

INTE.GE.2008: COMPARATIVE EDUCATION II: QUANTITATIVE ANALYSIS
NEW YORK UNIVERSITY
FALL 2011

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Office hours: Thursdays, 2:00 – 4:00 p.m. (or by appointment)

Lecture: Thursdays, 4:55 – 7:35 p.m. (Silver 401)

Teaching assistant: Ali Wood (alw353@nyu.edu) – office hours Wed 4:15-5:15 and Thurs 2-3, or by appt.
Recitations: Section 2: Th. 7:45 – 8:45 p.m. (246 Greene, 3rd fl.)
Section 3: Th. 3:45 – 4:45 p.m. (246 Greene, 3rd fl.)
Section 4: Wed. 6:45 – 7:45 p.m. (246 Greene, 3rd fl.)
Section 5: Wed. 8:00 – 9:00 p.m. (246 Greene, 3rd fl.)

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, quantitative methods, or microeconomics will be helpful, but is not required (I will assume you have no training in these fields).

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 are no required textbooks for this course. Assigned readings will consist of book chapters or journal articles from a variety of sources (a reading list is attached). If you would like a statistics textbook to refer to, I recommend the following introductory book:

Healey, Joseph F. 2007. *The Essentials of Statistics: A Tool for Social Research*. Wadsworth Cengage Learning.

If you are looking for a good general introduction to research methods with an emphasis on quantitative research, I intend on adopting this book in the future:

Remler, Dahlia K. and Gregg G. Van Ryzin. 2011. *Research Methods in Practice: Strategies for Description and Causation*. SAGE Publications.

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 most 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 some familiarity with quantitative methods and general 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 papers with a sophisticated mathematical or econometric content. Rather, you should read every article 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 (or negative) and significant effect on *y*”—what does the author do to convince the reader that this effect is a *causal* one?
- what data do the author use (if any) to address their research question?

COURSE REQUIREMENTS

Your grade for this course will be determined as follows:

- Two written problem sets (10% each for a total of 20%)
- Periodic in-class recitation exercises (a combined 10%)
- Mini statistical project (15%)
- Written research review and in-class presentation (15%)
- Midterm (20%) and final exam (20%)

The problem sets and in-class recitation exercises are designed to give you practice with the analytical tools introduced in class and additional depth into specific subject areas. The mini statistical project is a short written analysis, where you will use data to address a specified research or policy question (TBD). I will provide the questions to be answered (and the data), and you will conduct the analysis and provide a written narrative to accompany your analysis. Instructions for the research review are given below.

BLACKBOARD

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

VIRTUAL COMPUTER LAB

In 2010-11, NYU piloted a Virtual Computer Lab which provides access to NYU licensed software from anywhere with an NYU login (vcl.nyu.edu). It is expected that this pilot program will be extended to all NYU students in 2011-12. You may find this useful for accessing statistical software, such as SPSS.

MISC. POLICIES

- 1) NYU and Steinhardt policies toward academic integrity will be *strictly enforced* in this class. You can find the school's official statement on academic integrity here: http://steinhardt.nyu.edu/policies/academic_integrity. You are encouraged to study and work together on homework assignments, but all work submitted must be that of the individual student.
- 2) Please make an effort to be on time (I will do the same) and please turn off your cell phone—and other digital distractions—while in class.
- 3) Please see me immediately if you have any conflicts with scheduled assignments and/or exams, or if you anticipate being absent due to religious observances.
- 4) If you wish to withdraw from this course, please do so formally with the University Registrar. If you withdraw without authorization, you are at risk for receiving an “F” for the course. *Note Monday September 26th is the last day for graduate and undergraduate students to withdraw without receiving a “W” on their transcripts.*
- 5) Any student attending NYU who needs an accommodation due to a chronic psychological, visual, mobility and/or learning disability, or is Deaf or Hard of Hearing, should register with the Moses Center for Students with Disabilities at 212-998-4980, 726 Broadway, 2nd floor (www.nyu.edu/csd).

