

Labor Economics I

MIT (14.661)
Fall 2019

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J. Angrist

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This course covers traditional and contemporary topics in labor economics and aims to encourage the development of independent research interests. Prerequisites are intermediate microeconomics and a course in econometrics.

The class is offered in two versions, Ultimate and Lite. Participants are asked to select one of these by our second meeting on Tuesday, September 10.

Class requirements (new in 2019)

All 661 participants are expected to:

- Miss no more than two classes over the course of the term
- Take an out-of-class final during exam week
- Complete 4 problem sets with a grade of at least 7/10
- Answer questions when called upon in class

In addition, Ultimate 661 participants are expected to:

- Deliver a brief oral presentation
- Complete an empirical project involving replication and extension of published work

MIT Economics Ph.D. (MEP) students wishing to satisfy major field requirements for labor should take Ultimate 661. Minor field requirements can be met by passing 661 Lite. Undergraduates and other non-MEP students take 661 Lite.

Grading

- Ultimate: 4 problem sets (10 points each); final (25 points); empirical project (25 points); oral presentation (10) points; attendance (10 points)
- Lite: 4 problem sets (10 points each); final (60 points); attendance (10 points)

[LMOD](#) has our readings, assignments, and recitation material.
Recitations will be held every Friday at 10 am in 432.

READINGS

First Part - Angrist

Articles, handbook chapters will be made available through Stellar. Books are also on reserve. An (M) flags studies done as part of an MIT thesis.

Books O. Ashenfelter and R. Layard, *The Handbook of Labor Economics*, Volumes 1-1, North-Holland, 1986; Volume 3A, 3B and 3C, 1999.

J. Angrist and S. Pischke, *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, 2009 (MHE; a reference on empirical methods).

J. Angrist and S. Pischke, *Mastering 'Metrics*, Princeton University Press, 2014 (MM; more methods and examples).

I. Labor Market Facts and Trends

C. Goldin, "Labor Markets in the 20th Century," NBER Historical Working Paper No. 8, June 1994 [also in *Cambridge Economic History of the US*, chapter 10, pp. 549-624].

C. Romer, "Spurious Volatility in Historical Unemployment Data," *Journal of Political Economy*, 94 [1], February 1986, 1-37.

D. Autor and M. Duggan, "The Rise in the Disability Rolls and the Decline in Unemployment," *Quarterly Journal of Economics*, February 2003.

J. Rothstein, "Unemployment and Job Search in the Great Recession," *Brookings Papers on Economic Activity* 43 (Fall 2011), 143-213.

C. Goldin and R. Margo, "The Great Compression: The Wage Structure in the United States at Mid-century," *Quarterly Journal of Economics*, February 1992.

L. Katz and C. Goldin, *The Race Between Education and Technology*, Harvard University Press, 2010.

L. Katz and D. Autor, "Changes in the Wage Structure and Earnings Inequality," chapter 26 in volume 3A of *The Handbook of Labor Economics*, 1999. (M)

T. Lemieux, "The Changing Nature of U.S. Wage Inequality," *J. of Population Economics*, 2007.

D. Autor, L. Katz, and M. Kearney, "Trends in U.S. Wage Inequality: Revising the Revisionists," *The Review of Economics and Statistics*, May 2008. (M)

E. Saez and T. Piketty, "Income Inequality in the United States: 1913-1998," *Quarterly Journal of Economics*, February 2003 (and web updates on Saez home page).

W. Kopczuk, E. Saez, and J. Song, "Earnings Inequality and Mobility in the United States: Evidence From Social Security Data Since 1937," *The QJE*, 125(1), February 2010.

C.B. Mulligan and Y. Rubinstein, "Selection, Investment, and Women's relative Wages over Time," *The QJE* 123 (August 2008), 1061-1110.

H. Farber, "Employment, Hours, and Earnings Consequences of Job Loss; US Evidence from the Displaced Workers Survey," *JOLE* 35 S1 (July 2017).

D. Autor, "Why Are There Still So Many Jobs? The History and Future of Workplace Automation," *J. Economic Perspectives* 29 (Summer 2015), 3-30.

