

# Public Economics for Research Students

## Part II - EC548

### Winter Term 2024-25

**Teachers:** Xavier Jaravel, 32L.3.15 ([X.Jaravel@lse.ac.uk](mailto:X.Jaravel@lse.ac.uk))

Kate Smith, 32L.3.16 ([k.e.smith2@lse.ac.uk](mailto:k.e.smith2@lse.ac.uk))

**Lectures:** Wednesdays 9:00-12:00, SAL.G.20

**Office hours:** **Jaravel:** Tuesdays, 4pm-5pm, please sign up for a slot [here](#) (you can book more than one slot).

**Smith:** Mondays, 2.30pm-3.30pm

**Website:** Lecture notes can be downloaded from the course website on Moodle.

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## Course organisation

**Content:** The course covers empirical and theoretical work on public economics. This includes the empirical welfare economics, optimal labor and capital income taxation, business taxation and tax compliance, externalities, and innovation. The course provides conceptual frameworks to capture efficiency and equity considerations and tightly integrates theoretical and empirical analysis, using both quasi-experimental research designs and structural models. The course aims to give students a broad overview of key topics in public economics and to bring them to the research frontier.

**Lectures:** The course is organized in two parts over the Winter Term. It consists of one weekly three-hour lecture. Each part is divided into two modules taught by different lecturers. For this part, Jaravel teaches weeks 1-5, Smith teaches weeks 6-11.

**Assessment:** The assessment is as follows:

1. 2 problem sets (25% each)  
Due on **21 March** and **25 April**
2. 1 take-home exam (50%)  
Due during the Spring Term (date tbc)

## Seminars

Students participating in the course are expected to attend the LSE Applications Seminar on Monday, the IFS-STICERD Public Economics Seminar and the EC501 student seminars, alternating on Wednesdays. Further information is given at <http://sticerd.lse.ac.uk/new/events/seminar.asp?ID=66>. Please get in touch with Sebastian Ernst ([s.y.ernst@lse.ac.uk](mailto:s.y.ernst@lse.ac.uk)) regarding the student seminars schedule and feel free to sign up to present.

## Reading List

A list of readings for the course is set out below. Most, but not all, readings are available electronically in the Library's collection of electronic journals (<http://www2.lse.ac.uk/library/eresources/Home.aspx>) or by separate internet link.

### General References in Public Economics:

- Atkinson, A. and J. E. Stiglitz (1980). *Lectures on Public Economics*, McGraw-Hill, Singapore.
- Auerbach, A. J. and M. Feldstein (eds.), *Handbook of Public Economics*, vol. 1 (1985), vol. 2 (1987), vol. 3 (2002), vol. 4 (2002), vol. 5 (2013), Elsevier, Amsterdam.
- Institute for Fiscal Studies (2010, 2011). *The Mirrlees Review: Reforming the Tax System for the 21<sup>st</sup> Century*, Volume 1 (Dimensions of Tax Design) and Volume 2 (Tax by Design), Oxford University Press, Oxford.
- Institute for Fiscal Studies (2024). *Dimensions of Inequality: The IFS Deaton Review*, Volume 3, Oxford University Press, Oxford.
- Kaplow, L. (2008). *The Theory of Taxation and Public Economics*, Princeton University Press, Princeton.
- Laffont, J.-J. (1988) *Fundamentals of Public Economics*. MIT Press.
- Myles, G. (1995). *Public Economics*, Cambridge University Press, Cambridge.
- Salanié, B. (2003). *The Economics of Taxation*, MIT Press, Cambridge.

