E10.2155: ECONOMIC ANALYSIS FOR EDUCATION POLICY
NEW YORK UNIVERSITY
FALL 2007

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Lecture:	Thursday evenings, 4:55 – 7:35 p.m. (Silver 720)		
	Section 1: Fridays 2:30 – 3:30 p.m. (Silver 501)	Office hours:	TBD
	Section 2: Fridays 4:55 – 5:55 p.m. (Silver 500)	TA:	Ben Meade

COURSE DESCRIPTION

An introduction to the analytical and empirical methodologies employed in modern economic analyses of education. Emphasis on the application of quantitative methods to a wide range of education policy issues, including the level of individual and public demand for schooling, the impact of school resources on student outcomes, education and economic growth, the operation of teacher labor markets, and the equity and efficiency of school funding. Issues will be addressed in domestic, international, and comparative education contexts. Throughout the course, particular attention will be paid to the ability of quantitative methodology to draw causal inferences of the effects of education policies, and to make predictions about the likely impact of policy changes.

PREREQUISITES

A prior introductory course in statistics, econometrics, or quantitative methods is recommended but not required. An undergraduate or graduate course in microeconomics would be beneficial, but also is not required (I will assume you have no training whatsoever in economics). If you are concerned about your preparation for this course, please see Prof. Corcoran at the beginning of the semester.

COURSE OBJECTIVES

Upon completion of this course, students will be able to:

- apply basic theoretical concepts of microeconomics to the education sector
- read, interpret, and synthesize the findings of simple quantitative research in education and describe common econometric approaches to education research
- identify the challenges associated with causal inference based on quantitative research in education policy, and critically examine existing empirical literature in light of these challenges
- understand how economic theory and empirical methods are applied to questions of human capital accumulation, economic growth and development, public investment in education, educational production, school choice, accountability, and the labor market for teachers
- describe how the economic approach to education research has been applied in an international context and used in comparative studies of educational systems

READINGS

There is currently no textbook devoted to the economics of education (though several are in progress). Thus, assigned readings will consist of book chapters or journal articles from a variety of sources (a reading list is attached). In addition, the following three books will be required reading:

Heckman, James J. and Alan B. Krueger, *Inequality in America: What role for human capital policies?* (Cambridge, Mass.: MIT Press, 2003).

Fiske, Edward B., and Helen F. Ladd, *Elusive equity: Education reform in post-apartheid South Africa* (Washington, D.C.: Brookings Institution Press, 2004).

Schneider, Barbara et al., *Estimating causal effects: Using experimental and observational designs.* (Washington, DC: American Educational Research Association, 2007).

Most if not all of the assigned journal articles are available for download through the NYU Library e-journal portal: http://library.nyu.edu/collections/find_ejournals.html. In some cases I will provide copies of readings, or direct links to the article source, on Blackboard. Class discussion will focus on the assigned readings, so please prepare for each meeting by reading the assigned articles before class.

HOW TO APPROACH READINGS

I have attempted to assign readings that are accessible to any graduate student with a modicum of training in quantitative methods and some institutional knowledge of education policy. That said, *some* of the assigned articles will seem impossibly technical. *Rest assured* that I do not expect you to fully understand research papers with a sophisticated mathematical or econometric content. Rather, you should read these articles with the following objectives in mind:

- be able to identify the specific research question that is being addressed, or hypothesis that is being tested
- be able to place this research question in the context of class discussions
- be able to explain—verbally, not mathematically—the methods the author(s) are using to tackle this research question or test this hypothesis
- where a specific hypothesis is being tested—for example, "*x* has a positive (negative) and significant effect on *y*"—what does the author do to convince the reader that this effect is a *causal* one?
- what data does the author use (if any) to address their research question?

COURSE REQUIREMENTS

Your grade for this course will be determined as follows: *four* written problem sets (5% each for a total of 20%), short written reviews of *two* recent economic analyses of education policy issues (20% each for a total of 40%), and written midterm (20%) and final (20%) examinations.

The problem sets are designed to give you practice with the analytical tools introduced in class and additional depth into specific subject areas. These assignments will be discussed in greater depth in your discussion sections.