D. Autor, "Work of the Past, Work of the Future," *The AER* 109 (May 2019), 1-32.

II. The Neoclassical Labor Supply Model

A. Basics

A. Deaton and J. Muellbauer, *Economics and Consumer Behavior*, Cambridge University Press, 1980, especially Chapter 4.

M. Killingsworth, *Labor Supply*, Cambridge University Press, 1983; Chapters 1, 2, and 7.

O. Ashenfelter and J. Heckman, "The Estimation of Income and Substitution Effects in a Model of Family Labor Supply," *Econometrica*, 42[1], January 1974, 73-86.

Heckman, James J., "Shadow Prices, Market Wages and Labor Supply," *Econometrica*, 42[4], July 1974, 679-94.

R. Blundell and T. MaCurdy, "Labor Supply: A Review of Alternative Approaches," The HOLE Volume 3A, chapter 27, 1999.

Imbens, Rubin, and Sacerdote, "Estimating the Effect of Unearned Income on Labor Supply: Evidence from a Survey of Lottery Players," *American Economic Review* 91 (2001).

D. Cesarini, E. Lindqvist, M. Notowidigdo, and R. Östling, "The Effect of Wealth on Individual and Household Labor Supply: Evidence from Swedish Lotteries," *American Economic Review*, 107 (2017).

B. Tax and Transfer Programs

R. Moffitt, "Welfare Programs and Labor Supply," Handbook of Public Economics: Volume 4. eds. A. Aurbach and M. Feldstein, September 2002.

N. Eissa and J. Leibman, "Labor Supply Response to the Earned Income Tax Credit," *Quarterly Journal of Economics* 111 (May 1996).

B. Meyer and D. Rosenbaum, "Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers" (with Dan T. Rosenbaum), *Quarterly Journal of Economics* CXVI, August 2001, 1063-1114.

O. Ashenfelter, "The Labor Supply Response of Wage Earners," in Palmer and Pechman, eds., Welfare in Rural Areas, Brookings, 1978, 109-148.

Greenberg, D., and H. Halsey, "Systematic Misreporting and Effects of Income Maintenance Experiments on Work Effort: Evidence from the SIME-DIME," *Journal of Labor Economics*, 1[4], October 1983, 380-407.

O. Ashenfelter, "Determining Participation in Income-Tested Social Programs," *Journal of the American Statistical Association*, 78[383], September 1983, 517-525.

O. Ashenfelter and M. Plant, "Non-Parametric Estimates of the Labor Supply Effects of Negative Income Tax Programs," *Journal of Labor Economics*, 8[1] Part 2, 1990, S397-S415.

Plant, M., "An Empirical Analysis of Welfare Dependence," *American Economic Review*, 74[4], September 1984, 673-684.

R. Blank, "Evaluating Welfare Reform in the United States," *Journal of Economic Literature*, December 2002, 1105-66.

D. Card and D. Hyslop, "Estimating the Effects of a Time-Limited Earnings Subsidy For Welfare-Leavers," *Econometrica* 73 (November 2005), 1723-1770.

J. Rothstein, "Is the EITC as Good as an NIT? Conditional Cash Transfers and Tax Incidence." *American Economic Journal: Economic Policy* 2 (1), February 2010, p.p. 177-208.

R. Chetty, J. Friedman, and E. Saez, "Using Differences in Knowledge Across Neighborhoods to Uncover the Impacts of the EITC on Earnings," *The AER* 103 (December 2013), 2683-2721.

C. The Life-Cycle Model

Lucas, R.E., and L. Rapping, "Real Wages, Employment, and Inflation," *Journal of Political Economy*, 77[5], September-October 1969, 721-764.

G. Becker and G. Ghez, The Allocation of Time and Goods Over the Life-Cycle, Columbia University Press, 1975.

R. Hall, "Stochastic Implications of the Life-Cycle Permanent Income Hypothesis," *The JPE* 86, 1978.

T. MaCurdy, "An Empirical Model of Labor Supply in a Life-Cycle Setting," *Journal of Political Economy*, 89[6], December 1981, 1059-1085.

J. Altonji, "Intertemporal Substitution in Labor Supply: Evidence from Micro Data," *Journal of Political Economy*, 94[3] Part 2, June 1986, S176-S215.

Browning, Deaton and Irish, "A Profitable Approach to Labor Supply and Commodity Demand Over the Life-Cycle," *Econometrica*, 53[3], May 1985, 503-543.

J. Angrist, "Grouped-Data Estimation and Testing in Simple Labor Supply Models," *Journal of Econometrics*, 47[2], 1991, 243-266.

