

**EC533 Labour Economics for PhD Students  
2015-16**

**LSE**

**Steve Pischke**

This is a course in Labour Economics. It will introduce you to the major topics studied by labour economists and to the methods they use. At the end of the course, you should have a good idea of research questions, the most relevant literature, as well as what the research frontier looks like. This should help you formulate research questions in this field, as well as equip you to tackle these questions with contemporary methods.

Substantively, the first part of this course is going to focus on human capital investments. Labour economics has been an important discipline in terms of applying and developing empirical techniques. As a result, this part of the course is also going to focus on these empirical methods.

Starred readings will be required, other readings are optional.

*Background readings:*

J.D. Angrist and J.S. Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, 2009 (abbrev. as MHE)

This book covers the empirical techniques we will discuss. While the focus is on the econometrics, many of the examples in the book are relevant to the human capital literature.

J.D. Angrist and J.S. Pischke, *Mastering 'Metrics: The Path from Cause to Effect*, Princeton University Press, 2015, chapter 6.

This is an undergraduate level book on empirical methods. Chapter 6 is an overview of the returns to schooling literature discussing many of the topics discussed here as well. Useful background reading.

D. Acemoglu and D. Autor, *Lectures in Labor Economics*, chapters 1-2 and 8-9 (abbrev. as LLE; available at <http://econ.lse.ac.uk/staff/spischke/ec533>) These lectures primarily cover the theoretical models relevant to the topics.

**MT – Part I: Human Capital and Empirical Methods**

1. Investment in Schooling and the Earnings Function

\*LLE, chapter 1

Y. Ben-Porath, "The Production of Human Capital Over the Life Cycle," *Journal of Political Economy*, Vol. 75, 1967, 352-365.

J. Mincer, *Schooling, Experience, and Earnings*, New York: NBER, 1974.

2. Returns to Schooling – Regression Control and Measurement Error

\*Griliches, Z., "Estimating the Returns to Schooling - Some Econometric Problems," *Econometrica*, vol. 45, January 1977, 1-22

J.S. Pischke and H. Schwandt, "Poorly Measured Confounders are More Useful on the Left Than on the Right," mimeographed, April 2015

\*MHE, sections 3.1 and 3.2

### 3. Returns to Schooling – Instrumental Variables

\*D. Card, “The Causal Effect of Education on Earnings,” in *The Handbook of Labor Economics*, volume IIIA, chapter 30

\*Angrist, J.D. and A. Krueger, “Does Compulsory Schooling Attendance Affect Schooling and Earnings?,” *Quarterly Journal of Economics*, vol. CVI, November 1991, 979-1014

\*MHE, sections 4.1, 4.4, 4.5, 4.6.4

D. Card, “Using Geographic Variation in College Proximity to Estimate the Return to Schooling,” in L. Christophides, K. Grant, and R. Swidinsky, eds., *Aspects of Labour Market Behaviour: Essays in Honour of John Vanderkamp*, Toronto, Canada: University of Toronto Press, 1995, 201-222.

J. Bound, D. Jaeger, and R. Baker, “Problems with Instrumental Variables Estimation When the Correlation Between the Instruments and the Endogenous Explanatory Variables is Weak,” *Journal of the American Statistical Association*, vol. 90, 1995, 443-450.

J. D. Angrist, G. W. Imbens, A.B. Krueger, “Jackknife Instrumental Variables Estimation,” *Journal of Applied Econometrics*, vol. 14, January-February 1999: 57-67.

D.A. Akerberg and P.J. Devereux, “Improved JIVE Estimators for Overidentified Linear Models with and without Heteroskedasticity,” *Review of Economics and Statistics*, vol. 91, May 2009, 351-362.

G.W. Imbens and J.D. Angrist, “Identification and Estimation of Local Average Treatment Effects,” *Econometrica*, Vol. 62, March 1994, 467-475.

J.D. Angrist, G.W. Imbens, and D. Rubin, “Identification of Causal Effects Using Instrumental Variables,” *Journal of the American Statistical Association*, vol. XCI, 1996, 444-455.

P. Oreopoulos, “Estimating Average and Local Average Treatment Effects of Education when Compulsory School Laws Really Matter,” *American Economic Review*, Vol. 96, March 2006, 152-175.