Research reviews will consist of written syntheses (4 pages max) that describe and critically analyze a piece of existing empirical research on education from the economics or public policy literature. Papers will be assigned to small groups of students toward the beginning of the semester. Each group will be asked to spend roughly 5-10 minutes in class informally presenting the findings of their assigned paper, for class discussion (I recommend using a brief Powerpoint presentation).

BLACKBOARD

All materials pertaining to this course (lecture notes, readings, problem sets, handouts, etc) will be made available via Blackboard, which can be accessed through NYUHome (home.nyu.edu). Enrollment in the course should automatically give you access to the Blackboard site for the class. Check in with Blackboard frequently for new announcements, lecture notes, readings, and the like.

COURSE OUTLINE

Thursday September 6	Lecture 1: Introduction to the economics of education Friday discussion: Principles of microeconomics	
September 13	Lecture 2: The economist's empirical toolbox Friday discussion: Regression analysis	
September 20	Lecture 3: The demand for education Friday discussion: Review of the human capital model	Problem set 1 due
September 27	Lecture 4: Estimating the return to schooling Friday discussion: Interpreting empirical estimates of the return to schooling	
October 4	Lecture 5: Education, macroeconomic growth, and development Friday discussion: Education data in practice (U.S. and international)	Problem set 2 due
October 11	**MIDTERM EXAM**	
October 18	Lecture 6: The education production function Friday discussion: Production theory basics	
October 25	Lecture 7: Efficiency in education Friday discussion: Interpreting empirical estimates of the production function	
November 1	Lecture 8: Teachers and teacher labor markets Friday discussion: Teacher effects in education	Problem set 3 due
November 8	Lecture 9: Financing schools *[Subject to rescheduling or cancellation—APPAM meetings]* Class presentations: Research review #1	
November 15	Lecture 10: School reform: market-based approaches Friday discussion: Assumptions of the perfectly competitive market	Problem set 4 due
November 22	THANKSGIVING – NO CLASS	
November 29	Lecture 11: School reform: accountability Friday discussion: TBD	
December 6	Class presentations: Research review #2	
Tuesday **December 11**	Lecture 12: School reform: the case of South Africa (*note special day*) Friday discussion: Review for final exam	
Thursday December 20	**FINAL EXAM – 6:00 – 7:50 p.m.**	

READING LIST

(*) = *required, all others are recommended readings that will be discussed in the lectures*

Lecture 1
Introduction to the Economics of Education
The economic approach to the study of education and education policy. Thinking like an economist: the concepts and basic analytical tools of economics. The economic rationale for government involvement in education.

(*) Taylor, Lori L. 1999. "Government's Role in Primary and Secondary Education." *Federal Reserve Bank of Dallas Economic Review* Vol. 1, pp. 15 – 24. (www.dallasfed.org/research/er/1999/er9901b.pdf)

Hoxby, Caroline M. 2003. "A Nation at Risk, Then and Now: What has Changed and What has Not," in P. Peterson, ed., *Our Schools and Our Future.* Stanford: Hoover Institution Press, pp. 73-110.

Friday Discussion: Principles of Microeconomics
(*) Krugman, Paul and Robin Wells. 2004. *Microeconomics.* Chapters 1 and 3, "First Principles," and "Supply and Demand."

Lecture 2
The Economist's Empirical Toolbox
Correlation vs. causality. Linear regression, interpreting regression coefficients and sampling error, omitted variables bias, natural and quasi-experiments. How to critically read empirical research.

(*) Gruber, Jonathan. 2005. *Public Finance and Public Policy.* Chapter 3 and Appendix, "Empirical Tools of Public Finance," and "Cross-Sectional Regression Analysis."

(*) Schneider, Barbara et al. 2007. Chapters 1-2, "Introduction," and "Causality: Forming an Evidential Base."

Friday Discussion: Regression Analysis
Gruber Chapter 3 and Appendix (see above).

Lecture 3
The Demand for Education
Human capital theory and the demand for education; the "signaling" model of schooling and wages.

(*) Borjas, George J. 2005. *Labor Economics, 3rd Edition.* New York: McGraw-Hill/Irwin, Chapter 7, "Human Capital."

(*) Weiss, Andrew. 1995. "Human Capital vs. Signaling Explanations for Wages," *Journal of Economic Perspectives,* Vol. 9 No. 4, pp. 133—154.

Friday Discussion: Review of the Human Capital Model
Borjas Chapter 7 (see above).

