

ED 944
Advanced Economic and Econometric Applications to Education Research I

Fall 2010
MW 12:40-2:00 p.m.
C304 Wells Hall

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and by appointment

This course is the first in a two-course sequence designed to provide students with a strong foundation in the application of economic analysis to education policy. We will take a broad perspective of the theory and literature of economics of education. This course assumes that students are well versed in the basics of economic theory and econometrics and can apply these tools in the context of education.

This first semester course focuses on understanding and analyzing education policies related to school and organizational structures. We will examine how public policy initiatives such as school finance equalization, vouchers, or changes in the availability of student aid affect student outcomes such as education attainment and earnings. In addition to covering topics in education research, we will also emphasize methodologies that are common to education research.

Readings: Readings will be assigned for all classes. Most of the required readings can be found online at www.jstor.org, at MSU Libraries Electronic Journals available from all campus computers at <http://er.lib.msu.edu/ejour.cfm>, or on the course's ANGEL website. If you can't find a required reading in any of these places, please let me know immediately. Background reading will be taken from the *Handbook of Research in Education Finance and Policy* that you can buy online. This will be referred to as "The Handbook" in the syllabus. A second recommended text is *School Finance: A Policy Perspective*, by Odden and Picus, 4th edition McGraw-Hill 2008 that many of you already have from a previous course.

Optional Methodological References:

Imbens, G. W. and J. M. Wooldridge, "What's New in Econometrics?" NBER Lecture Notes, Slides, and Video. Versions of the lecture notes and slides can be found in other places, but an up-to-date, complete set is at <http://www.cemmap.ac.uk/resources/resources25.php>

Imbens, G. W. and J. M. Wooldridge, "Recent Developments in the Econometrics of Program Evaluation," *Journal of Economic Literature* 47:1, 5-86, 2009.

Wooldridge, J.M., *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2e, 2010.

Wooldridge, J.M., *Introductory Econometrics: A Modern Approach* 4e, South-Western Cengage, 2009.

A focus of the course will be to become familiar with alternative approaches to dealing with endogeneity, including self-selection, and individual heterogeneity. We will use regression, instrumental variables, and panel data methods. When appropriate, we will discuss application of some more advanced econometrics, such as binary and fractional outcomes, treatment effect estimation using

propensity scores, regression discontinuity designs, and Difference-in-Differences estimation. All of these topics are covered in the Imbens/Wooldridge lectures.

Course Requirements and Grading: The course requirements include regular attendance and participation in classes. Class participation will include presentation of assigned papers and reporting on developments and analyses of education in one's assigned state (discussed below). This will account for 30 percent of your grade. Another 30 percent of your grade will be problem sets. The final 40 percent of your grade will be an empirical paper that analyzes an education issue in your state.

This course combines Ph.D. students from different programs – primarily economics and education – and each will bring different backgrounds and strengths to our discussions. This will make our class discussions and presentations especially useful for everyone. Some material will undoubtedly be familiar to you from previous courses, and some may be completely new. I encourage you to work with others outside your own program to benefit from this synergy.

One objective of the course is to become versed in the current state of research on the topics in this first course. A second objective is to become proficient with readily-available education data bases and a third is to become familiar with current education issues and reforms across the states. To this end, you will each select one state (other than the State of Michigan) to use in your problem set analyses and final paper. You will be responsible for reporting about that state to the class. The problem sets will build material that can be used in your final paper that will focus on education reform in four areas: Standards, Assessment and Accountability, School Finance Reform, and State Support for School Choice Options.

A good source for an overview of state-by-state education issues is the American Education Finance Association's State of the States (<http://aefa.cc/publications/state-of-the-states/>) that I have posted on ANGEL. Also, the National Center for Education Statistics has state summaries at (<http://nces.ed.gov/fastfacts/display.asp?id=52>) .

Please select 3 states that you are interested in, and we will divvy them up on Wednesday, September 8.

Outline and Reading List:

I have listed many articles under each topic. I will tell you a week ahead of time which ones to read for class discussion. As we proceed, I will also indicate which topics in the methodological readings would be helpful. This list is in progress.

