalopoulos, C., P. K. Robins, and D. Card (2005). “When financial work incentives pay for themselves: evidence from a randomized social experiment for welfare recipients.” *Journal of Public Economics* 89, 5-29

Moffitt, R. (2002). Welfare Programmes and Labour Supply. AJ Auerbach & M. Feldstein (Eds.), *Handbook of Public Economics* pp. 2393-2430.

Topic 4: Elasticity of taxable income

Definition, empirical strategies to estimate ETI, key findings.

Required readings

Feldstein, M. (1995). “The Effect of Marginal Tax Rates on Taxable Income: A Panel Study of the 1986 Tax Reform Act.” *Journal of Political Economy* 103, 551-572.

Kleven, H. J., & Schultz, E. A. (2014). Estimating taxable income responses using Danish tax reforms. *American Economic Journal: Economic Policy*, 6(4), 271-301.

Saez, E. (2010). Do taxpayers bunch at kink points?. *American economic Journal: economic policy*, 2(3), 180-212.

Saez, E., J. Slemrod, and S. Giertz (2010), “The Elasticity of Taxable Income with Respect to Marginal Tax Rates: A Critical Review”, *Journal of Economic Literature* 50(1), 2012, 3-50.

Further readings

Chetty, R. (2009). “Is the Taxable Income Elasticity Sufficient to Calculate Deadweight Loss? The Implications of Evasion and Avoidance.” *American Economic Journal: Economic Policy* 1, 31-52.

Feldstein, M. (1999). “Tax Avoidance and the Deadweight Loss of the Income Tax.” *Review of Economics and Statistics* 81, 674-680.

Goolsbee, A. (2000). “What Happens When You Tax the Rich? Evidence from Executive Compensation.” *Journal of Political Economy* 108, 352-378.

Gruber, J. and E. Saez (2002). “The Elasticity of Taxable Income: Evidence and Implications.” *Journal of Public Economics* 84, 1-32.

Kleven, H., Landais, C., & Saez, E. (2013). Taxation and international mobility of superstars: Evidence from the European football market. *American Economic Review*, 103(5), 1892-1924.

Kopczuk, W. (2005). "Tax Bases, Tax Rates, and the Elasticity of Reported Income." *Journal of Public Economics* 89, 2093-2119.

Imbens, G. W., Rubin, D. B., & Sacerdote, B. I. (2001). Estimating the effect of unearned income on labor earnings, savings, and consumption: Evidence from a survey of lottery players. *American Economic Review*, 91(4), 778-794.

Topic 5: Optimal commodity taxation (skipped)

Ramsey rule of taxation, equity-efficiency trade-off

Required readings

[AS] Chapter 12.

Salanié, B. (2003). Chapter 3 in *The Economics of Taxation*, MIT Press, Cambridge.

Auerbach, A. (1985). "The Theory of Excess Burden and Optimal Taxation," in A. Auerbach and M. Feldstein (eds.), *Handbook of Public Economics* vol. 1, Elsevier, Amsterdam.

Further readings

Besley, T., & Jewitt, I. (1995). Uniform taxation and consumer preferences. *Journal of Public Economics*, 58(1), 73-84.

Diamond, P. (1975). "A Many-Person Ramsey Tax Rule." *Journal of Public Economics* 4, 335-342.

Diamond, P.A. and J.A. Mirrlees (1971). "Optimal Taxation and Public Production, Part I: Production Efficiency, Part II: Tax Rules." *American Economic Review* 61, 8-27, 261-278.

Kleven, H.J. (2004). "Optimum Taxation and the Allocation of Time." *Journal of Public Economics* 88, 545-557.

Topic 6: Optimal taxes and transfers

Optimal income tax and transfers, Mirrlees and beyond, optimal transfer programs.

Required readings

[AS] Chapter 13.

Diamond, P. and E. Saez (2011). "From Basic Research to Policy Recommendations: The Case for a Progressive Tax." *Journal of Economic Perspectives* 25, 165-190.

Piketty, T. and E. Saez (2013). "Optimal Labor Income Taxation," in A. Auerbach, R. Chetty, M. Feldstein, and E. Saez (eds.), *Handbook of Public Economics* vol. 5, Elsevier, Amsterdam.

