

Spring 2008
Department of Urban Studies and Planning: 11.126J, 11.249
Department of Economics: 14.48J

Frank Levy

THE ECONOMICS OF EDUCATION

Instructor: Frank Levy - Room 9-523, phone 3-2089 - flevy@mit.edu
Normal Office Hours: Thursdays 2:00 – 4:00

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Teaching Assistant: Peter Andrew Schnabl (pas@mit.edu)
Office Hours: Wednesdays 4:30 – 5:30, Room TBA

Introduction: This course combines economic theory, econometric literature and institutional literature to examine current issues in U.S. education. The first part of the course explains the nature of the “educational problem”. Education is becoming an increasingly important determinant of individual earnings and, to a lesser extent, a determinant of economy-wide growth. Despite this importance however, the levels of both educational attainment and achievement are rising very slowly – far more slowly than economic theory would predict.

The second part of the course examines what we know about six of the major proposed strategies for addressing the educational problem: smaller class size, improving teaching selection and training, school choice and vouchers, educational standards and accountability, early childhood education and improved college access/aid.

Prerequisite: 14.01 or its equivalent is required.

A NOTE ON ECONOMETRICS: Many of the most important papers in educational economics include application of regression techniques to data in order to test hypotheses – for example, do smaller class sizes actually cause higher student achievement. While 14.32 (Econometrics) is not a prerequisite for this course, we will use four classes at the start of the course – one lecture and three section meetings - to teach the basic econometrics you need to read many of the course readings. Last year, most students found this procedure acceptable but a few students felt the course put too much emphasis on econometrics and said we should explain the course content more clearly. If regression analysis is something you would rather avoid, you should consider taking some other course.

Class Participation: For the course to work, you will need to engage the material and minimize “chalk and talk” where I do all the talking and you sit in your seats taking notes, doing email, etc. Over time, we have tried various methods to achieve that goal. This year, we will try the following combination:

- On the first day of class, we will decide whether we will choose one student

each day to take class notes. If we adopt this system, the notes will then be distributed electronically to other students in the class. This should allow other students to focus more on class discussion. No student will be asked to do the notes for more than one class.

- In advance of most classes, I will distribute study questions for the reading via email. These questions will form the starting point for class discussion but you will be expected to raise additional questions in discussion.
- Rather than have a single midterm, we will have an in-class 30 minute quiz every other week.
- Each student will write a short (3 - 5 pp) memo taking arguing pro or con on one of five policy controversies to be discussed in Friday section. Students will sign up in advance for the policy controversy and whether they want to argue the pro or con position. (We may need to reassign some students to get a balance across topics).

Grading: Grading will be based on the bi-weekly quizzes (45 percent), Policy Memo (10 percent) and final exam (45 percent).

Course Meeting: Tuesdays and Thursdays, 9:00 – 10:30, Room 1-150

Section Meeting: Friday, 12:00 – 1:00. Room E51-063

Peter will run the weekly section meeting and hold office hours. The first two section meetings will present the basic econometrics to needed to read many of the course readings. Subsequent sections will expand on material in class and will hold assigned student debates on various topics.

Approximate Course Outline

(There may be some changes in readings in the last sessions of the course but you will receive plenty of advance warning)

This is an e-reserves course. All readings will all be posted on the course web site:

<http://stellar.mit.edu/S/course/11/sp08/11.126/>

The first five weeks of the course focus on carefully defining the educational problem.

February 5: Defining the Educational Problem.

Readings: Claudia Goldin and Lawrence F. Katz: “Long-Run Changes in the U.S. Wage Structure: Narrowing, Widening, Polarizing”, mimeo, September 2007. Frank Levy: “Institutions

and Income Inequality in 20th Century America”, mimeo, November 15, 2007. Educational Testing Service, “*America’s Perfect Storm: Three Forces Changing Our Nation’s Future* (executive summary), 2007.

February 7: Defining the problem, continued, and How Do We Assess Ideas for Improvement

Readings: Kevin Patterson, “What Doctors Don't Know (Almost Everything)”, *New York Times*, May 5, 2002. James Traub, “NO CHILD LEFT BEHIND; Does It Work?”. *New York Times*, November 10, 2002.

February 8: Section Meeting – Introduction to Probability and Statistics

February 12: Introduction to Regression, Hypothesis Testing and How to Read Regression Tables.

Readings: Jeffrey Wooldridge, *Introductory Econometrics*, Chapter 1, Chapter 2 (sections 2.1-2.4) and Chapter 3 (sections 3.1-3.3).