### Background References on Empirical Methods:

- Angrist, J. and A. Krueger (2001). "Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments." *Journal of Economic Perspectives* 15, 69-87.
- Angrist, J. and S. Pischke (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, Princeton.
- Bertrand, M., E. Duflo, and S. Mullainathan (2004). "How Much Should We Trust Differences-in-Differences Estimates?" *Quarterly Journal of Economics* 119, 249-275.
- Borusyak, K., Jaravel, X. and Spiess, J. (2024). "Revisiting event-study designs: robust and efficient estimation." *Review of Economic Studies*.
- Borusyak, K., Hull, P. and Jaravel, X., 2024. *A practical guide to shift-share instruments* (No. w33236). National Bureau of Economic Research.
- Duflo, E. (2002). "Empirical Methods." MIT Mimeo.
- Meyer, B. (1995). "Natural and Quasi-Experiments in Economics." *Journal of Business and Economic Statistics* 13, 151-161.

## Lecture Topics and Readings

Required readings are in bold. Other readings emphasized in class are marked by [\*]

### Weeks 1-5: Xavier Jaravel

#### Lecture 1: Empirical Welfare Analysis

**Hendren, N. and Sprung-Keyser, B., 2020. "A unified welfare analysis of government policies," *Quarterly Journal of Economics*, 135(3), pp. 1209-1318.**

Finkelstein, A. and Hendren, N., 2020. "Welfare analysis meets causal inference," *Journal of Economic Perspectives*, 34(4), pp. 146-167.

#### Lecture 1-2: Estimation of Taxable Income Elasticities

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., and E. Schultz (2014). "Estimating Taxable Income Responses using Danish Tax Reforms." *American Economic Journal: Economic Policy* 6(4), 271-301.**

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

#### Lecture 2-3: Optimal Commodity Taxation (with implications for the taxation of capital income)

Atkinson, A.B. and Stiglitz, J.E., 1976. The design of tax structure: direct versus indirect taxation. *Journal of public Economics*, 6(1-2), pp.55-75.

Diamond, P.A. and Mirrlees, J.A., 1971. Optimal taxation and public production I: Production efficiency. *The American economic review*, 61(1), pp.8-27.

Diamond, P.A. and Mirrlees, A., 1971. Optimal taxation and public production II: Tax rules. *American economic review*, 61, pp.261-278.

**Jakobsen, Katrine, Kristian Jakobsen, Henrik Kleven, and Gabriel Zucman, Wealth Taxation and Wealth Accumulation: Theory and Evidence From Denmark, *The Quarterly Journal of Economics*, Volume 135, Issue 1, February 2020, Pages 329–388,**

Straub, L. and Werning, I., 2020. Positive long-run capital taxation: Chamley-Judd revisited. *American Economic Review*, 110(1), pp.86-119.

#### Lecture 4: Optimal (Labor) Income Taxation

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

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.

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

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

## **Lecture 5: Innovation**

Basker, E. and Simcoe, T., 2021. "Upstream, downstream: Diffusion and impacts of the universal product code," *Journal of Political Economy*, 129(4), pp.1252-1286.

Bell, Alexander M., Raj Chetty, Xavier Jaravel, Neviana Petkova, and John Van Reenen. 2019. "Who Becomes an Inventor in America? The Importance of Exposure to Innovation," *Quarterly Journal of Economics* 134(2): 647-713.

Bloom, Nicholas, Charles I. Jones, John Van Reenen, and Michael Webb., 2020. "Are ideas getting harder to find?," *American Economic Review*, 110(4), pp. 1104-44.

Howell, Sabrina T., 2017. "Financing innovation: Evidence from R&D grants," *American Economic Review*, 107(4), pp. 1136-64.

**Jaravel, Xavier, 2019. "The unequal gains from product innovations: Evidence from the U.S. retail sector," *Quarterly Journal of Economics*, 134(2), pp. 715-783.**

Smith, M., Yagan, D., Zidar, O. and Zwick, E., 2019. "Capitalists in the Twenty-first Century," *Quarterly Journal of Economics*, 134(4), pp. 1675-1745.

**Note:** if time permits, we will also cover applied econometric methods – (i) shift share IV designs; (ii) event study designs.

Goldsmith-Pinkham, P., Sorkin, I. and Swift, H., 2020. "Bartik instruments: What, when, why, and how," *American Economic Review*, 110(8), pp. 2586-2624.