Saez, E. (2002). "Optimal Income Transfer Programs: Intensive Versus Extensive Labor Supply Responses." *Quarterly Journal of Economics* 117, 1039-1073.

Further readings

Akerlof, G. (1978). "The Economics of 'Tagging' as Applied to Optimal Income Tax, Welfare Programs, and Manpower Planning." *American Economic Review* 68, 8-19.

Atkinson, A. and J. Stiglitz (1976). "The design of tax structure: Direct versus indirect taxation." *Journal of Public Economics* 6, 55-75.

Besley, T. and S. Coate (1992). "Workfare versus Welfare: Incentive Arguments for Work Requirements in Poverty-Alleviation Programs." *American Economic Review* 82, 249-61.

Diamond, P. (1998). "Optimal Income Taxation: An Example with a U-Shaped Pattern of Optimal Marginal Tax Rates." *American Economic Review* 88, 83-95.

Kaplow, L. (2006). "On the Undesirability of Commodity Taxation Even When Income Taxation is Not Optimal." *Journal of Public Economics* 90, 1235-1250.

Kleven, H., C. Kreiner, and E. Saez (2009). "The Optimal Income Taxation of Couples." *Econometrica* 77, 537-560.

Laroque, G. (2005). "Indirect taxation is superfluous under separability and taste homogeneity: A simple proof." *Economic Letters* 87, 141-144.

Mankiw, G. and M. Weinzierl (2010). "The Optimal Taxation of Height: A Case Study of Utilitarian Income Redistribution." *American Economic Journal: Economic Policy* 2, 155-176.

Mirrlees, J. (1971). "An Exploration in the Theory of Optimal Income Taxation." *Review of Economic Studies* 38, 175-208.

Nichols, A. and R. Zeckhauser (1982). "Targeting Transfers through Restrictions on Recipients." *American Economic Review Papers & Proceedings* 72, 372-77.

Saez, E. (2001). "Using Elasticities to Derive Optimal Income Tax Rates." *Review of Economics Studies* 68, 205-229.

Saez, E. (2002b). "The Desirability of Commodity Taxation Under Non-Linear Income Taxation and Heterogeneous Tastes." *Journal of Public Economics* 83, 217-230.

Saez, E., & Stantcheva, S. (2016). Generalized social marginal welfare weights for optimal tax theory. *American Economic Review*, 106(1), 24-45.

Salanié, B. (2003). Chapters 4 and 8 in *The Economics of Taxation*, MIT Press, Cambridge.

Topic 7: Tax evasion and avoidance

A simple model of tax evasion, taxation in developing countries, empirical findings of evasion elasticities.

Required readings

Kleven, H. J., M. Knudsen, C. T. Kreiner, S. Pedersen, and E. Saez (2011). “Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark.” *Econometrica* 79, 651-692.

Besley, T. and T. Persson (2013). “Taxation and Development,” in A. Auerbach, R. Chetty, M. Feldstein, and E. Saez (eds.), *Handbook of Public Economics* vol. 5, Elsevier, Amsterdam.

Kleven, H. J. (2014). How can Scandinavians tax so much?. *Journal of Economic Perspectives*, 28(4), 77-98.

Pomeranz, D. (2015), “No taxation without information: Deterrence and self-enforcement in the value added tax”, *American Economic Review*, 105(8), 2539-69.

Slemrod, J. and S. Yitzhaki (2002). “Tax Avoidance, Evasion and Administration,” in A. Auerbach and M. Feldstein (eds.), *Handbook of Public Economics* Vol. 3, Elsevier, Amsterdam.

Further readings

Allingham, M. and A. Sandmo (1972). “Income Tax Evasion: A Theoretical Analysis.” *Journal of Public Economics* 1, 323-338.

Alstadsæter, A., Johannesen, N., & Zucman, G. (2018). “Tax evasion and inequality”, *American Economic Review* (forthcoming).

Andreoni, J., B. Erard, and J. Feinstein (1998). “Tax Compliance.” *Journal of Economic Literature* 36, 818-860.

Best, M. C., Brockmeyer, A., Kleven, H. J., Spinnewijn, J., & Waseem, M. (2015). Production versus revenue efficiency with limited tax capacity: theory and evidence from Pakistan. *Journal of political Economy*, 123(6), 1311-1355.

