

Labor 3: Human Capital and the Economics of Education

This course will cover three areas: (i) human capital investments and life-cycle skill formation, (ii) educational production, and (iii) markets for education and schooling. In each of these segments, theoretical perspectives and empirical work will be presented.

Examination

This course will be graded as pass or fail. To obtain a passing grade in this course, students must:

1. Turn in one written homework assignment for the first part of the course.
2. Write three referee reports on an academic paper; one for each part of the course.
3. Present one academic paper during class.
4. Present a research proposal during a workshop at the end of the course.
5. Attend a minimum of 10 lectures.

Specific details, dates and deadlines will be presented on the first day of class.

Instructors

Prof. Matthew Lindquist, SOFI, SU
Assoc. Prof. Jan Sauermann, SOFI, SU
Prof. Jonas Vlachos, Department of Economics, SU

Lectures

Part 1: Matthew Lindquist

Lecture 1: Models of human capital investments
Lecture 2: Returns to education
Lecture 3: Intergenerational mobility
Lecture 4: Intergenerational models of human capital investments

*Student presentations 1
*Homework assignment 1 due

Part 2: Jan Sauermann

Lecture 5: Firm's investments in human capital
Lecture 6: Peer and spill-over effects at work
Lecture 7: Peer effects in education and class size effects
Lecture 8: The short- and long-run effects of teacher quality. Value added models

*Student presentations 2

Part 3: Jonas Vlachos

Lecture 9: The market for education
Lecture 10: Guest lecture by Tommy Andersson (Lund). The design of school choice mechanisms
Lecture 11: Finance, information and accountability
Lecture 12: School policies

*Student presentations 3
*Workshop with presentation of student research proposals

Reading list

Starred * articles are required reading.

Articles with RR can be chosen to write a referee report on.

Articles with SP can be chosen for your student presentation.

Lecture 1: Models of human capital investments

*Acemoglu, Daron and David Autor (2011) Chapters 1 and 2 in “Lectures in Labor Economics”.

*Cahuc, Pierre and André Zylberberg (2004) “Education and Human Capital,” Chapter 2 in *Labor Economics*, MIT Press. (Note that this is chapter 4 in the new edition from 2014)

Lecture 2: Returns to education

Angrist, Joshua D. and Alan Krueger (1991) “Does compulsory school attendance affect schooling and earnings?” *Quarterly Journal of Economics* 106, 976-1014.

Ashenfelter, O. and Rouse, A. (1998) “Income, schooling, and ability: Evidence from a new sample of identical twins,” *Quarterly Journal of Economics* 113, 253-284.

*Cahuc, Pierre and André Zylberberg (2004) “Education and Human Capital,” Chapter 2 in *Labour Economics*, MIT Press. (note that this is chapter 4 in the new edition from 2014)

*Card, David (1999) “The causal effects of education on earnings,” Chapter 30 in Ashenfelter, O. and Card, D. (eds.), *Handbook of Labor Economics* vol. 3A, Amsterdam: Elsevier Science/North-Holland.

(RR/SP) Kirkeboen, Lars J., Edwin Leuven and Magne Mogstad (2016) “Field of Study, Earnings, and Self-Selection,” *The Quarterly Journal of Economics* 131(3), 1057–1111.

Meghir, Costas and Mårten Palme (2005) “Educational Reform, Ability and Parental Background,” *American Economic Review* 95(1), 414-424.

Lecture 3: Intergenerational mobility

*Solon, Gary (1999) “Intergenerational Mobility in the Labor Market,” Chapter 29 in Ashenfelter, O. and Card, D. (eds.), *Handbook of Labor Economics* vol. 3A, Amsterdam: Elsevier Science/North-Holland.

(RR/SP) Björklund, Anders and Markus Jäntti (2012) “How important is family background for labor-economic outcomes?” *Labour Economics* 19, 465-474.