Borusyak, K., Hull, P. and Jaravel, X., 2022. "Quasi-experimental shift-share research designs," *Review of Economic Studies*, 89(1), pp. 181-213.

Borusyak, K., Jaravel, X. and Spiess, J. (2024). "Revisiting event-study designs: robust and efficient estimation." *Review of Economic Studies*.

## **Weeks 6-11: Kate Smith**

### **Lecture 1: Structural methods for public economics**

(a) Dynamic lifecycle models, (b) Applications in recent papers.

Adda, Jérôme, and Russell Cooper. 2003. *Dynamic Economics: Quantitative Methods and Applications*. MIT Press.

Berry, Steven, James Levinsohn, and Ariel Pakes. 1995. 'Automobile Prices in Market Equilibrium'. *Econometrica* 63 (4): 841–90.

———. 2004. 'Differentiated Products Demand Systems from a Combination of Micro and Macro Data: The New Car Market'. *Journal of Political Economy* 112 (1): 68–105.

Berry, Steven T. 1994. 'Estimating Discrete-Choice Models of Product Differentiation'. *RAND Journal of Economics* 25 (2): 242–62.

Berry, Steven T, and Philip A Haile. 2021. 'Foundations of Demand Estimation'. *Handbook of Industrial Organization*, 65.

Blundell, Richard, Monica Costa Dias, Costas Meghir, and Jonathan Shaw. 2016. 'Female Labor Supply, Human Capital, and Welfare Reform'. *Econometrica* 84 (5): 1705–53.

Carroll, Christopher D. 2006. 'The Method of Endogenous Gridpoints for Solving Dynamic Stochastic Optimization Problems'. *Economics Letters* 91 (3): 312–20.

Chetty, Raj. 2009. 'Sufficient Statistics for Welfare Analysis: A Bridge Between Structural and Reduced-Form Methods'. *Annual Review of Economics* 1: 451–88.

**Choukhmane, Taha. 2021. 'Default Options and Retirement Saving Dynamics'. Working paper.**

Kleven, Henrik J. 2021. 'Sufficient Statistics Revisited'. *Annual Review of Economics* 13: 33.

**Low, Hamish, and Costas Meghir. 2017. 'The Use of Structural Models in Econometrics'. *Journal of Economic Perspectives* 31 (2): 33–58.**

Low, Hamish, Costas Meghir, and Luigi Pistaferri. 2010. 'Wage Risk and Employment Risk over the Life Cycle'. *The American Economic Review* 100 (4): 1432–67.

Mahoney, Neale. 2022. 'Principles for Combining Descriptive and Model-Based Analysis in Applied Microeconomics Research'. *Journal of Economic Perspectives* 36 (3): 211–22..

**Nielson, Christopher. 2021. 'Targeted Vouchers, Competition among Schools, and the Academic Achievement of Poor Students'. Working Paper.**

Train, Kenneth E. 2003. *Discrete Choice Methods with Simulation*. Cambridge University Press.

### **Lectures 2-3: Externalities, internalities and public policy**

(a) Theory of corrective taxation, (b) 'sin' taxes on alcohol, cigarettes, soft drinks, (c) salience, (d) environmental policy

Allcott, Hunt, and Michael Greenstone. 2012. 'Is There an Energy Efficiency Gap?' *Journal of Economic Perspectives* 26 (1): 3–28. <https://doi.org/10.1257/jep.26.1.3>.