P. Devereux and R. Hart, “Forced to be Rich? Returns to Compulsory Schooling in Britain,” *Economic Journal*, Vol. 120, December 2010, 1345-1364.

T. Conley, C. Hansen, and P. Rossi, “Plausibly Exogenous,” *Review of Economics and Statistics*, Vol. 94, February 2012, 260-272.

K. Buckles and D. Hungerman “Season of Birth and Later Outcomes: Old Questions, New Answers,” NBER Working Paper No. 14573, December 2008.

### 4. Returns to Schooling – Fixed Effects

\*O. Ashenfelter and A.B. Krueger, “Estimates of the Economic Return to Schooling from a New Sample of Twins,” *American Economic Review*, Vol. 84, December 1994, 1157-1173.

O. Ashenfelter and C. Rouse, "Income, Schooling, and Ability: Evidence from A New Sample of Identical Twins," *Quarterly Journal of Economics*, Vol. 113, February 1998, 253-284.

O. Sandewal, D. Cesarini, and M. Johannesson, "The co-twin methodology and returns to schooling – testing critical a assumption," mimeographed, 2009, LSE

Z. Griliches, "Sibling Models and Data in Economics: Beginnings of a Survey," *Journal of Political Economy*, Vol. 87, October 1979, Part 2: Education and Income Distribution, S37-S64.

J. Bound and G. Solon, "Double trouble: on the value of twins-based estimation of the return to schooling," *Economics of Education Review*, vol. 18, 1999, 169–182.

\*MHE, section 5.1

## 5. Compulsory Schooling Laws – Differences in Differences

\*D. Acemoglu and J.D. Angrist, "How Large Are Human-Capital Externalities? Evidence from Compulsory Schooling Laws," *NBER Macroeconomics Annual*, Vol. 15, 2000, 9-59.

P. Oreopoulos, "Estimating Average and Local Average Treatment Effects of Education when Compulsory School Laws Really Matter," *American Economic Review*, Vol. 96, March 2006, 152-175.

J.S. Pischke and T. von Wachter, "Zero Returns to Compulsory Schooling in Germany: Evidence and Interpretation," *Review of Economics and Statistics*, vol. 90, August 2008, 592-598.

P. Devereux and R. Hart, "Forced to be Rich? Returns to Compulsory Schooling in Britain," *Economic Journal*, Vol. 120, December 2010, 1345–1364.

Clay, Karen, Jeff Lingwall, and Melvin Stephens, Jr. "Do Schooling Laws Matter? Evidence from the Introduction of Compulsory Attendance Laws in the United States," NBER Working Paper 18477, October 2012.

\*MHE, section 5.2

## 6. The Signalling Model of Schooling

M. Spence, "Job Market Signalling," *Quarterly Journal of Economics*, vol. 87, 1973, 355-374.

\*LLE, chapter 2

K. Lang and D. Kropp, "Human Capital versus Sorting: The Effects of Compulsory Attendance Laws," *Quarterly Journal of Economics*, vol. 101, August 1986, 609-624.

J. Tyler, R. Murnane, J. B. Willett, "Estimating the Labor Market Signaling Value of the GED," *Quarterly Journal of Economics* vol. 115, May 2000, 431-468.

Y. Rubinstein, "The Use of Inter-States Variation in GED Passing Standards for estimating the Effect of a GED Degree on Labor Market Outcomes of High School Dropouts - A Critique," mimeographed, 2003.

K. Bedard, "Human Capital versus Signalling Models: University Access and High School Dropouts," *Journal of Political Economy* vol.109, August 2001, 749-775.

7. School Resources – Experiments

E.A. Hanushek, "The Economics of Schooling: Production and Efficiency in Public Schools," *Journal of Economic Literature*, Vol. 24, September 1986, 1141-1177.

D. Card and A.B. Krueger "Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States," *Journal of Political Economy*, Vol. 100, February 1992, 1-40.

\*A. B. Krueger "Experimental Estimates of Education Production Functions," *Quarterly Journal of Economics*, Vol. 114, May 1999, 497-532.

\*MHE chapter 2

8. Signalling and School Resources – Regression Discontinuity Design

D. Clark and P. Martorell, "The Signaling Value of a High School Diploma," *Journal of Political Economy*, vol. 122, April 2014, 282 – 318.