Guyton, J., Leibel, K., Manoli, D. S., Patel, A., Payne, M., & Schafer, B. (2018). *Tax Enforcement and Tax Policy: Evidence on Taxpayer Responses to EITC Correspondence Audits* (No. w24465). National Bureau of Economic Research.

Khan, A. Q., Khwaja, A. I., & Olken, B. A. (2019). Making moves matter: Experimental evidence on incentivizing bureaucrats through performance-based postings. *American Economic Review*, 109(1), 237-70.

Khan, A. Q., Khwaja, A. I., & Olken, B. A. (2015). Tax farming redux: Experimental evidence on performance pay for tax collectors. *The Quarterly Journal of Economics*, 131(1), 219-271.

Kleven, H. J., Kreiner, C. T., & Saez, E. (2016). Why can modern governments tax so much? An agency model of firms as fiscal intermediaries. *Economica*, 83(330), 219-246.

Kopczuk, W. and C. Pop-Eleches, “Electronic filing, tax preparers, and participation in the earned income tax credit”, *Journal of Public Economics*, Vol. 91, 2007, 1351-1367.

Luttmer, Erzo F. P. and Monica Singhal (2014), “Tax Morale”, *Journal of Economic Perspectives* 28(4), 149-168.

Slemrod, J. (2017), “Tax Compliance and Enforcement: An Overview of New Research and Its Policy Implications” Chapter 4 in Auerbach, A. J., & Smetters, K. A. (Eds.). *The economics of tax policy*. Oxford University Press.

Zucman, G. (2014). “Taxing across borders: Tracking personal wealth and corporate profits.” *Journal of economic perspectives*, 28(4), 121-48.

Part II: Social Insurance

Topic 8: Unemployment insurance

Unemployment insurance, moral hazard, empirical findings.

Required readings

R. Chetty, “A General Formula for the Optimal Level of Social Insurance,” *Journal of Public Economics* 90, 2006, 1879-1901.

Gruber, J. (1997). “The Consumption Smoothing Benefits of Unemployment Insurance,” *American Economic Review* 87, 192-205.

Krueger, A. and B. Meyer (2004). “Labor Supply Effects of Social Insurance,” in A. Auerbach and M. Feldstein (eds.), *Handbook of Public Economics* Vol. 4, Elsevier, Amsterdam.

Further readings

Ashenfelter, O., D. Ashmore, and O. Deschenes, “Do Unemployment Insurance Recipients Actively Seek Work? Randomized Trials in Four U.S. States,” *Journal of Econometrics*, 125(1- 2): 53-75, 2005.

Baily, M. (1978). “Some Aspects of Optimal Unemployment Insurance,” *Journal of Public Economics* 10, 379-402.

Card, R. Chetty, and A. Weber, “Cash-on-Hand and Competing Models of Intertemporal Behavior: New Evidence from the Labor Market,” *Quarterly Journal of Economics*, 122(4), 2007, 1511-1560.

Chetty, R. “Moral Hazard vs. Liquidity and Optimal Unemployment Insurance,” *Journal of Political Economy* 116(2), 2008, 173-234.

Feldstein, M. (1976). Temporary layoffs in the theory of unemployment. *Journal of political economy*, 84(5), 937-957.

French, E., & Jones, J. B. (2017). Health, health insurance, and retirement: a survey. *Annual Review of Economics*, 9, 383-409.

Landais, C. (2015). Assessing the welfare effects of unemployment benefits using the regression kink design. *American Economic Journal: Economic Policy*, 7(4), 243-78.

Meyer, B. (1990) "Unemployment Insurance and Unemployment Spells," *Econometrica* 58, 757-782.

Shimer R. and I. Werning, "Reservation Wages and Unemployment Insurance," *Quarterly Journal of Economics*, 122(3), 2007, 1145--1185.

Schmieder, J. F., & Von Wachter, T. (2016). The effects of unemployment insurance benefits: New evidence and interpretation. *Annual Review of Economics*, 8, 547-581.

Topic 9: Health insurance

Health insurance and adverse selection, empirical tests of adverse selection.

Required readings

Currie, J. and J. Gruber (1996a). "Health Insurance Eligibility, Utilization of Medical Care, and Child Health," *Quarterly Journal of Economics*, 111(2), 1263-1296.