- Allcott, Hunt, Benjamin B Lockwood, and Dmitry Taubinsky. 2019a. 'Regressive Sin Taxes, with an Application to the Optimal Soda Tax'. *Quarterly Journal of Economics* 134 (3): 1557–1626. <https://doi.org/10.1093/qje/qjz017>.
- . 2019b. 'Should We Tax Soda? An Overview of Theory and Evidence'. *Journal of Economic Perspectives* 33 (3): 23.
- Bovenberg, Lans A., and Lawrence H. Goulder. 2002. 'Environmental Taxation and Regulation'. In *Handbook of Public Economics*, 3:1471–1545. [https://doi.org/10.1016/S1573-4420\(02\)80027-1](https://doi.org/10.1016/S1573-4420(02)80027-1).
- Chetty, Raj. 2015. 'Behavioral Economics and Public Policy: A Pragmatic Perspective'. *American Economic Review* 105 (5): 1–33. <https://doi.org/10.1257/aer.p20151108>.
- Chetty, Raj, Adam Looney, and Kory Kroft. 2009. 'Salience and Taxation: Theory and Evidence'. *American Economic Review* 99 (4): 1145–77. <https://doi.org/10.1257/aer.99.4.1145>.
- Colmer, Jonathan, Ralf Martin, Mirabell Muuls, and Ulrich J. Wagner. 2021. 'Does Pricing Carbon Mitigate Climate Change? Firm-Level Evidence from the EU ETS'. *Working Paper*. [https://drive.google.com/file/d/1d1CjMvWSMc96Z0ZW75hX9mRqRNN-VWYh/view?usp=sharing&usp=embed\\_facebook](https://drive.google.com/file/d/1d1CjMvWSMc96Z0ZW75hX9mRqRNN-VWYh/view?usp=sharing&usp=embed_facebook).
- Diamond, Peter A. 1973. 'Consumption Externalities and Corrective Imperfect Pricing'. *The Bell Journal of Economics* 4 (2): 526–38. <https://doi.org/10.2307/3003052>.
- Dubois, Pierre, Rachel Griffith, and Martin O'Connell. 2020. 'How Well Targeted Are Soda Taxes?'. *American Economic Review* 110 (11).
- Fowlie, Meredith, Mar Reguant, and Stephen P Ryan. 2016. 'Market-Based Emissions Regulation and Industry Dynamics'. *Journal of Political Economy* 124 (1): 55.
- Fullerton, D., A. Leicester, and S. Smith. 2008. 'Environmental Taxes'. *Mirrlees Review*.
- Ganapati, Sharat, Joseph Shapiro, and Reed Walker. 2020. 'Energy Cost Pass-Through in U.S. Manufacturing: Estimates and Implications for Carbon Taxes'. *American Economic Journal: Applied Economics* 12 (2): 303–42. <https://doi.org/10.3386/w22281>.
- Goldin, Jacob, and Tatiana Homonoff. 2013. 'Smoke Gets in Your Eyes: Cigarette Tax Salience and Regressivity'. *American Economic Journal: Economic Policy* 5 (1): 302–36. <https://doi.org/10.1257/pol.5.1.302>.
- Griffith, Rachel, Martin O'Connell, and Kate Smith. 2019. 'Tax Design in the Alcohol Market'. *Journal of Public Economics* 172: 20–35. <https://doi.org/10.1016/j.jpubeco.2018.12.005>.
- . 2022. 'Price Floors and externality correction'. *The Economic Journal* 132 (646): 2273–89. <https://doi.org/10.1093/ej/ueac011>.
- Gruber, Jonathan, and Botond Koszegi. 2004. 'Tax Incidence When Individuals Are Time-Inconsistent: The Case of Cigarette Excise Taxes'. *Journal of Public Economics* 88 (9–10): 1959–87. <https://doi.org/10.1016/j.jpubeco.2003.06.001>.
- Hsiang, Solomon, and Robert E. Kopp. 2018. 'An Economist's Guide to Climate Change Science'. *Journal of Economic Perspectives* 32 (4): 3–32. <https://doi.org/10.1257/jep.32.4.3>.
- Jacobsen, Mark R., Christopher R. Knittel, James M. Sallee, and Arthur A. van Benthem. 2020. 'The Use of Regression Statistics to Analyze Imperfect Pricing Policies'. *Journal of Political Economy* 128 (5): 1826–76. <https://doi.org/10.1086/705553>.
- Kellogg, Ryan, and Mar Reguant. 2021. 'Energy and Environmental Markets, Industrial Organization, and Regulation'. Working Paper 29235. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w29235>.