*Black, Sandra E. and Paul J. Devereux () “Recent Developments in Intergenerational Mobility,” Chapter 16 in Ashenfelter, O. and Card, D. (eds.), *Handbook of Labor Economics* vol. 4B, Amsterdam: Elsevier Science/North-Holland.

(RR/SP) Chetty, Raj, Nathaniel Hendren, Patrick Kline and Emmanuel Saez (2014) “Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States,” *Quarterly Journal of Economics* 129(4): 1553-1623.

(RR/SP) Raj Chetty & Co. “mobility and inequality” paper of your choosing. Check out rajchetty.com.

Lecture 4: Intergenerational models of human capital investments

(RR/SP) Almond, Douglas and Janet Currie (2011) "Human capital development before age five," in Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics Volume 4B*:1487-1541.

* Heckman, James J. and Stefano Mosso (2014) "The Economics of Human Development and Social Mobility," *Annual Review of Economics* 6:689-733.

* Holmlund, Helena, Mikael Lindahl and Erik Plug (2011) "The Causal Effect of Parents' Schooling on Children's Schooling: A Comparison of Estimation Methods," *Journal of Economic Literature* 49(3): 615-651.

Lefgren, Lars, Matthew J. Lindquist and David Sims (2012) "Rich Dad, Smart Dad: Decomposing the Intergenerational Transmission of Income," *Journal of Political Economy* 120(2): 268-303.

Solon, Gary (2004) "A model of intergenerational mobility variation over time and place," in Miles Corak (ed.) *Generational Income Mobility in North America and Europe*, 38-47.

Lecture 5: Firm's investments in human capital

* Acemoglu, D., & Pischke, J. (1999). The Structure of Wages and Investment in General Training. *Journal of Political Economy*, 107(3), 539-572.

Becker, G.S. (1964) *Human Capital*. University of Chicago Press.

De Grip, A. and J. Sauermann (2012), "The Effects of Training on Own and Co-Worker Productivity: Evidence from a Field Experiment" *Economic Journal*, 122(560), pp. 376-399.

Jacobson, Louis S, LaLonde, Robert and Sullivan, Daniel, (1993), Earnings Losses of Displaced Workers, *American Economic Review*, 83, issue 4, p. 685-709

(RR / SP) Konings, J, and S. Vanormelingen (2015), The Impact of Training on Productivity and Wages: Firm-Level Evidence, *Review of Economics and Statistics*, Vol. 97, No. 2: 485-497

Leuven, E., and H. Oosterbeek (2008), An alternative approach to estimate the wage returns to private-sector training, *Journal of Applied Econometrics*, 23(4), pp. 423-434.

Lecture 6: Peer and spill-over effects at work

(RR / SP) Azoulay, Pierre, Joshua S. Graff Zivin, and Jialan Wang (2010) "Superstar Extinction." *Quarterly Journal of Economics* 125.2 549-589.

* Cornelissen, Thomas, Christian Dustmann, and Uta Schönberg. 2017. "Peer Effects in the Workplace." *American Economic Review*, 107(2): 425-56.

* Mas, Alexandre, and Enrico Moretti. 2009. "Peers at Work." *American Economic Review*, 99(1): 112-45.

Moretti, Enrico. 2004. "Workers' Education, Spillovers and Productivity: Evidence from Plant-Level Production Functions", *American Economic Review*, 94(3).

(RR / SP) Waldinger, Fabian. 2012. Peer Effects in Science – Evidence from the Dismissal of Scientists in Nazi Germany. *The Review of Economic Studies*, vol. 79, no. 2, pp. 838-861.

Lecture 7: Peer effects in education and class size effects

Peer effects in education

(RR) Anelli, M. and Peri, G. (forthcoming), The Effects of High School Peers' Gender on College Major, College Performance and Income. *Economic Journal*.

(RR / SP) Booij, Adam S. Edwin Leuven, Hessel Oosterbeek; Ability Peer Effects in University: Evidence from a Randomized Experiment, *The Review of Economic Studies*, Volume 84, Issue 2, 1 April 2017, Pages 547–578

* Carrell, S.E., Fullerton, R.L. and West, J.E., 2009. Does your cohort matter? Measuring peer effects in college achievement. *Journal of Labor Economics*, 27(3), pp.439-464.