Einav, L., and Finkelstein, A. (2011). Selection in insurance markets: Theory and empirics in pictures. *Journal of Economic Perspectives*, 25(1), 115-38.

Finkelstein, A., Hendren, N., & Shepard, M. (2019) "Subsidizing health insurance for low-income adults: Evidence from Massachusetts", *American Economic Review*, 109(4), 1530-1567.

Rothschild, M. and J. Stiglitz (1976). "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *Quarterly Journal of Economics* 90(4), 629-650.

Further readings

Chetty, R., & Finkelstein, A. (2013). Social insurance: Connecting theory to data. In *Handbook of Public Economics* (Vol. 5, pp. 111-193). Elsevier.

Chiappori, P. A., & Salanié, B. (2000). Testing for asymmetric information in insurance markets. *Journal of political Economy*, 108(1), 56-78.

Currie, J. and J. Gruber (1996b). "Saving Babies: The Efficacy and Cost of Recent Changes in the Medicaid Eligibility of Pregnant Women," *Journal of Political Economy* 104(6), 1263- 1296.

Cutler, D. (2004). "Health Care and the Public Sector", in A. Auerbach and M. Feldstein (eds.), *Handbook of Public Economics* Vol. 4, Elsevier, Amsterdam. Also available as NBER WP 8802.

Einav, L., Finkelstein, A. and J. Levin (2010). "Beyond Testing; Empirical Models of Insurance Markets," *Annual Review of Economics* 2, 311-336.

Einav, L., Finkelstein, A. and M. Cullen. (2010). “Estimating Welfare in Insurance Markets Using Variations in Prices,” *Quarterly Journal of Economics*, 123(3): 877-921.

Einav, L., A. Finkelstein, P. Shrimpf, “Optimal Mandates and the Welfare Cost of Asymmetric Information: Evidence From the U.K. Annuity Market,” *Econometrica*, 78(3), May 2010, 1031- 1092.

Finkelstein, A. (2007). “The Aggregate Effects of Health Insurance: Evidence from the Introduction of Medicare,” *Quarterly Journal of Economics* 122(1), 1-37.

Hall, R. and C. Jones (2005). “The Value of Life and the Rise in Health Spending.” *Quarterly Journal of Economics* 122(1), 39-72.

Manning, W. et al. (1987). “Health Insurance and the Demand for Medical Care: Evidence from a Randomized Experiment”, *American Economic Review* 77(3), 251-177.

Topic 10: Social security and pensions

Definitions of various pension schemes, retirement-savings puzzle, empirical evidence on behavioral responses to pension incentives.

Required readings

[G] Chapter 13.

Barr, N. and P. Diamond (2006). “The Economics of Pensions.” *Oxford Review of Economic Policy* 22(1), 15-39.

Chetty, R., Friedman, J. N., Leth-Petersen, S., Nielsen, T. H., & Olsen, T. (2014). Active vs. passive decisions and crowd-out in retirement savings accounts: Evidence from Denmark. *The Quarterly Journal of Economics*, 129(3), 1141-1219.

Manoli, D. S. and A. Weber (2016a). Nonparametric Evidence on the Effects of Financial Incentives on Retirement Decisions. *American Economic Journal: Economic Policy*, 8(4), 160-182.

Manoli, D. S. and A. Weber (2016b). The effects of the early retirement age on retirement decisions (No. w22561). National Bureau of Economic Research.

Further readings

Attanasio, O. P., & Brugiavini, A. (2003). Social security and households’ saving. *the Quarterly Journal of economics*, 118(3), 1075-1119.

Banks, J., Blundell, R. and S. Tanner (1998). “Is There a Retirement-Savings Puzzle?,” *The American Economic Review* 88(4),769-788.

Blundell, R., Crawford, R., French, E., & Tetlow, G. (2016). Comparing retirement wealth trajectories on both sides of the pond. *Fiscal Studies*, 37(1), 105-130.

Blundell, R., French, E., & Tetlow, G. (2016). Retirement incentives and labor supply. In Handbook of the economics of population aging (Vol. 1, pp. 457-566). North-Holland.

Diamond, P. (2004). "Social Security" Presidential Address to the AEA annual meetings, January 2004. American Economic Review 94(1), 1-24.