- Miravete, Eugenio J., Katja Seim, and Jeff Thurk. 2018. 'Market Power and the Laffer Curve'. *Econometrica* 86 (5): 1651–87. <https://doi.org/10.3982/ECTA12307>.
- . 2020. 'One Markup to Rule Them All: Taxation by Liquor Pricing Regulation'. *American Economic Journal: Microeconomics* 12 (1): 1–41. <https://doi.org/10.1257/mic.20180155>.
- Nordhaus, William. 2019. 'Climate Change: The Ultimate Challenge for Economics'. *THE AMERICAN ECONOMIC REVIEW* 109 (6): 24.
- O'Connell, Martin, and Kate Smith. 2021. 'Optimal Sin Taxation and Market Power'. The IFS. <https://doi.org/10.1920/wp.ifs.2021.3021>.
- Pigou, Arthur C. 1920. *The Economics of Welfare*. McMillan&Co., London.
- Sandmo, Agnar. 1975. 'Optimal Taxation in the Presence of Externalities'. *Swedish Journal of Economics* 77 (1): 86–98.

## Lectures 4-5: Business taxation and tax compliance

(a) Stylized facts, (b) corporate tax incidence, (b) corporate taxation and investment, (c) entrepreneurship, (d) international corporate tax

- Chen, Zhao, Xian Jiang, Zhikuo Liu, Juan Carlos Suárez Serrato, and Daniel Xu. 2019. 'Tax Policy and Lumpy Investment Behavior: Evidence from China's VAT Reform'. *NBER Working Paper 26336*, w26336. <https://doi.org/10.3386/w26336>.**
- Chetty, Raj, and Emmanuel Saez. 2005. 'Dividend Taxes and Corporate Behavior: Evidence from the 2003 Dividend Tax Cut'. *Quarterly Journal of Economics* 120 (3): 791–833.
- . 2010. 'Dividend and Corporate Taxation in an Agency Model of the Firm'. *American Economic Journal: Economic Policy* 2 (3): 1–31. <https://doi.org/10.1257/pol.2.3.1>.
- Cooper, Michael, John McClelland, James Pearce, Richard Prisinzano, Joseph Sullivan, Danny Yagan, Owen Zidar, and Eric Zwick. 2016. 'Business in the United States: Who Owns It and How Much Tax Do They Pay?' *Tax Policy and the Economy*, 41.
- Devereux, Michael P., and Rachel Griffith. 2003. 'Evaluating Tax Policy Decisions for Location Decisions'. *International Tax and Public Finance* 10 (1963): 107–26.
- Evans, David S., and Boyan Jovanovic. 1989. 'An Estimated Model of Entrepreneurial Choice under Liquidity Constraints'. *Journal of Political Economy* 97 (4): 808–27.
- Freedman, Judith, and Claire Crawford. 2010. 'Small Business Taxation'. In *Dimensions of Tax Design: The Mirrlees Review*. <https://papers.ssrn.com/abstract=1804333>.
- Fuest, Clemens, Andreas Peichl, and Sebastian Siegloch. 2018. 'Do Higher Corporate Taxes Reduce Wages? Micro Evidence from Germany'. *American Economic Review* 108 (2): 393–418. <https://doi.org/10.1257/aer.20130570>.
- Hall, Robert E., and Dale W. Jorgenson. 1967. 'Tax Policy and Investment Behavior'. *The American Economic Review* 57 (3): 391–414.
- Harberger, Arnold C. 1962. 'The Incidence of the Corporation Income Tax'. *Journal of Political Economy*, 215–40.**
- Hines, J. R., and E. M. Rice. 1994. 'Fiscal Paradise: Foreign Tax Havens and American Business'. *The Quarterly Journal of Economics* 109 (1): 149–82. <https://doi.org/10.2307/2118431>.