RESEARCH REVIEW INSTRUCTIONS

OVERVIEW Each week, a group consisting of 5 or 6 students will be responsible for leading an informal discussion of an empirical study related to that week's lecture. These papers have been chosen for you, and are indicated by an “(R)” on the reading list. Your group will be responsible for delivering a presentation of the paper's main ideas, and facilitating a class discussion of the paper. Within one week of presenting, each student must submit a 3-page written research review. *This should be submitted by email, in PDF format, to Professor Corcoran: sean.corcoran@nyu.edu.*

CHOOSING A PAPER In the first week of class, you will have an opportunity to sign up for a research review group via Blackboard. I encourage you to select a paper topic that interests you. (Of course, given the limitation of 5-6 group members, not everyone's interests can be perfectly accommodated). It goes without saying that you should not choose a presentation date on which you expect to be absent.

We do need volunteers to begin presenting in the second week. Rest assured that those presenting early in the semester will not be penalized for their lack of exposure to the course material! Their bravery will be much appreciated.

CLASS PRESENTATION Each group will be responsible for delivering an 8-10 minute presentation of the paper's main ideas, and facilitating a 8-10 minute discussion of the paper, with help from Prof. Corcoran and Ali. I recommend that you create a brief Powerpoint presentation, as this will help you organize ideas. Some examples of past presentations are provided on Blackboard.

All members of the group are expected to participate in the presentation and discussion. Credit for the research review is contingent upon active participation.

WRITTEN REVIEW Each student must submit a 3-page research review within two weeks of the class presentation (double-spaced, with standard margins and font size). The research review is a written synthesis that describes and critically analyzes a piece of empirical research. Suggestions on how to approach the review are provided below. Though you will be working in groups, *your submitted written review must be your own individual work*. That is, I will not accept a collective, “Xeroxed” review.

GUIDELINES Your presentation and review should address the following types of questions:

- What is the specific research question that is being addressed?
 - Why is this an interesting research question, from a policy perspective?
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- Is there an underlying theory that motivates this empirical study?
 - Are the authors using data to test some hypothesis? If so, what is the hypothesis?
 - What kind of data does the author(s) use? Where did it come from?
 - Many of the papers you will look at perform regression analysis—if so, what is the *dependent variable* (that is, what variable or outcome are they trying to explain) and what are the key *explanatory variables*?
 - Is the data observed and non-experimental in nature, or the product of a randomized experiment?
 - What is the paper’s key empirical finding?
 - Is there anything that the authors do to convince you that they have found a *causal* relationship between their dependent variable and explanatory variable of interest, and not a simple correlation?
 - Is there anything you find unconvincing about the paper? Can you think of an alternative explanation for the key empirical finding?
 - Are there any policy implications from the results of the paper?

A good way to approach the research review is to assume you are writing for a policymaker who is familiar with education policy, but who has not read the academic literature and has not taken this course. Assume that this reader is not an economist, and not a quantitative expert of any kind. She has asked you to read this paper to bring out the key points, salient issues, and implications for public policy. *Avoid using jargon, or repeating technical language.*

FINAL NOTE

Finally, some of the research review papers are technical, and may seem over your head. *This is OK.* As always, I do not expect you to fully understand *everything* that the authors of the paper are doing—just the main ideas, research question, and empirical approach. That said, if you don’t understand *anything* a paper is doing, see me and I will attempt to place you in another group.

COURSE OUTLINE

Thursday September 8	Lecture 1: Introduction <u>NOTE</u> : no recitations this week	
September 15	Lecture 2: Quantitative methods core (I)	<i>PS1 available</i>
September 22	Lecture 3: Quantitative methods core (II)	
September 29	Lecture 4: Quantitative methods core (III): program evaluation	PS1 due <i>PS2 available</i>
October 6	Lecture 5: The efficient use of resources in education	
October 13	Lecture 6: Human capital and the return to schooling	PS2 due
October 21	MIDTERM EXAM – Prof. Corcoran at Michigan State U. <u>NOTE</u> : no recitations this week	
October 27	Lecture 7: The economics of higher education	
November 3	Lecture 8: Financing schools	
November 10	Lecture 9: School-based accountability	<i>Project available</i>
November 17	Lecture 10: Teachers (I)	
November 24	NO CLASS - THANKSGIVING	
December 1	Lecture 11: Teachers (II)	
December 8	Lecture 12: Market-based education reform (I)	Project due
Tuesday December 15	Lecture 13: Market-based education reform (II)	
December 22	FINAL EXAM: 6 - 7:50 p.m. note special time	