Diamond, P. and P. Orszag (2005). "Saving Social Security," Journal of Economic Perspectives 9(2), 11-32.

Feldstein, M. (2005) "Rethinking Social Insurance" Presidential Address to the AEA annual meetings, January 2005, American Economic Review 95(1), 1-24.

Finkelstein, A. and J. Poterba (2004). "Adverse Selection in Insurance Markets: Policyholder Evidence from the U.K. Annuity Market," Journal of Political Economy 112, 183-208.

Gruber, J. and D. Wise (editors) Social Security Programs and Retirement Around the World: The Relationship to Youth Employment. Chicago: University of Chicago Press, 2010.

Gruber, J. and D. Wise (editors) Social Security Programs and Retirement Around the World: Micro Estimation. Chicago, University of Chicago Press: 2004

Gruber, J. and D. Wise (editors) Social Security and Retirement Around the World. Chicago: University of Chicago Press, 1999

Krueger, Alan B. and Jorn-Steffen Pischke, "The Effect of Social Security on Labor Supply: A Cohort Analysis of the Notch Generation", Journal of Labor Economics ,10(4), 1992, 412-437.

Lumsdaine, R., Mitchell, O. S., (1999), "New developments in the economic analysis of retirement", In: Ashenfelter, O. C., Card, D. (Eds.), Handbook of Labor Economics, Volume 3C. North Holland

Madrian, B. C., & Shea, D. F. (2001). The power of suggestion: Inertia in 401 (k) participation and savings behavior. The Quarterly journal of economics, 116(4), 1149-1187.

Stock, J. and D. Wise (1990). "Pensions, the Option Value of Work, and Retirement," Econometrica 58(5), 1151-1180.

Part III: Externalities and public goods

Topic 11: Externalities

Externalities and pigouvian taxation, environmental externalities.

Required readings

[G] Chapters 5, 6.

Autor, D. H., Palmer, C. J., & Pathak, P. A. (2014). Housing market spillovers: Evidence from the end of rent control in Cambridge, Massachusetts. *Journal of Political Economy*, 122(3), 661-717.

Weitzman, M. "Prices vs. Quantities", *Review of Economic Studies*, 41(4), October 1974, 477- 491.

Further readings

Bovenberg, A. L., & Goulder, L. H. (2002). Environmental taxation and regulation. In *Handbook of public economics* (Vol. 3, pp. 1471-1545). Elsevier.

Diamond, P. and J. Hausman, "Contingent Valuation: Is Some Number Better than No Number?", *Journal of Economic Perspectives*, 8, Fall 1994, 45-64.

Edlin, A. and P. Karaca-Mandic, "The Accident Externality from Driving," *Journal of Political Economy* 114(5), 2006.

Fullerton, D. and G. Metcalf, "Environmental Taxes and the Double-Dividend Hypothesis: Did You Really Expect Something for Nothing?" *Chicago-Kent Law Review*, 73(1): 221-256, 1998. Also available as NBER Working Paper 6199, September 1997.

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

Gruber, J. and B. Koszegi, 2001. "Is Addiction Rational? Theory and Evidence", *Quarterly Journal of Economics*, 116(4), 1261-1305.

Rossi-Hansberg, E, P. Sarte, R. Owens, "Housing Externalities," *Journal of Political Economy*, 118(3): 485-535, 2010.

Sandmo, A. "Optimal Taxation in the Presence of Externalities", *Swedish Journal of Economics*, 77(1), 1975, 86-98.

[S] Chapter 10.

Topic 12: Public goods

Public goods, private provision of public goods, public provision of private goods.

Required readings

[AS] Chapter 16.

Andreoni, J. (1990). Impure altruism and donations to public goods: A theory of warm-glow giving. *The economic journal*, 100(401), 464-477.

Andreoni, J., & Payne, A. A. (2013). Charitable giving. In *Handbook of public economics* (Vol. 5, pp. 1-50). Elsevier.

Further readings

Andreoni, J., “An Experimental Test of the Public Goods Crowding-Out Hypothesis”, *American Economic Review* 83 (5), 1317-27, 1993.

A.B. Atkinson and N. H. Stern (1974). Pigou, taxation and public goods. *Review of Economic Studies*, 41(1):119–28.