(RR) Murphy, Richard, and Felix Weinhardt (2016), Top Of The Class: The Importance of Ordinal Rank.

Class size effects

* Angrist, J.D. and Lavy, V., 1999. Using Maimonides' rule to estimate the effect of class size on scholastic achievement. *The Quarterly Journal of Economics*, 114(2), pp.533-575.

(RR / SP) Fredriksson, P., Öckert, B. and Oosterbeek, H., 2012. Long-term effects of class size. *The Quarterly Journal of Economics*, 128(1), pp.249-285.

Krueger, A. B. (2003), Economic Considerations and Class Size. *The Economic Journal*, 113: F34–F63.

Lecture 8: The short- and long-run effects of teacher quality

(RR) Carrell, S.E. and West, J.E., 2010. Does professor quality matter? Evidence from random assignment of students to professors. *Journal of Political Economy*, 118(3), pp.409-432.

(SP) Chetty, R., Friedman, J.N. and Rockoff, J.E., 2014. Measuring the impacts of teachers I: Evaluating bias in teacher value-added estimates. *The American Economic Review*, 104(9), pp.2593-2632.

* Chetty, R., Friedman, J.N. and Rockoff, J.E., 2014. Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood. *The American Economic Review*, 104(9), pp.2633-2679.

(RR) Feld, J., Salamanca, N, and U. Zoelitz (2017), Students are Almost as Effective as Professors in University Teaching, unpublished manuscript

Kane, T. and D. Staiger (2008), Estimating Teacher Impacts on Student Achievement: An Experimental Evaluation, NBER Working Paper 14607.

Krueger, Alan, (1999), Experimental Estimates of Education Production Functions, *The Quarterly Journal of Economics*, 114, issue 2, p. 497-532.

Lecture 9: The market for education

* Hoxby, C. (2003), "School Choice and School Productivity. Could School Choice Be a Tide that Lifts All Boats?" in *The Economics of School Choice* NBER. <http://www.nber.org/chapters/c10091>.

* MacLeod, W.B. och M. Urquiola (2015). Reputation and School Competition, *American Economic Review*, 105(11), 3471-3488.

* Rothstein, Jesse (2006). 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.

Abdulkadiroglu A, Pathak P.A., Walters C (2018). Free to Choose: Can School Choice Reduce Student Achievement? *American Economic Journal: Applied Economics*, 10:1, 175-206.

(RR) Abdulkadiroglu A, Pathak P.A., J. Schellenberg, C. Walters (2017). "Do parents value school effectiveness?" NBER WP 23192.

Abdulkadiroglu, A., J. Angrist, and P. Pathak (2014). The Elite Illusion. *Econometrica*, 82(1), 137-196.

(SP) Barseghyan, L., D. Clark, and S. Coate (2017). "Public School Choice: An Economic Analysis", Revised version of NBER WP 20701. Find it here: https://barseghyan.economics.cornell.edu/docs/BCC_2017.pdf

(RR) Nathalie Bau (2017). School competition and Product Differentiation". WP University of Toronto. Find it here: <https://sites.google.com/site/nataliebau/>.

Böhlmark, A. and M. Lindahl (2015). Independent Schools and Long-Run Educational Outcomes: Evidence from Sweden's Large Scale Voucher Reform. *Economica*, 82, 508-551.

Böhlmark, A., M. Lindahl, and H. Holmlund (2016). School Choice and Segregation, *Journal of Population Economics*, 29, 1155-1190.

Burgess, S., E. Greaves, A. Vignoles, and D. Wilson (2015), What Parents Want. School Preferences and School Choice. *Economic Journal*, 125, 1262-1289.

Deming, D., J. Hastings, T. Kane, and D. Staiger (2014), "School Choice, School Quality, and Postsecondary Attainment", *American Economic Review*, 104:3, 991-1013.