READING LIST

(*) = *required, all others are recommended*

(R) = *research review article*

Lecture 1

Introduction

The economist's approach to the study of education and education policy, and the economic rationale for government involvement in education.

(*) Brewer, Dominic J., Guilbert C. Hentschke, and Eric R. Eide. 2008. "The Role of Economics in Education Policy Research," in Helen F. Ladd and Edward B. Fiske (eds.), *Handbook of Research in Education Finance and Policy*. New York: Routledge.

(*) 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)

Recommended

Krugman, Paul and Robin Wells. 2004. *Microeconomics*. Chapters 1 and 3, "First Principles," and "Supply and Demand."

Lecture 2

Quantitative Methods Core (I)

Descriptive techniques in empirical research: graphical summaries of quantitative data, measures of central tendency and variability, correlation. The use of price indices. Using Excel and SPSS for basic data analysis.

(*) Healey, Joseph F. 2007. *The Essentials of Statistics: A Tool for Social Research*. Wadsworth Cengage Learning. Chapters 2 – 5, "Basic Descriptive Statistics," "Charts and Graphs," "Measures of Central Tendency," and "Measures of Dispersion."

(R) Hamilton Lankford, Susanna Loeb and James Wyckoff. 2002. "Teacher Sorting and the Plight of Urban Schools: A Descriptive Analysis," *Educational Evaluation and Policy Analysis*, Vol. 24 No. 1, pp. 37-62.

Recommended

Kennedy, Peter. 2000. *Macroeconomic Essentials: Understanding Economics in the News*. Chapter 2, "Measuring GDP and Inflation" (pp. 11-22).

Lecture 3

Quantitative Methods Core (II)

Linear regression, interpreting regression coefficients, understanding sampling error, omitted variables bias, and multiple regression. More on data analysis in Excel and SPSS.

(*) Remler, Dahlia K. and Gregg G. Van Ryzin. 2011. *Research Methods in Practice: Strategies for Description and Causation*. Thousand Oaks, CA: SAGE Publications. Chapters 8-9, “Making Sense of the Numbers,” and “Making Sense of Multivariate Statistics” (through p. 316).

(R) Fuchs, Thomas, and Ludger Wößmann. 2007. “What Accounts for International Differences in Student Performance? A Re-Examination Using PISA Data.” *Empirical Economics*. Vol. 32, No. 2, pp. 433-464.

Recommended:

Heyneman, Stephen P. and Chad R. Lykins. 2008. “The Evolution of Comparative and International Education Statistics,” in Helen F. Ladd and Edward B. Fiske (eds.), *Handbook of Research in Education Finance and Policy*. New York: Routledge.

McEwan, Patrick. 2008. “Quantitative Research Methods in Education Finance and Policy,” in Helen F. Ladd and Edward B. Fiske (eds.), *Handbook of Research in Education Finance and Policy*. New York: Routledge.

Lecture 4

Quantitative Methods Core (III) – Program Evaluation

Correlation versus causality. Designing evaluations: randomized experiments, non-experimental designs, natural and quasi-experiments, internal and external validity. How to critically read empirical research. Introduction to cost-benefit analysis. Understanding effect sizes.

(*) Weiss, Carol H. 1998. *Evaluation: Methods for Studying Programs and Policies*, 2nd edition. Prentice-Hall. Chapter 1, “Setting the Scene,” Chapter 8, “Design of the Evaluation,” and Chapter 9, “The Randomized Experiment.”