Bergstrom, T., Blume, L., & Varian, H. (1986). On the private provision of public goods. *Journal of public economics*, 29(1), 25-49.

Besley, Timothy and Maitreesh Ghatak, (2007), “Retailing Public Goods: The Economics of Corporate Social Responsibility” *Journal of Public Economics*, 91(9), 1645-1663.

P. Diamond (2006). Optimal tax treatment of private contributions for public goods with and without warm glow preferences. *Journal of Public Economics*, 90(4–5):897–919.

Gaube, T. “When do Distortionary Taxes Reduce the Optimal Supply of Public Goods?”, *Journal of Public Economics* 76, 2000, 151-180.

Hungerman, D. M. (2005). Are church and state substitutes? Evidence from the 1996 welfare reform. *Journal of Public Economics*, 89(11-12), 2245-2267.

Kingma, B. “An Accurate Measurement of the Crowd-Out Effect, Income Effect, and Price Effect for Charitable Contributions,” *Journal of Political Economy* 97 (1989), 1197-1207.

Mas-Colell, Andreu, Michael Whinston, and Jerry Green, (1995), *Microeconomic Theory*, Oxford: Oxford University Press, Chapter 11.

Morgan, J. (2000). Financing public goods by means of lotteries. *The Review of Economic Studies*, 67(4), 761-784.

Morgan, J., & Sefton, M. (2000). Funding public goods with lotteries: experimental evidence. *The Review of Economic Studies*, 67(4), 785-810.

Samuelson, P. “The Pure Theory of Public Expenditure,” *Review of Economics and Statistics* 387- 89, 1954

Topic 13: Local public goods and fiscal federalism (skipped)

Theoretical and empirical models of decentralized public spending.

Required readings

[AS] Chapter 17.

Besley, Timothy and Stephen Coate (2003), “Central versus Local Provision of Public Goods: A Political Economy Analysis” *Journal of Public Economics*. 87(4), 2611-2637.

Further readings

Besley, Timothy, and Anne Case (1995), "Incumbent Behavior: Vote Seeking, Tax Setting and Yardstick Competition" *American Economic Review*, 85 (1), 25-45.

Besley, Timothy and Michael Smart, (2007), "Fiscal Restraints and Voter Welfare", *Journal of Public Economics*, 91 (3-4), 755-773.

Bewley, Truman, (1981), "A Critique of Tiebout's Theory of Local Public Expenditures," *Econometrica*, 49, 713-740.

Inman, Robert and Daniel Rubinfeld, (1997), "Rethinking Federalism" *Journal of Economic Perspectives*, 11.

Knight, Brian, (2002), "Endogenous Federal Grants and Crowd-out of State Government Spending: Theory and Evidence from the Federal Highway Aid Program," *American Economic Review*, 92(1).

Lockwood, Ben, (1998), "Distributive Politics and the Benefits of Decentralization", *Review of Economic Studies*, 69(2), 313-337.

Oates, Wallace, (1999), "An Essay on Fiscal Federalism", *Journal of Economic Literature*, 37, 1120-1149.

Scotchmer, S. (2002). Local public goods and clubs. *Handbook of public economics*, 4, 1997-2042.

Tiebout, Charles, (1956), "A Pure Theory of Local Public Expenditures," *Journal of Political Economy*, 416-424.

Zhang, X., Fan, S., Zhang, L., & Huang, J. (2004). Local governance and public goods provision in rural China. *Journal of public economics*, 88(12), 2857-2871.

Zhuravskaya, E. V. (2000). Incentives to provide local public goods: fiscal federalism, Russian style. *Journal of Public Economics*, 76(3), 337-368.

Topic 14: Education policy

Public provision of education, model of educational choice, school competition.

Required readings

[G] Chapter 11.

Hastings, J. S., & Weinstein, J. M. (2008). Information, school choice, and academic achievement: Evidence from two experiments. *The Quarterly journal of economics*, 123(4), 1373-1414.

Further readings

Abdulkadiroğlu, A., Angrist, J. D., Dynarski, S. M., Kane, T. J., & Pathak, P. A. (2011). Accountability and flexibility in public schools: Evidence from Boston's charters and pilots. *The Quarterly Journal of Economics*, 126(2), 699-748.