Eyles, A., S. Machin, and S. McNally (2017). Unexpected school reform: Academisation of primary schools in England. *Journal of Public Economics*, 155, 108-121.

Lavy, V. (2010), "Effects of Free Choice Among Public Schools", *Review of Economic Studies*, 77, 1164-1191.

Vlachos, J. and B. Tyrefors-Hinnerich (2017), "The Impact of Voucher Schools on Upper-Secondary Student Achievement. Swedish Evidence using External and Internal Test Evaluations", *Labour Economics*, 47, 1-14.

Söderström, M. and R. Uusitalo (2010), "School Choice and Segregation. Evidence from an Admissions Reform", *Scandinavian Journal of Economics*, 112(1), 55-76.

Wondrarschek, V, K. Edmark, K., and M. Frölich (2013). The Short and Long Term Effects of School Choice on Student Outcomes: Evidence from a School Choice Reform in Sweden. *Annals of Economics and Statistics*, 111–112, 71–102, 2013.

SURVEY: Black, S. and S. Machin (2011). Housing Valuations of School Performance. Chapter 10 in *Handbook of the Economics of Education*, vol 3.

SURVEY: Epple, D., R. Romano, and R. Zimmer (2016). Charter schools: A survey of research on their characteristics and effectiveness. Chapter 3 in Handbook of the Economics of Education, volume 5.

SURVEY: Epple, D., R. Romano, and M. Urquiola (2017). School vouchers: A survey of the economics literature. Journal of Economic Literature, 55:2, 441-492.

SURVEY: Urquiola, M. (2016). Competition among schools: Traditional public and private schools. Chapter 4 in Handbook of the Economics of Education, volume 5.

CLASSIC: Cullen, J. B. Jacob, and S. Levitt (2006), "The Effect of School Choice on Participants: Evidence from Randomized Lotteries", *Econometrica*, 74(5), 1193-1230.

Lecture 10: School choice mechanisms (Guest lecture, Tommy Andersson, Lund university)

* Abdulkadiroglu A, Pathak P.A., Roth A.E., Sönmez T (2006). The Boston Public School Match. American Economic Review 95, No. 2, pp. 368-371. MOTE! The NBER Working paper (No. 11965) version is more detailed and more informative.

* Abdulkadiroglu A, Pathak P.A., Roth A.E., Sönmez T (2009). Strategy-proofness versus Efficiency in Matching with Indifferences: Redesigning the New York City High School Match. American Economic Review 99, No. 5, pp. 1954–1978.

* Abdulkadiroglu A, Sönmez T (2003). School Choice: A Mechanism Design Approach. American Economic Review 93, No. 3, pp. 729-747.

* Kojima F (2012) School choice: Impossibilities for affirmative action. Games and Economic Behavior 75, Issue 2, pp. 685-693.

* Hafalir I.E., Yenmez M.B., Yildirim M.A. (2013). Effective affirmative action in school choice. Theoretical Economics 8, Issue 2, pp. 325–363.

Abdulkadiroglu A, Che Y-K, Pathak P.A., Roth A.E., Tercieux O (2017). "Minimizing Justified Envy in School Choice: The Design of New Orleans' OneApp". NBER Working Paper 23265.

(SP) Avery, C. and P. Pathak (2017). The distributional consequences of public school choice. NBER WP 21525, latest version here: <https://economics.mit.edu/files/14472>

(SP) Calsamiglia, C., C. Fu, and M. Guell (2017). Structural Estimation of a Model of School Choices: the Boston Mechanism vs. Its Alternatives. Available here: <https://sites.google.com/site/caterinacalsamiglia/research>.

(RR) Dany Kessel and Elisabet Olme (2018). School Choice Priority Structures and School Segregation. Mimeo: ask Jonas Vlachos for access.

Dur U, Kominers S.D., Pathak P, Sönmez T (2016). Reserve Design: Unintended Consequences and The Demise of Walk Zones in Boston. Working paper, MIT. <https://economics.mit.edu/files/12443>.