\*J. Angrist and V. Lavy 1999, "Using Maimonides' Rule to Estimate The Effect of Class Size on Scholastic Achievement," *Quarterly Journal of Economics*, Vol. 114, May 1999, 533-575.

G. Imbens and K. Kalyanaraman "Optimal Bandwidth Choice for the Regression Discontinuity Estimator," *Review of Economic Studies*, 79 (3): July 2012, 933-959.

J. McCrary "Manipulation of the running variable in the regression discontinuity design: A density test," *Journal of Econometrics*, vol. 142(2), February 2008, 698-714.

\*MHE chapter 6

9. On-the-job training

\*G. Becker, *Human Capital*, 3rd Edition, Chicago: University of Chicago Press, 1993, section III.1

LLE, chapters 8-9

D. Acemoglu, "Training and Innovation in an Imperfect Labor Market," *Review of Economic Studies* vol. 64, 1997, 445-464.

B.C. Greenwald, "Adverse Selection in the Labour Market," *Review of Economic Studies*, Vol. 53, July 1986, 325-347.

D. Acemoglu, J.S. Pischke, "Why Do Firms Train", *Quarterly Journal of Economics*, Vol. 113, 1998, 79-119.

\*D. Acemoglu, J.S. Pischke, "The Structure of Wages and Investment in General Training," *Journal of Political Economy*, vol. 107, June 1999, 539-572.

D. Acemoglu, J.S. Pischke, "Beyond Becker: Training in Imperfect Labor Markets," *Economic Journal*, vol. 109, February 1999, pp F112-142.

D.H. Autor, "Why do Temporary Help Firms Provide Free General Skills Training?" *Quarterly Journal of Economics*, Vol. 116, 2001, 1409-1448.

D. Acemoglu, J.S. Pischke, "Minimum Wages and on-the-Job Training" *Research in Labor Economics*, vol. 22, 2003, 159-202.

H. Fang and A. Gavazza, "Dynamic Inefficiencies in Employment-Based Health Insurance System: Theory and Evidence," *American Economic Review*, vol. 101., Dec. 2011, 3047-3077.

J.S. Pischke "Comments on 'Workplace Training in Europe' by Bassanini et al.," in: G. Brunello, P. Garibaldi, E. Wasmer (eds.) *Education and Training in Europe*, Oxford University Press, 2007, 330-342.

10. Government Training Programs – Experimental vs. non-experimental evaluation

O. Ashenfelter, "Estimating the Effect of Training Programs on Earnings." *Review of Economics and Statistics*, vol. 60, 1978, 47-57.

O. Ashenfelter and D. Card. "Using the Longitudinal Structure of Earnings to Estimate the Effect of Training Programs." *Review of Economics and Statistics*, vol. 67, 1985, 648-660.

\*R.J. Lalonde, "Evaluating the Econometric Evaluations of Training Programs with Experimental Data." *American Economic Review*, vol. 76, 1986, 604-620.

J.J. Heckman and R. Robb, "Alternative methods for evaluating the impact of interventions : An overview," *Journal of Econometrics*, vol. 30, 1985, 239-267.

\*G. Burtless, "The Case for Randomized Field Trials in Economic and Policy Research," *Journal of Economic Perspectives*, 63-84.

\*J.J. Heckman and J.A. Smith, "Assessing the Case for Social Experiments," *Journal of Economic Perspectives*, Vol. 9, 1995, 85-110.

11. Government Training Programs – Regression vs. Matching

\*R. Dehejia and S. Wahba, "Causal Effects in Non-Experimental Studies: Re-Evaluating the Evaluation of Training Programs," *Journal of the American Statistical Association*, Vol. 94, December 1999, 1053-1062.

R. Crumb, G. Imbens, V.J. Hotz, O. Mitnik, "Dealing with Limited Overlap in Estimation of Average Treatment Effects," *Biometrika*, Vol 96, 2008, 187-199.

G. Imbens, "Estimation of Average Treatment Effects Under Unconfoundedness," Lecture 1 of *What's New in Econometrics?*, NBER 2007, [http://www.nber.org/WNE/lect\\_1\\_match\\_fig.pdf](http://www.nber.org/WNE/lect_1_match_fig.pdf)

\*MHE, section 3.3