- Abdulkadiroğlu, A., Angrist, J. D., Hull, P. D., & Pathak, P. A. (2016). Charters without lotteries: Testing takeovers in New Orleans and Boston. *American Economic Review*, 106(7), 1878-1920.
- Abdulkadiroğlu, A., Pathak, P. A., & Walters, C. R. (2018). Free to choose: can school choice reduce student achievement?. *American Economic Journal: Applied Economics*, 10(1), 175-206.
- Bettinger, E. (2011). Educational vouchers in international contexts. Chapter 7 in *Handbook of the Economics of Education* (Vol. 4, pp. 551-572). Elsevier.
- Card, D. and A. Krueger, (1992) "Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States", *Journal of Political Economy*, vol. 100(1), 1-40.
- Chetty, R., J.N. Friedman, N. Hilger, E. Saez, D. Schanzenbach, D. Yagan. "How Does Your Kindergarten Classroom Affect Your Earnings? Evidence from Project STAR" *Quarterly Journal of Economics* 126(4): 1593-1660, 2011.
- Currie, J., & Moretti, E. (2003). Mother's education and the intergenerational transmission of human capital: Evidence from college openings. *The Quarterly journal of economics*, 118(4), 1495-1532.
- Duflo, E. (2000). Child health and household resources in South Africa: evidence from the old age pension program. *American Economic Review*, 90(2), 393-398.
- Dynarski, S. M. (2003). Does aid matter? Measuring the effect of student aid on college attendance and completion. *American Economic Review*, 93(1), 279-288.
- Hanushek, E., (1986), "The Economics of Schooling: Production and Efficiency in Public Schools", *Journal of Economic Literature*, vol. 24(3), 1141-77.
- Hanushek, E., (1997) "Assessing the Effects of School Resources on Student Performance : An Update", *Educational Evaluation and Policy Analysis*, vol. 19, 141-164.
- Hanushek, E. A. (2002). Publicly provided education. *Handbook of public economics*, 4, 2045-2141.
- Heckman, J. (2000), "Policies to foster human capital", *Research in Economics*, vol. 54(1), 3-56, 2000.
- Hoxby, C.M. "Does Competition among Public Schools Benefit Students and Taxpayers?" *American Economic Review*, vol. 90(5): 1209-38, 2000.
- Hoxby, C.M. (2000) "Peer Effects in the Classroom: Learning from Gender and Race Variation", NBER Working Papers 7867, National Bureau of Economic Research.
- Jensen, R. (2010). The (perceived) returns to education and the demand for schooling. *The Quarterly Journal of Economics*, 125(2), 515-548.
- Krueger, A. "Experimental Estimates of Education Production Functions" *Quarterly Journal of Economics* 114(2): 497-532, 1999.

- Lochner, L., & Moretti, E. (2004). The effect of education on crime: Evidence from prison inmates, arrests, and self-reports. *American economic review*, 94(1), 155-189.
- Milligan, K., Moretti, E., & Oreopoulos, P. (2004). Does education improve citizenship? Evidence from the United States and the United Kingdom. *Journal of public Economics*, 88(9-10), 1667-1695.
- Moretti, E. (2004). Workers' education, spillovers, and productivity: evidence from plant-level production functions. *American Economic Review*, 94(3), 656-690.
- Muralidharan, K., & Sundararaman, V. (2015). The aggregate effect of school choice: Evidence from a two-stage experiment in India. *The Quarterly Journal of Economics*, 130(3), 1011-1066.
- Rothstein, J. M. (2006). Good principals or good peers? Parental valuation of school characteristics, Tiebout equilibrium, and the incentive effects of competition among jurisdictions. *American Economic Review*, 96(4), 1333-1350.
- Rothstein, J. "Does Competition Among Public Schools Benefit Students and Taxpayers? A Comment on Hoxby (2000)" *American Economic Review*, 97(5), December 2007, 2026-2037.
- Stantcheva, S. (2017). Optimal taxation and human capital policies over the life cycle. *Journal of Political Economy*, 125(6), 1931-1990.
- Todd, P. and K. Wolpin, "On the Specification and Estimation of the Production Function for Cognitive Achievement", *The Economic Journal*, 113(485), 2003, F3-F33.