February 14: Human Capital Theory: The Basic Economist’s Perspective on Education. *First Quiz*

Readings: George Borjas, *Labor Economics*, Chapter 7, pp. 235- 283.

February 15 Section Meeting: Identifying causality - why there is a problem, why randomized experiments are an ideal solution to this problem. Controlling for covariates as an alternative solution.

February 19: No Class – Holiday

February 21: Should We Trust Standard Estimates of the Rate of Return to Education?

Before we spend time and money trying to improve schools, we need to consider the possibility that more time spent in schools may be *correlated* with higher individual earnings but does not *cause* those higher earnings.

Readings: Michael Spence, “Job Market Signaling”, *The Quarterly Journal of Economics*, vol. 87 (3), August 1973, pp. 375-374.) Richard J. Murnane, John Willett and Frank Levy, "The Growing Importance of Cognitive Skills in Wage Determination", *Review of Economics and Statistics*, May 1995, pp. 251-266.

February 22 Section Meeting: Difference-in-difference estimation, instrumental variables.

February 26: Re-Estimating the Rate of Return to Education (I): Addressing the Issue of Ability Bias.

Readings: Esther Duflo, "Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment", *American Economic Review*, September 2001, Read only pp. 795-800 through Section II A. David Card, "Using Geographic Variation in College Proximity to Estimate the Return to Schooling NBER Working Paper No. 4483 October 1993.

February 28: Re-Estimating the Rate of Return to Education (II): Addressing the Issue of Screening. *Second Quiz*

John H. Tyler, Richard J. Murnane and John B. Willett: "Estimating the Labor Market Signaling Value of a GED", *The Quarterly Journal of Economics*, vol. 155 (2), May 2000, pp. 431-468.

February 29 Section Meeting – Discussion of Ability Bias and Signaling

March 4: Were Earnings Always So Dependent on Education?

Readings: Richard B. Freeman, *The Overeducated American*, (Academic Press, 1976) Chapters 1,3.

March 6: Why has the Rate of Return to Education Increased? What Kinds of Skills Do Employers Want?

Readings: Frank Levy and Richard J. Murnane, "Computers, Offshoring, and Skills", MIT working paper, revised May 2006. "How Experts Differ from Novices", Chapter 2 in *How People Learn: Brain, Mind, Experience and School*, National Academy Press, (2000). Frank Levy and Richard J. Murnane, "Complex Communication", chapter 5 in *The New Division of Labor*, Princeton University Press, 2004.

March 7 Section Meeting: The Impact of Trade/Offshoring on the Returns to Education

The remainder of the course focuses on proposed solutions to what we have called the educational problem.

March 11: Do Smaller Classes Improve Student Performance (I)?

Readings: Eric Hanushek, "Assessing the Effects of School Resources on Student Performance: An Update", *Educational Evaluation and Policy Analysis*, Summer 1997, pp. 141-164. Edward

P. Lazear, "Educational Production", *The Quarterly Journal of Economics*, Vol. 116, No. 3. (Aug., 2001), pp. 777-803.

March 13: Do Smaller Classes Improve Student Performance (II)? *Third Quiz*

Readings: Alan B. Krueger, "Experimental Estimates of Education Production Functions", *Quarterly Journal of Economics*, May 1999, pp. 497-532. Barbara Nye; Larry V. Hedges; Spyros Konstantopoulos "The Long-Term Effects of Small Classes: A Five-Year Follow-Up of the Tennessee Class Size Experiment" *Educational Evaluation and Policy Analysis*, Vol. 21, No. 2, Special Issue: Class Size: Issues and New Findings. (Summer, 1999), pp. 127-142.

March 14 Section Meeting – Other evidence on class size and student achievement

March 18: The Labor Market for Teachers and Teacher Training- Background

Readings: Richard J. Murnane and Jennifer Steele, "What is the Problem: The Challenge of Providing Effective Teachers for All Children" in *The Future of Children*, 17 (1), Spring 2007, pp. 15-43. Sean P. Corcoran, William N. Evans and Robert M. Schwab, "Women, the Labor Market, and the Declining Relative Quality of Teachers", *Journal of Policy Analysis and Management*, vol. 23, no. 3, pp. 449-470.