SURVEY: Pathak, P. A. (2011). The mechanism design approach to student assignment. Annual Review of Economics, 3(1):513–536.

CLASSIC: Gale D, Shapley L.S. (1962). College Admissions and the Stability of Marriage. The American Mathematical Monthly Vol. 69, No. 1, pp. 9-15

Lecture 11: Finance, information and accountability

* Angrist et al (2017). Leveraging lotteries for school value added. *Quarterly Journal of Economics*, 871-919. doi:10.1093/qje/qjx001

* Jackson, K., R. Johnson, and C. Persico (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reforms. *Quarterly Journal of Economics*, 157-218. doi:10.1093/qje/qjv036

* Deming, D., S. Cohodes, J. Jennings, and C. Jencks (2016). School accountability, postsecondary attainment, and earnings. *Review of Economics and Statistics*, 98:5, 848-862.

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

(SP) Andrabi, T., J. Das and I. Khwaja (2017). Report cards: The impact of providing school and child test scores on educational markets. *American Economic Review*, 107:6, 1535-1563.

(RR) Bassok, D., T. Dee, and S. Lathan (2017). The effects of accountability incentives in early childhood education. NBER WP 23859.

Billings, S., D. Deming, and J. Rockoff (2014). School Segregation, Educational Attainment, and Crime. Evidence from the End of Busing in Charlotte-Mecklenburg. *Quarterly Journal of Economics*, 435-476.

Figlio, David N. and Maurice E. Lucas (2004). What's in a Grade? School Report Cards and the Housing Market. *The American Economic Review*, 94(3), 591–604.

(SP) Gilrane, M., H. Macartney, and R. McMillan (2018). Education reform in general equilibrium. NBER WP 24191.

Kerr, S., T. Pekkarinen, M. Sarvimäki and R. Uusitalo (2015), "Post-Secondary Education and Information on Labor Market Prospects: A Randomized Field Experiment", IZA DP 9372.

Koning, P. and K. Van der Wiel (2013). Ranking the schools: How school quality information affects school-choice in Netherlands. *Journal of the European Economic Association*. 466-493.

Mizala, A. and M. Urquiola (2013). School markets: The impact of information approximating schools' effectiveness. *Journal of Development Economics*, 103, 313-335.

Reback, R., J. Rockoff and H. Schwartz (2014). Under Pressure: Job Security, Resource Allocation, and Productivity in Schools under No Child Left Behind. *American Economic Journal: Economic Policy*, 6:3, 207-241

(SP) Rothstein, J. (2015). Teacher quality when teacher supply matters. *American Economic Review*, 105:1, 100-130.

SURVEY: Charbier, J., S. Cohodes, and P. Oreopoulos (2016). What can we learn from charter school lotteries? *Journal of Economic Perspectives*, 30:3, 57-84.

SURVEY: Figlio, D. and S Loeb (2011). School accountability. Chapter 8 in *Handbook of the Economics of Education*, volume 3.

Lecture 12: School management

* Abdulkadiroglu, A., J. Angrist, and P. Pathak (2014), "The Elite Illusion", *Econometrica*, 82(1), 137-196.

* Bloom, N., R. Lemos, R. Sadun, J. Van Reenen (2015). Does Management Matter in Schools? *Economic Journal*, 125, 647-674.

* Fryer, R (2017). The Pupil Factory: Specialization and the production of human capital in Schools. *American Economic Review* (forthcoming). Available here: <https://scholar.harvard.edu/fryer/publications/%E2%80%98pupil%E2%80%99-factory-specialization-and-production-human-capital-schools>

* Fryer, R. (2017). Management and Student Achievement: Evidence from a Randomized Field Experiment. Available here: <https://scholar.harvard.edu/fryer/publications/management-and-student-achievement-evidence-randomized-field-experiment>

(SP) Cicala S, Roland G. Fryer J, Spenkuch (2017). Self-Selection and Comparative Advantage in Social Interactions. *Journal of the European Economic Association* (forthcoming). Available here: <http://home.uchicago.edu/~scicala/papers/mfp/peers.pdf>

Borcan, O., M. Lindahl, and A. Mitrut (2017). Fighting Corruption in Education: What Works and Who Benefits?" *American Economic Journal: Economic Policy*, 9(1): 180-209.