D. Card, "Intertemporal Labor Supply: An Assessment," in C. Sims, ed., Advances in Econometrics Sixth World Congress, vol. II, Cambridge University Press, 1994, 49-78.

R. Blundell, A. Duncan, and C. Meghir, "Estimating Labor Supply Responses Using Tax Reforms," *Econometrica* 66 (1998), 827-861.

P.J. Devereux. "Small Sample Bias in Synthetic Cohort Models of Labor Supply," *The Journal of Applied Econometrics*, June 2007, 839-848.

Metrics: MHE, Section 4.1 (especially 4.1.2 and 4.1.3), and MM, Chapter 3.

Cab drivers, et al.

C. Camerer, L. Babcock, G. Lowenstein, and R. Thaler, "Labor Supply of New York City Cabdrivers: One Day at a Time," *QJE* 112 (1997), 407-441.

Oettinger, Gerald S., "An Empirical Analysis of the Daily Labor Supply of Stadium Vendors," *Journal of Political Economy*, 107[2], April 1999, 360-92.

H. Farber, "Is Tomorrow Another Day? The Labor Supply of New York City Cab Drivers," *JPE*, February 2005.

E. Fehr and L. Goette, "Do Workers Work More if Wages are High? Evidence from a Randomized Field Experiment," *American Economic Review* 97, March 2007.

H. Farber, "Reference-Dependent Preferences and Labor Supply: The Case of New York City Taxi Drivers," *The American Economic Review* 98 (2008), 1069-1082.

T. Stafford, "What Do Fisherman Tell Us that Taxi Drivers Don't? An Empirical Investigation of Labor Supply," *Journal of Labor Economics*, 33[3], 2015.

J. Angrist, S. Caldwell, and J. Hall, "Uber vs Taxi: A Driver's Eye View," NBER Working Paper 23891, September 2017.

A. Mas and Pallais, "Valuing Alternative Work Arrangements," *The AER*, 2017.

A. Mas and A. Pallais, "Labor Supply and the Value of Non-Work Time: Experimental Estimates from the Field," *American Economic Review: Insights*, 1 (2019).

D. Household and Family Models

Becker, Gary S., 1981, *A Treatise on the Family*, Cambridge: Harvard University Press.

Gronau, R., "Leisure, Home Production, and Work -- The Theory of the Allocation of Time Revisited," *Journal of Political Economy*, 85[6], December 1977, 1099-1124.

J. Angrist and W. Evans, "Children and their Parents' Labor Supply: Evidence from Exogenous Variation in Family Size," *AER* 88[3], June 1998, 450-477.

Gelbach, J., "Public Schooling for Young Children and Maternal Labor Supply," *American Economic Review*, 92, March 2002, 307-322. (M)

M. Kearney, "Is There an Effect of Incremental Welfare Benefits on Fertility Behavior? A Look at the Family Cap," *Journal of Human Resources* 39(2), 2004. (M)

M. Kearney and P.B. Levine, "Media Influences on Social Outcomes: The Impact of MTV's *16 and Pregnant* on teen Childbearing," *The AER* 105 (December 2015).

Coen-Pirani, D., León, A. and Lugauer, S. "The Effect of Household Appliances on Female Labor Force Participation: Evidence from Microdata," *Labour Economics*, vol. 17(3), pages 503-513, June 2010.

J. Angrist and I. Fernandez-Val, "Extrapolating: External Validity and Overidentification in the LATE Framework," Chapter 11 in *Advances in Economics and Econometrics (Tenth World Congress)*, 2013.

P. Kline and C.R. Walters, "Evaluating Public Programs with Close Substitutes: The Case of Head Start," *The QJE* 131 (November 2016), 1795-1848.

Metrics: MHE, Chapter 4 (Instrumental Variables), and MM Chapter 3.

III. Labor Demand and Demand-Side Institutions and Policies

A. Labor Demand

D. Hamermesh, Labor Demand, Princeton, NJ: Princeton University Press, Chapters 2-3, 18-136.

D. Hamermesh, "The Demand for Labor in the Long Run," Chapter 8 in O. Ashenfelter and R. Layard [eds.] Handbook of Labor Economics, Volume 1, 1986.