March 20 (Class rescheduled to April 4)

March 21 – NO Section Meeting

March 25 27 Spring Vacation

April 1: Hiring and Tenuring Teachers and In-Service Training

Readings: Thomas J. Kane, Jonah E. Rockoff and Douglass O. Staiger, "What Does Certification Tell Us About Teacher Effectiveness? Evidence from New York City", NBER Working Paper 12155, April 2006. Richard J. Murnane and Frank Levy, "The Third Principle: Train the Frontline Workers", Chapter 6 in *Teaching the New Basic Skills*. Free Press, 1996.

April 3: Outside Speaker on Teacher Hiring in Boston (TBA)

**April 4: (Make-Up Class held at noon instead of Section Meeting)
Introduction to Vouchers, *Fourth Quiz***

Reading: Derek Neal, "How Vouchers Could Change the Market for Education", *Journal of Economic Perspectives*, 16 (4), (Fall 2002), pp. 25-44.

April 8: Vouchers – Early Controversies and Trying to Define Good Evaluations

Readings: Cecilia Rouse, "Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program," *FRBNY Economic Policy Review* 4, 1998, pp. 61-76.)
Jay P. Greene, Paul E. Peterson Jiangtao Du, "Effectiveness of School Choice: "The Milwaukee Experiment" Working Paper, Program in Education Policy and Governance, Harvard University, March 1997.

April 10: Vouchers - A Good Recent Evaluation, and Introductory Theory of Academic Standards and Accountability.

April 11 Section – First Policy Controversy: Resolved – The US should invest substantial funds in reducing class size.

Readings: Justine S. Hastings and Jeffrey M. Weinstein, "Information, School Choice and Academic Achievement: Evidence from Two Experiments", NBER Working Paper 13623, November 2007. Lowell C. Rose and Alec M. Gallup. *39th Annual Phi Delta Kappa/Gallup Poll of the Public's Attitudes Toward the Public Schools* (read the "grades" given to public school on pages 39-40 and take a look at half a dozen other questions to get a sense of public attitudes).

April 15: Academic Standards and Accountability – How Do You Develop the Questions (Guest Speaker TBA).

April 17: Academic Standards and Accountability – Estimated Impacts. *Fifth Quiz*

Readings: Brian Jacob, "Accountability, Incentives and Behavior: The Impact of High Stakes Testing in Chicago Public Schools", *Journal of Public Economics*, 89 (2005), pp. 761-796.

April 18 Section – Second Policy Controversy: Resolved – Public School Districts should move to a voucher-based system of educational finance rather than the current system of grants to existing schools.

April 22 (Holiday)

April 24: How Statewide Assessments are Translated into Changes in the Classroom (Guest Speaker TBA)

April 25 Section – Third Policy Controversy: Resolved - Local School Districts should Financially reward or penalize public schools on the basis of their performance on accountability measures (e.g. test scores).

April 29 Early Childhood – Head Start and Other Programs

Readings: Jens Ludwig and Deborah A. Phillips, “The Benefits and Costs of Head Start”, NBER Working Paper 12973, March 2007. Eric I. Knudsen et. al, “Economic, neurobiological, and behavioral perspectives on building America’s future Workforce.” PNAS, 103 (27), July 5, 2006, pp. 10155-10162.

May 1: Higher Education – Basic Issues *Last Quiz*

Readings: Gordon Winston, “Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education.” *Journal of Economic Perspectives* Winter 1999, pp. 13-36.

May 2 – Section – Fourth Policy Controversy: Resolved – That School Districts should award tenure based on test score improvements in the teacher’s classes.

May 6: Higher Education – Financial Aid

Readings: Sue Dynarski, "Building the Stock of College Educated Labor," NBER Working Paper 11604, September 2004. Sue Dynarski and Judith E. Scott-Clayton, “College Grants on a Postcard: A Proposal for Simple and Predictable Federal Student Aid”, Washington, DC, The Brookings Institution, Hamilton Project Discussion Paper 2007-01, February 2007.

May 8: Higher Education – Remediation and Incentives

Readings: Eric P. Bettinger and Bridget Terry Long, “Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work?” NBER Working Paper 11325, May 2005. Joshua Angrist, Daniel Lang and Philip Oreopoulos, “Lead Them to Water and Pay Them to Drink: An Experiment with Services and Incentives for College Achievement”, National Bureau of Economic Research Working Paper 12790, December 2006.

May 9 – Section – Fifth Policy Controversy: Resolved – That the Federal Government should substantially expand financial aid to higher education.

May 13: Buffer Class (If we do not need this class to cover the material above, we will talk about the uses of technology in the classroom.)

May 15: Course Summary.

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