- Hines, James R. 1996. 'Altered States: Taxes and the Location of Foreign Direct Investment in America'. *The American Economic Review* 86 (5): 1076–94.
- Humphries, John Eric. 2019. 'The Causes and Consequences of Self-Employment over the Life Cycle'. *Working Paper*.
- Jones, John Bailey, and Sangeeta Pratap. 2020. 'An Estimated Structural Model of Entrepreneurial Behavior'. *American Economic Review* 110 (9): 2859–98. <https://doi.org/10.1257/aer.20170370>.
- Kleven, Henrik Jacobsen. 2014. 'How Can Scandinavians Tax So Much?' *Journal of Economic Perspectives* 28 (4): 77–98. <https://doi.org/10.1257/jep.28.4.77>.
- Kleven, Henrik Jacobsen, Martin B. Knudsen, Claus Thustrup Kreiner, Søren Pedersen, and Emmanuel Saez. 2011. 'Unwilling or Unable to Cheat? Evidence From a Tax Audit Experiment in Denmark'. *Econometrica* 79 (3): 651–92. <https://doi.org/10.3982/ECTA9113>.
- Kopczuk, Wojciech, and Eric Zwick. 2020. 'Business Incomes at the Top'. *Journal of Economic Perspectives* 34 (4): 27–51. <https://doi.org/10.1257/jep.34.4.27>.
- Levine, Ross, and Yona Rubinstein. 2017. 'Smart and Illicit: Who Becomes an Entrepreneur and Do They Earn More?' *Quarterly Journal of Economics* 132 (2): 963–1018. <https://doi.org/10.1093/qje/qjw044>.
- Miller, Helen, Thomas Pope, and Kate Smith. 2020. 'Intertemporal Income Shifting and the Taxation of Owner-Managed Businesses'. *Review of Economics and Statistics* (forthcoming).
- Miller, Helen, and Kate Smith. 2021. 'Capital Taxation and Entrepreneurship'. *Working Paper*.**
- Moon, Terry S. 2020. 'Capital Gains Taxes and Real Corporate Investment'. *Working Paper*.
- Poterba, James M, and Lawrence H Summers. 1984. 'The Economic Effects of Dividend Taxation'. Working Paper 1353. National Bureau of Economic Research. <https://doi.org/10.3386/w1353>.
- Risch, Max. 2021. 'Does Taxing Business Owners Affect Employees? Evidence from a Change in the Top Marginal Tax Rate'. *Working Paper*.
- Slemrod, Joel, and Shlomo Yitzhaki. 2002. 'Tax Avoidance, Evasion, and Administration'. *Handbook of Public Economics* 3: 1423–70. [https://doi.org/10.1016/S1573-4420\(02\)80026-X](https://doi.org/10.1016/S1573-4420(02)80026-X).**
- Suárez Serrato, Juan Carlos, and Owen Zidar. 2016. 'Who Benefits from State Corporate Tax Cuts? A Local Labor Markets Approach with Heterogeneous Firms'. *American Economic Review* 106 (9): 2582–2624. <https://doi.org/10.1257/aer.20141702>.
- Torslov, Thomas, Ludwig Wier, and Gabriel Zucman. 2022. 'The Missing Profits of Nations'. *Review of Economic Studies*. <https://gabriel-zucman.eu/files/TWZ2022.pdf>.
- Xu, Qiping, and Eric Zwick. 2022. 'Tax Policy and Abnormal Investment Behavior', 74.
- Yagan, Danny. 2015. 'Capital Tax Reform and the Real Economy: The Effects of the 2003 Dividend Tax Cut'. *American Economic Review* 105 (12): 3531–63. <https://doi.org/10.1257/aer.20130098>.
- Zwick, Eric, and James Mahon. 2017. 'Tax Policy and Heterogeneous Investment Behavior'. *American Economic Review* 107 (1): 217–48. <https://doi.org/10.1257/aer.20140855>.**