(R) Glewwe, Paul, Nauman Ilias, and Michael Kremer. 2010. “Teacher Incentives,” *American Economic Journal: Applied Economics*, Vol. 2, pp. 205-227.

Recommended:

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

Schlotter, Martin, Guido Schwerdt, and Ludger Wößmann. 2010. “Econometric Methods for Causal Evaluation of Education Policies and Practices: A Non-Technical Guide.” Institute for the Study of Labor (IZA) Discussion Paper No. 4725.

Lecture 5

The Efficient Use of Resources in Education

Concepts of the production function in economics—inputs, outputs, input substitution, diminishing marginal returns. How should scarce resources be allocated in the production of education? Does “money matter?” Evidence on class size, teachers, peers, and other inputs into education. The Perry Preschool and Tennessee STAR experiments.

(*) Turner, Sarah. 2007. “Education Production Functions.” Lecture Notes, *Mimeo*.

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

(R) Glewwe, Paul, Michael Kremer, and Sylvie Moulin. 2009. “Many Children Left Behind? Textbooks and Test Scores in Kenya,” *American Economic Journal: Applied Economics*, Vol. 1, pp. 112-135.

Recommended:

Wößmann, Ludger. 2007. “International Evidence on Expenditures and Class Size: A Review.” *Brookings Papers on Education Policy 2006/2007*, pp. 245-272.

Lecture 6

Human Capital and the Return to Schooling

Human capital theory and the demand for education; the “signaling” model of schooling and wages. How economists measure the private returns to schooling, and the difficulties in doing so.

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

(R) Murnane, Richard J., John B. Willett, and Frank Levy. 1995. “The Growing Importance of Cognitive Skills in Wage Determination.” *The Review of Economics and Statistics*, Vol. 77, No. 2, pp. 251-266.

Recommended:

Oreopoulos, Philip and Kjell G. Salvanes. 2009 . “How Large are Returns to Schooling? Hint: Money Isn't Everything.” *National Bureau of Economic Research Working Paper No. 15339*.

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

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

Lecture 7

The Economics of Higher Education

Applications of economics to the study of higher education. Differences in college access by race, ethnicity, gender, and socioeconomic status. The roles of primary and secondary schools, expectations and information, price, and financial aid in college access and success.

(*) Long, Bridget Terry. 2007. “The Contributions of Economics to the Study of College Access and Success.” *Teachers College Record*. Vol. 109 No. 10, pp. 2367-2443.

(R) Bettinger, Eric P., Bridget Terry Long, Philip Oreopoulos, Lisa Sanbonmatsu. 2009. "The Role of Simplification and Information in College Decisions: Results from the H&R Block FAFSA Experiment." *National Bureau of Economic Research Working Paper No. 15361*.

Recommended

Goldin, Claudia, Lawrence F. Katz, and Ilyana Kuziemko. 2006. "The Homecoming of American College Women: The Reversal of the College Gender Gap." *Journal of Economic Perspectives*. Vol. 20, No. 4, pp. 133-156.

Lecture 8

Financing Schools

Education spending 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 local government behavior in the U.S.

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

(*) Hillman, Arye L. and Eva Jenkner. 2004. "User Payments for Basic Education in High-Income Countries," in Sanjeev Gupta et al. (eds.), *Helping Countries Develop: The Role of Fiscal Policy*. Washington, D.C.: International Monetary Fund. (Available on [Google Books](#)).

(R) Uribe, Claudia, Richard J. Murnane, John B. Willett, and Marie-Andrée Somers. 2006. "Expanding School Enrollment by Subsidizing Private Schools: Lessons from Bogotá," *Comparative Education Review*, Vol. 50, 241-277.

Recommended

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.

Lecture 9

School-Based Accountability

The use of test-based outcomes to evaluate school performance and promote the efficient use of school resources.

(*) Raudenbush, Steven W. 2004. "Schooling, Statistics, and Poverty: Can We Measure School Improvement?" 9th Annual William H. Angoff Memorial Lecture Series. Princeton, NJ: Educational Testing Service.