S. Nickell, "Dynamic Models of Labour Demand," Chapter 9 in O. Ashenfelter and R. Layard [eds.] Handbook of Labor Economics, Volume 1, 1986.

D. Card, "Unexpected Inflation, Real Wages, and Employment Determination in Union Contracts," *American Economic Review*, September 1990, 669-88.

J. Angrist, "Short-Run Demand for Palestinian Labor," *Journal of Labor Economics*, July 1996.

D. Card and T. Lemieux, "Can Falling Supply Explain the Rising Return to College for Younger Men? A Cohort-based Analysis," *The QJE* 116 (May 2001), 705-746.

L. Katz and K. Murphy. Changes in relative wages, 1963–1987: supply and demand factors. *The quarterly journal of economics*, 107(1), 35-78, 1992

B. Market Structure and the Min

C. Brown, "Minimum Wages, Employment, and the Distribution of Income", Chapter 32 in O. Ashenfelter and D. Card [eds.] Handbook of Labor Economics, Volume 3, 1999.

D. Card, "Using Regional Variation to Measure the Effect of the Federal Minimum Wage," *Industrial and Labor Relations Review*, October 1992.

D. Card and A. Krueger Myth and Measurement: The New Economics of the Minimum Wage, Princeton: Princeton University Press, 1995.

Cengiz, Doruk, et al. "The effect of minimum wages on low-wage jobs." *The Quarterly Journal of Economics* 134.3, 2019, 1405-1454.

J. Kennan, "The Elusive Effects of Minimum Wages," *Journal of Economic Literature*, 33[4], December 1995, 1949-1965.

R. Dickens, S. Machin and A. Manning, "The Effects of Minimum Wages on Employment: Theory and Evidence From Britain", *Journal of Labor Economics*, 17[1], January 1999, 1-22.

Manning, Alan, *Monopsony in Motion: Imperfect Competition in Labor Markets*, Princeton University Press, 2003.

Propper, Carol and Van Reenen, John. "Can Pay Regulation Kill? Panel Data Evidence on the Effect of Labor Markets on Hospital Performance," *Journal of Political Economy*, 2010, 118 (2). pp. 222-273.

Metrics: MHE, Chapter 5 and MM, Chapter 5 (DD)

C. Immigration and Migration

G.E. Johnson, "The Labor Market Effects of Immigration," *Industrial and Labor Relations Review* 33 (April 1980).

G. Borjas (1995) "The Economic Benefits from Immigration," *JEP* 9 (Spring), 3-22.

J. Altonji and D. Card, "The Effects of Immigration on the Labor Market Outcomes of Less-Skilled Natives," in J. Abowd and R. Freeman, eds., Immigration, Trade, and the Labor Market, University of Chicago Press, 1991, 201-234.

D. Card, "The Impact of the Mariel Boatlift on the Miami Labor Market." *Industrial and Labor Relations Review*, vol.43, (January 1990), pp. 245--257.

Borjas, George J., Richard B. Freeman, and Lawrence F. Katz. "How Much Do Immigrant and Trade Affect Labor Market Outcomes?" *Brookings Papers on Economic Activity*, no. 1 (1997).

Pischke, Jorn-Steffen, and Johannes Velling, "Employment Effects of Immigration to Germany: An Analysis Based on Local Labor Markets," *The Review of Economics and Statistics* 79 (Nov. 1997), 594-604.

J. Angrist and A. Kugler, "Protective or Counter-Productive? Labor Market Institutions and the Effect of Immigration on EU Natives," *The Economic Journal*, June 2003.

G. Borjas, "The Labor Demand Curve is Downward Sloping: Reexamining the Impact of Immigration on the Labor Market," *QJE* November 2003.

P. Cortes, "The Effect of Low-Skilled Immigration on US Prices: Evidence from CPI Data," *JPE* 2008, 381-422. (M)

D. Card, "Immigration and Inequality," *AER* 99 (May 2009), 1-21.

C.L. Smith, "The Impact of Low-skilled Immigration on the Youth Labor Market," *Journal of Labor Economics* 30.1, 2012, 55-89. (M)

H. Bleakley and A. Chin, "Language Skills and Earnings: Evidence from Childhood Immigrants," *RESTAT* 86 (May 2004), 481-96. (M)

G. Ottaviano and G. Peri, "Rethinking the Effects of Immigration on Wages," *J. of the Eur. Ec. Assoc.* 10 (2012), 152-197

G. Borjas, "The Wage Impact of the *Marielitos*: A Reappraisal," *Industrial and Labor Relations Review*, 70 (2017). (see also Clemens and Hunt, <http://www.nber.org/papers/w23433>)

IV. Human Capital

A. Schooling, Experience, and Earnings

Theoretical considerations

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

G. Becker, Human Capital, 3rd Edition, Chicago: University of Chicago press, 1993.

R.J. Willis, "Wage Determinants," Chapter 10 in The Handbook of Labor Economics, volume 1, 1987.