Lecture 4
Estimating the Economic Return to Schooling
How economists measure the private returns to schooling, and the difficulties in doing so. More on techniques for estimating causal effects. The economic return to a GED, and other topics.

(*) Psacharopoulos, George and Harry Anthony Patrinos. 2004. "Returns to Investment in Education: A Further Update," *Education Economics.* Vol. 12 No. 2, pp. 111-134.

(*) Schneider, Barbara et al. 2007. Chapter 3, "Estimating Causal Effects Using Observational Data."

Card, David. 1999. "The Causal Effect of Education on Earnings," in *Handbook of Labor Economics Volume 3*, eds. Orly Ashenfelter and David Card. Amsterdam: Elsevier Publishers, pp. 1801-1863. [very technical—see pp. 2-8, 34-42].

Friday Discussion: Interpreting Empirical Estimates of the Return to Schooling

Lecture 5
Education, Macroeconomic Growth, and Development
Schooling and macroeconomic growth—theory and a review of the evidence. Common problems facing educational systems in developing countries, and related policies.

(*) Barro, Robert J. 2002. "Education as a Determinant of Economic Growth," in Edward J. Lazear (ed.) *Education in the Twenty-first Century.* Stanford, CA: Hoover Institution Press.

(*) World Bank. 2004. *World Development Report 2004: Making Services Work for Poor People.* Chapter 7, "Basic Education Services."

World Bank. 2007. *World Development Report 2007: Development and the Next Generation.* Chapter 3, "Learning for Work and Life."

Krueger, Alan B. and Mikael Lindahl. 2001. "Education for Growth: Why and for Whom?" *Journal of Economic Literature,* Vol. 39 No. 4, pp. 1101-1136. [technical].

Friday Discussion: Education Data in Practice (U.S. and International)
Barro, Robert J. and Jong-Wha Lee. 2001. "International Data on Educational Attainment: Updates and Implications," *Oxford Economic Papers,* Vol. 53 No. 3, pp. 541—563.

Dee, Thomas S., William N. Evans and Sheila E. Murray. 1999. "Data Watch: Research Data in the Economics of Education," *Journal of Economic Perspectives,* Vol. 13 No. 3, pp. 205—216.

Midterm Examination

Lecture 6
The Education Production Function
Concepts of the production function in economics—inputs, outputs, input substitution, diminishing returns. "Does money matter" in education? Estimating the relationship between school spending and student outcomes. Measuring school quality; the black-white test score gap.

(*) Hanushek, Eric A. 1996. "Measuring Investment in Education," *Journal of Economic Perspectives.* Vol. 10 No. 4, pp. 9—30.

(*) Card, David and Alan Krueger. 1996. "School Resources and Student Outcomes: An Overview of the Literature and New Evidence from North and South Carolina," *Journal of Economic Perspectives,* Vol. 10 No. 4, pp. 31—50.

Jencks, Christopher and Meredith Phillips. 1998. "The Black-White Test Score Gap," chapter 1 in Christopher Jencks and Meredith Phillps, eds., *The Black-White Test Score Gap,* Washington, D.C.: The Brookings Institution, pp. 1—25.

Friday Discussion: Production Theory Basics
Krugman, Paul and Robin Wells. 2004. *Microeconomics*. Ch. 8, "Behind the Supply Curve: Inputs and Costs."

Lecture 7
Efficiency in Education
How should scarce resources be allocated in the production of education? Some evidence on class size, teachers, peers, and other inputs into education. The Perry Preschool and Tennessee STAR experiments.

(*) Heckman and Krueger. 2003. Chapter 1, "Inequality, Too Much of a Good Thing."

(*) Heckman and Krueger. 2003. Chapter 2, "Human Capital Policy."

Mosteller, Frederick. 1995. "The Tennessee Study of Class Size in the Early School Grades," *The Future of Children,* Vol. 5 No. 2 (Summer/Fall), pp. 113-127.

Friday Discussion: Interpreting Education Production Function Estimates

Lecture 8
Teachers and Teacher Labor Markets
Measures of teacher quality, and which measurable attributes of teachers contribute the most to student outcomes. Teacher compensation, factors that influence the demand for and supply of teachers, teachers unions, and the analysis of merit pay policies. Teacher labor markets in developing nations.