Dee, T., W. Dobbie, B. Jacob, and J. Rockoff (2017). The causes and consequences of test score manipulation: Evidence from the New York Regent's exam. Find it here: <https://www.princeton.edu/~wdobbie/files/regentsmanipulation.pdf>

(RR) Diamond, R. and P. Persson (2016). The Long-term Consequences of Teacher Discretion in Grading of High-stakes Tests." NBER Working Paper No. 22207.

Fryer, R. (2013). Teacher incentives and student achievement: Evidence from New York Public Schools. *Journal of Labor Economics*, 31:2, 373-407.

Fryer, R. (2014). Injecting charter school best-practices into traditional public schools: Evidence from field experiments. *Quarterly Journal of Economics*, 31:2, 1355-1407.

Gibbons, S., S. McNally, and M. Viarengo (2017). Does additional spending help urban schools? An evaluation using boundary discontinuities. *Journal of the European Economic Association* (forthcoming), DOI: 10.1093/jeea/jvx038

Heissel, J. and H. Ladd (2017). School turnaround in North Carolina: A regression discontinuity approach. *Economics of Education Review* (forthcoming): <https://doi.org/10.1016/j.econedurev.2017.08.001>

Jackson, K (2017). What do test scores miss? The importance of teacher effects on non-test score outcomes. *Journal of Political Economy* (forthcoming). Find it here: https://works.bepress.com/c_kirabo_jackson/30/

Karbownik, K. (2014), "Do Changes in Student Quality Affect Teacher Mobility. Evidence from an Admissions Reform", IFAU WP 2014:15.

Lafortune, J., J. Rothstein, and D. Whitmore Schanzenbach (2016). School finance reform and the distribution of student achievement. *American Economic Journal: Applied Economics* (forthcoming). Latest version: https://eml.berkeley.edu/~jrothst/publications/LRS_20170213-complete.pdf.

Lavy, Victor (2009). Performance Pay and Teachers' Effort, Productivity, and Grading Ethics. *American Economic Review*, 99:5, 1979-2011.

(RR) Lavy, V. (2016). Expanding School Resources and Increasing Time on Task: Effects on Students' Academic and Non-cognitive Outcomes. Working paper, latest version available here: https://warwick.ac.uk/fac/soc/economics/staff/vlavy/time_on_task_july__10_2016_text_and_tables.pdf

Oreopoulos, P., R. Brown, A. Lavecchia (2017). Pathways to education: An integrated approach to helping at-risk students. *Journal of Political Economy*, 125:4, 647-984.

SURVEY: Fryer, R. (2017). The Production of Human Capital in Developed Countries: Evidence from 196 Randomized Field Experiments. In: *Handbook of Field Experiments*. Vol. 2. Available here: <https://scholar.harvard.edu/fryer/publications/production-human-capital-developed-countries-evidence-196-randomized-field>

SURVEY: Jacob, B. and J. Rothstein (2016). The measurement student ability in modern assessment systems. *Journal of Economic Perspectives*, 30:3, 85-108.

SURVEY: Neal, D (2011). The Design of Performance Pay in Education. Chapter 6 in *Handbook of the Economics of Education*, volume 4.

SURVEY: Woessmann, Ludger (2016). The importance of school systems: Evidence from international differences in student achievement. *Journal of Economic Perspectives*, 30:3, 3-32.

CLASSIC: Jacob, B. and S. Levitt (2003). Rotten Apples: An Investigation of the Prevalence and Predictors of Teacher Cheating. *Quarterly Journal of Economics*, 118(3): 843-877.