Ben-Porath, Yoram (1967). "The Production of Human Capital Over the Life Cycle," *Journal of Political Economy*, Vol. 75, No. 4-1, pp. 352-365.

R.J. Willis, and Sherwin Rosen, "Education and Self-Selection," *Journal of Political Economy*, 87[5] Part 2, Oct 1979: S7-S36.

R. Freeman, "Demand for Education," Chapter 6 in *The Handbook of Labor Economics*, Volume 1, 1986.

Lang, Kevin, and David Kropp (1986), "Human Capital Versus Sorting: The Effects of Compulsory Attendance Laws," *Quarterly Journal of Economics* 101, 609-624.

Tyler, John, Richard J. Murnane and John Willett, "Estimating the Labor Market Signaling value of the GED," *Quarterly Journal of Economics*, May 2000. (M)

P. Martorell and D. Clark, "The Signaling Value of a High School Diploma," *Journal of Political Economy*, 122[2], April 2014.

B. Empirical Earnings Functions

Returns-to-schooling econometrics

Z. Griliches and W. Mason, "Education, Income, and Ability." *Journal of Political Economy*, 80(3), Part II, 1972, S74-S103.

Z. Griliches, "Estimating the Returns to Schooling: Some Econometric Problems," *Econometrica*, January 1977.

Angrist, J.D. and A. Krueger, "Does Compulsory Schooling Attendance Affect Schooling and Earnings?" *Quarterly Journal of Economics*, 106[4], Nov 1991, 979-1014.

D. Card, "Earnings, Schooling, and Ability Revisited," in: S. Polachek, ed. *Research in Labor Economics*, 14, 1995, 23-48.

D. Card, "The Causal Effect of Education on Earnings," chapter in *The Handbook of Labor Economics*, Volume 3A, 1999.

J. Kling, "Interpreting Instrumental Variables Estimates of the Returns to Schooling," *JBES* 19 (July 2001). (M)

D. Card, "Estimating the Return to Schooling: Progress on Some Persistent Econometric Problems." *Econometrica* 69 (September 2001).

P. Oreopoulos, "Estimating Average and Local Average Treatment Effects of Education when Compulsory Schooling Laws really Matter," *American Economic Review* 96(1), March 2006, pp. 152-175. See also August 2008 ([Link](#)) correction.

MM, Chapter 6.

Returns to experience and OJT

B. Jovanovic (1979) "Firm-Specific Capital and Turnover" *Journal of Political Economy*, 87.6 (December), 1246-60.

J. Altonji and R. Shakotko, "Do Wages Rise with Job Seniority?," *Review of Economic Studies*, July 1987.

Topel Robert (1991). "Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority" *Journal of Political Economy* 99, n1 145-76.

K. M. Murphy and F. Welch, "Empirical Age-Earnings Profiles," *JOLE* 8 (April 1990).

Topel Robert and Michael Ward (1992). "Job Mobility and the Careers of Young Men," *Quarterly Journal of Economics* 107 [2], 439-479.

Lazear, Edward P. *Personnel Economics*, (Cambridge: MIT Press), 1995, Chapter 7.

J. Angrist, "Lifetime Earnings and the Vietnam Era Draft Lottery: Evidence from Social Security Administrative Records," *American Economic Review*, 80[3], June 1990, 313-336.

J. Angrist and S. Chen, "Schooling and the Vietnam-Era GI Bill: Evidence from the Draft Lottery," *American Economic Journal: Applied Economics*, April 2011, 3, 96-119.

Acemoglu, Daron and Steve Pischke (1999). "Beyond Becker: Training in Imperfect Labor Markets," *Economic Journal* vol 109 February 1999, pp F112-142.