(*) Schneider, Barbara et al. 2007. Chapter 4, "Analysis of Large Scale Datasets," pp. 58—67 only.

(*) Corcoran, Sean P., William N. Evans, and Robert M. Schwab. 2004. "Changing Labor Market Opportunities for Women and the Quality of Teachers, 1957-2000," *American Economic Review*, Vol. 94 No. 2, pp. 230—235.

(*) Duflo, Esther and Rema Hanna. 2005. "Monitoring Works: Getting Teachers to Come to School," *NBER Working Paper* No. 11880. http://www.nber.org/papers/w11880.

Boyd, Donald, Hamilton Lankford, Susanna Loeb, and James Wyckoff. 2005. "Explaining the Short Careers of High-Achieving Teachers in Schools with Low-Performing Students," *American Economic Review,* Vol. 95 No. 2, pp. 166-171.

Hoxby, Caroline M. and Andrew Leigh. 2004. "Pulled Away or Pushed Out? Explaining the Decline in Teacher Aptitude in the United States," *American Economic Review,* Vol. 94 No. 2, pp. 236—240.

Friday Discussion: More on Teacher Effects in Education

Nye, Barbara, Spyros Konstantopoulos, and Larry V. Hedges. 2004. "How Large Are Teacher Effects?" *Educational Evaluation and Policy Analysis*, Vol. 26, pp. 237—257.

Lecture 9

Financing Schools

Spending on education in the U.S. and other nations. Federalism and the financing of public education. The impact of court-ordered school finance reform on the level and distribution of spending, student achievement, private school enrollment, property values and school district behavior in the U.S.

(*)*Education at a Glance: OECD Indicators 2006,* Chapter B, "Financial and Human Resources Invested in Education."

(*) Odden, Allan R. and Lawrence O. Picus. 2004. *School Finance: A Policy Perspective,* 3rd edition. New York: McGraw-Hill. Ch. 1-2.

Hanushek, Eric A., and Steven G. Rivkin. 1997. "Understanding the Twentieth-Century Growth in U.S. School Spending," *Journal of Human Resources,* Vol. 32 No. 1, pp. 35—68.

Friday Discussion: TBD

Lecture 10

School Reform: Market-Based Approaches

The economic rationale for school choice. Framework for evaluating school choice policies. Evidence on the effectiveness of school vouchers in raising school quality and student performance. Do private schools perform better than public schools?

(*) Ladd, Helen F. 2002. "School Vouchers: A Critical View," *Journal of Economic Perspectives,* Vol. 16 No. 4, pp. 3—24.

(*) Neal, Derek. 2002. "How Vouchers Could Change the Market for Education," *Journal of Economic Perspectives,* Vol. 16 No. 4, pp. 25—44.

McEwan, Patrick J. and Martin Carnoy. 2000. "The Effectiveness and Efficiency of Private Schools in Chile's Voucher System," *Educational Evaluation and Policy Analysis*, Vol. 22 No. 3, pp. 213—239.

Friday Discussion: Assumptions of the Perfectly Competitive Market

Lecture 11
School Reform: Accountability
Incentives and the economic rationale for school accountability, measuring student performance, evaluating existing accountability programs, the unintended consequences of school accountability.

(*) Clotfelter, Charles T. and Helen F. Ladd. 1996. "Recognizing and Rewarding Success in Public Schools," in *Holding Schools Accountable: Performance-Based Reform in Public Education.* Washington, D.C.: Brookings Institution Press.

(*) Chay, Kenneth Y., Patrick J. McEwan, and Miguel Urquiola. 2005. "The Central Role of Noise in Evaluating Interventions that Use Test Scores to Rank Schools," *American Economic Review,* Vol. 95, pp. 1237—1258.

(*) Jacob, Brian. 2003. "High Stakes in Chicago," *Education Next* (Winter).

Kane, Thomas J. and Douglas O. Staiger. 2002. "The Promise and Pitfalls of Using Imprecise School Accountability Measures." *Journal of Economic Perspectives.* Vol. 16, No. 4 (Autumn), pp. 91—114.

Friday Discussion: TBD

Lecture 12
School Reform: The Case of South Africa
Discussion of the Fiske and Ladd (2004) book *Elusive Euqity.*

Friday Discussion: Review for final exam

Final Examination