(R) Luginbuhl, Rob, Dinand Webbink, and Inge de Wolf. 2009. "Do Inspections Improve Primary School Performance?" *Educational Evaluation and Policy Analysis*, Vol. 31, 221-237.

Recommended:

Jacob, Brian A. 2005. "Accountability, Incentives, and Behavior: The Impact of High-Stakes Tests in the Chicago Public Schools." *Journal of Public Economics*. Vol. 89 No. 5-6, pp. 761--796.

Murnane, Richard J. and John P. Papay. 2010. "Teachers' Views on No Child Left Behind: Support for the Principles, Concerns about the Practices." *Journal of Economic Perspectives*. Vol. 24 No. 3, pp. 151—166.

Lecture 10

Teachers (I)

Measuring teacher quality and teaching effectiveness, and which measurable attributes of teachers contribute most to student outcomes.

(*) Goldhaber, Dan. 2008. "Teachers Matter, But Effective Teacher Quality Policies are Elusive," in Helen F. Ladd and Edward B. Fiske (eds.), *Handbook of Research in Education Finance and Policy*. New York: Routledge.

(*) Corcoran, Sean. 2010. "Can Teachers be Evaluated by their Students' Test Scores? Should They Be? The Use of Value-Added Measures of Teacher Effectiveness in Policy and Practice." Education Policy for Action Series: Education Challenges Facing New York City. Annenberg Institute for School Reform.

(R) Dee, Thomas S. 2001. "Teachers, Race and Student Achievement in a Randomized Experiment." *The Review of Economics and Statistics*. Vol. 86, No. 1, pp. 195—210.

Recommended

Koretz, Daniel. 2008. "A Measured Approach." *American Educator*.

Lecture 11

Teachers (II)

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.

(*) Murnane, Richard J., and Jennifer L. Steele. 2007. "What Is the Problem? The Challenge of Providing Effective Teachers for All Children," *The Future of Children*, Vol. 17, 15-43.

(R) Muralidharan, Karthik and Venkatesh Sundararaman. 2011. "Teacher Performance Pay: Experimental Evidence from India." *Journal of Political Economy*. Vol. 119, No. 1, pp. 39-77.

Recommended

Boyd, Donald, Hamilton Lankford, Susanna Loeb, and James Wyckoff. 2005. "The Draw of Home: How Teachers' Preferences for Proximity Disadvantage Urban Schools." *Journal of Policy Analysis and Management*. Vol. 24, No. 1, pp. 113-132.

Lecture 12

Market-Based Education Reform (I)

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

(*) Abdulkadiroglu, Atila et al. 2009. *Informing the Debate: Comparing Boston's Charter, Pilot, and Traditional Schools*. Boston: The Boston Foundation.

(*) Rouse, Cecilia Elena and Lisa Barrow. 2009. "School Vouchers and Student Achievement: Recent Evidence and Remaining Questions." *Annual Review of Economics*, Vol. 1, pp. 17-42.

(R) Angrist, Joshua. 2002. "Vouchers for Private Schooling in Colombia: Evidence from a Randomized Natural Experiment." *American Economic Review*, Vol. 92, pp. 1535-1558.

Recommended

Neal, Derek. 2002. "How Vouchers Could Change the Market for Education." *Journal of Economic Perspectives*, Vol. 16, pp. 25-44.

Lecture 13

Education Reform: Market-Based Approaches (II)

Does school choice promote segregation? Other effects of market-based school choice policies.

(*) Bifulco, Robert and Helen F. Ladd. 2007. "School Choice, Racial Segregation, and Test-Score Gaps: Evidence from North Carolina's Charter School Program." *Journal of Policy Analysis and Management*, Vol. 26, pp. 31-56.

(R) Elacqua, Gregory, Mark Schneider, and Jack Buckley. 2006. "School Choice in Chile: Is It Class or the Classroom?" *Journal of Policy Analysis and Management*, Vol. 25 No. 3, 577-601.

Recommended

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