Autor, David H. (2001) "Why do Temporary Help Firms Provide Free General Skills Training?," *Quarterly Journal of Economics*, Vol. 116, No. 3, pp. 1409-1448. (M)

Jacobson, Louis, Robert LaLonde and Daniel Sullivan (1993). "Earning Losses of Displaced Workers," *American Economic Review*, vol. 83, pp. 685-709.

V. Unions

H. Gregg Lewis, *Union Relative Wage Effects: A Survey*, Chicago: University of Chicago Press, 1986.

Farber, Henry. "The Analysis of Union Behavior," In Orley Ashenfelter and Richard Layard (eds), The Handbook of Labor Economics, Volume II, 1986.

J.N. Brown and O.C. Ashenfelter, "Testing the Efficiency of Employment Contracts," *Journal of Political Economy* 1986, S40-S87.

O. Ashenfelter and G. Johnson, "Bargaining Theory, Trade Unions, and Industrial Strike Activity," *The AER* 59 (1969), 35-49.

G. Jakubson, "Estimation and Testing of the Union Wage Effect Using Panel Data," *Review of Economic Studies*, 1991, 971-91.

J. DiNardo and D.S. Lee, "Economic Impacts of New Unionization on US Private Sector Employers: 1984-2001," *QJE* 119 (2004), 1383-1442.

D. Lee and A. Mas, "Long-run Impacts of Unions on Firms: New Evidence from Financial Markets, 1961-1999," *The Quarterly Journal of Economics*, 2012, 127(1), 333-378.

B. Frandsen, "The Surprising Impacts of Unionization: Evidence from Matched Employer-Employee Data," BYU Economics Department, Manuscript, December 2014. (M)

B. Frandsen, "The Effects of Collective Bargaining Rights on Public Employee Compensation: Evidence from Teachers, Fire Fighters, and Police," *The ILRR*, 2016. (M)

C. Hoxby, "How Teachers Unions Affect Education Production," *The QJE*, August 1996.

Metrics: MHE, Chapters 5 (Panel Data) and 6 (RD) and MM, Chapter 4 (RD).

Second Part - Acemoglu

Cahuc and Zilberberg's *Labor Economics* MIT Press, 2004 is a useful reference. You may also want to consult the lecture notes on my website (Acemoglu, Daron and David Autor, *Lectures in Labor Economics*, Web notes), though these do not cover all our material.

I. Labor Market Externalities

A. Non-Pecuniary and Pecuniary Externalities in the Labor Market

Rauch, James E. (1993) "Productivity Gains from Geographic Concentration of Human Capital: Evidence from the Cities" *Journal of Urban Economics* 34, 380-400.

Acemoglu, Daron (1996) "A Microfoundation for Social Increasing Returns in Human Capital Accumulation," *Quarterly Journal of Economics* 111 [3], 779-804.

* Acemoglu, Daron and Joshua Angrist (2000) "How Large Are The External Returns to Education: Evidence from Compulsory Schooling Laws" *NBER Macro Annual* 2000.

Moretti, Enrico (2004) "Human Capital Externalities in Cities." *Handbook of Regional and Urban Economics*. Vol. 4. Elsevier, 2004. 2243-2291.

Ciccone, Antonio and Giovanni Peri (2006) "Identifying Human Capital Externalities: Theory with Applications." *The Review of Economic Studies* 73.2: 381-412.

B. Signaling

* Spence, Michael (1973) "Job Market Signaling" *Quarterly Journal of Economics*, 87(3), 355 – 374.

Stiglitz, Joseph (1986) "The Theory of Screening, Education, and the Distribution of Income" *American Economic Review*, 66, 283 – 300.

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Bedard, Kelly (2001) "Human Capital Versus Signaling Models: University Access and High School Dropouts." *Journal of Political Economy* 109.4, 749 – 775.

Chevalier, Arnaud, Colm Harmon, Ian Walker, and Yu Zhu (2004) "Does Education Raise Productivity, or Just Reflect It?" *The Economic Journal* 114, no. 499: F499-F517.

* Tyler, John, Richard J. Murnane and John Willett (2000) "Estimating the Labor Market Signaling value of the GED" *Quarterly Journal of Economics*, 115(2), 431-468.

II. Social Mobility, Peer Effects and Human Capital

A. Social Mobility

* Becker, Gary and Nigel Tomes "Human capital and the rise and fall of families," *Journal of Labor Economics* 4, (1986) S1-S39.

* Solon, Gary "Intergenerational Income Mobility in the United States" *American Economic Review* v82, n3 (June 1992): 393-408

Zimmerman, David J. "Regression Toward Mediocrity in Economic Stature" *American Economic Review* v82, n3 (June 1992): 409-29

Mulligan Casey (1997) *Parental Priorities and Economic Inequality*, (1997) University of Chicago Press.

Chetty, Raj, Nathaniel Hendren, Patrick Kline and Emmanuel Saez (2014) "Is the United States Still a Land of Opportunity? Recent Trends in Intergenerational Mobility" *American Economic Review: Papers and Proceedings*, 104(5), 141-147.

* 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*, vol. 129(4), pages 1553-1623.

* Chetty, Raj, Nathaniel Hendren, and Lawrence F Katz (2016) "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment." *American Economic Review* 106.4, 855 – 902.

Roback, Jennifer (1982) "Wages, Rents and the Quality of Life" *Journal of Political Economy*, 90(6), 1257-1278.

* Galor, Oded and Joseph Zeira (1993) "Income Distribution and Macroeconomics." *Review of Economic Studies*, 60, pp. 35-52.

* Benabou, Roland (1993) "Workings of a City: Location, Education and Production", *Quarterly Journal of Economics*, Vol. 108, No. 3, pp. 619-652.

* Benabou, Roland (1996) "Heterogeneity, Stratification and Growth: Macroeconomic Implications of Community Structure in School Finance" *American Economic Review* Vol. 86, No. 3, pp. 584-609.

Fernandez, Racquel and Richard Rogerson (1996) "Income Distribution, Communities and the Quality of Public Education," *Quarterly Journal of Economics* 111(1), 135-164.

Hoxby, Caroline (1996) "Are Efficiency and Equity in School Finance Substitutes or Complements", *Journal of Economic Perspectives*, Vol. 10, No. 4, pp. 51-72.

B. Peer Effects

Lazear, Edward P. (2001) "Educational Production" *Quarterly Journal of Economics*, 116(3), 777-803.

Black, Sandra (1999) "Do Better Schools Matter? Parental Evaluation of Elementary Education" *Quarterly Journal of Economics*, 114(3), 577-600.

Bayer, Patrick Fernando Ferreira and Robert MacMillan (2007) "Unified Framework for Measuring Preferences for Schools and Neighborhoods," *Journal of Political Economy*, 115(4), 588-68.

Manski, Charles (1993) "Identification of Endogenous Social Effects: the Reflection Problem," *Review of Economic Studies*, 60, 531-542.

Angrist, Joshua (2014) "The Perils of Peer Effects," *Labour Economics*, vol. 30(C), pages 98-108.

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* Sacerdote, Bruce (2001) "Peer Effects with Random Assignment: Results from Dartmouth Roommates" *Quarterly Journal of Economics*, 116, 681-704.

Zimmerman, David (2003) "Peer Effects in Higher Education: Evidence from a Natural Experiment," *Review of Economics and Statistics*, 85, 9-23.

Lyle, David (2007) "Estimating and Interpreting Peer and Role Model Effects from Randomly Assign Social Groups at West Point" *Review of Economics and Statistics*, 89, 289-299.

Mas, Alex and Enrico Moretti (2009) "Peers at Work" *American Economic Review*, vol. 99(1), pages 112-45, March.

Card, David and Laura Giuliano (2013) "Peer Effects in Multiple Equilibria in the Risky Behavior of Friends," *The Review of Economics and Statistics*, MIT Press, vol. 95(4), pages 1130-1149, October.

* Bramoulle, Yann, Habiba Djebbari, and Bernard Fortin (2009) "Identification of Peer Effects through Social Networks" *Journal of Econometrics*, 150, 41-55.

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* Carrell, Scott, Bruce Sacerdote and James West (2013) "From Natural Variation to Optimal Policy? The Lucas Critique Meets Peer Effects" *Econometrica*, 81(3), 855-882.

Zarate, Roman Andres (2018) "Social and Cognitive Peer Effects: Experimental Evidence from Selective High Schools in Peru" MIT mimeo.

III. Incentives, Agency and Efficiency Wages

A. Multitasking

* Holmstrom, Bengt (1979) "Moral Hazard and Observability" *Bell Journal of Economics*, 10, 74-91.

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