Introduction; Setting the Stage

National Commission on Excellence in Education. 1983. *A Nation at Risk: The Imperative of Educational Reform*. Available at: <http://www.ed.gov/pubs/NatAtRisk/risk.html>

Brewer, D. J. et al, "[The Role of Economics in Education Policy Research](#)." Handbook Chapter 2

Rothstein, R. and R. Jacobsen, "Education Goals: A Public Perspective." Handbook Chapter 5

Reardon, S.F. and J. P. Robinson, "Patterns and Trends in Racial/Ethnic and Socioeconomic Academic Achievement Gaps." Handbook Chapter 28.

Loeb, S. and D. Bassok, "Early Childhood and the Achievement Gap." Handbook Chapter 29.

Methodology: types of data for empirical research; overview of regression for cross section data

2. Human Capital and Economic Growth

Bishop, J. 1989. "[Is the Test Score Decline Responsible for the Productivity Growth Decline?](#)" American Economic Review. 79 (March), pp. 178-197.

Freeman, Richard. 2005. "[Does Globalization of Scientific/Engineering Workforce Threaten U.S. Economic Leadership?](#)" NBER Working Paper 11457 (June).

3. Measuring and Interpreting the Returns to Education; Human Capital Studies

Goldberg, J. and J. Smith, "The Effects of Education on Labor Market Outcomes," Handbook Chapter 38
Angrist, J. and A. Krueger, 1991. "Does Compulsory School Attendance Affect Schooling and Earnings?"

Bound, J., D.A. Jaeger, R.M. Baker, "Problems with Instrumental Variables Estimation When the Correlation Between the Instruments and the Endogeneous Explanatory Variable is Weak," Journal of the American Statistical Association, Vol. 90, No. 430 (Jun., 1995), pp. 443-450.

Quarterly Journal of Economics, CVI(4), November, pp. 979-1014.

Ashenfelter, O. and C. Rouse. 1998. "Income, Schooling, and Ability: Evidence from a Sample of Identical Twins," Quarterly Journal of Economics 253-84.

Bound, J. and G. Solon. 1999. "Double Trouble: On the value of twins-based estimation of the return to schooling," Economics of Education Review 18(2): 169-182.

Duflo, E. 2001, Schooling and Labor Market Consequences of School Construction in Indonesia: Evidence from an Unusual Policy Experiment, American Economic Review, 91 (4) pp. 795-813.

Heckman, J. 1990. "Varieties of Selection Bias," American Economic Review Papers and Proceedings, 80(2). May pp. 313-318.

Murnane, R., J. Willett, and F. Levy. 1995. "[The Growing Importance of Cognitive Skills in Wage Determination.](#)" Review of Economics and Statistics. 74, 2, pp.

Neal, D. 1996. "[The Role of Premarket Factors in Black-White Wage Differences.](#)" Journal of Political Economy. 104, 5 (October), pp. 869-895.

4. Education Production: The effects of School Inputs (Quality, Class size, etc.) on Schooling and Earnings

Odden and Picus Chapters 5-7

Rice, J.K., and A.E. Schwartz, "Toward an Understanding of Productivity in Education," Handbook chapter 8.

Hanushek, E. A. 1986. "[The Economics of Schooling: Production and Efficiency in Public Schools.](#)" Journal of Economic Literature. Vol. 24. No. 3 (Summer), pp. 557-77.

_____, 1997. "Assessing the Effects of School Resources on Student Performance: An Update," Educational Evaluation and Policy Analysis 19:2, pp. 141-164.

Todd, P. E. and K. I. Wolpin. "[On the Specification and Estimation of the Production Function for Cognitive Achievement.](#)" Economic Journal 113 (485) (February, 2003), pp. F3-F33.

A. Class Size and Student Achievement:

Krueger, A.B., "Experimental Estimates of Education Production Functions," *Quarterly Journal of Economics*, May 1999

Krueger, A. and D. Whitmore. 2001. "The Effects of Attending a Small Class on the Early Grades on College-Test Taking and Middle School Test Results: Evidence from Project STAR," *Economic Journal* 111:1-28.

Angrist, J. and V. Lavy, "Using Maimonides' Rule to Estimate the Effect of Class Size on Scholastic Achievement," *Quarterly Journal of Economics*, May 1999, Vol. 114, No. 2, pages 533-575.
Lakdawall, D., "Quantity over Quality," *Education Next*, Fall 2002.

Brewer, D. J., Kropp, C., Gill, B. P., Reichardt, R. (1999) Estimating the cost of national class size reductions under different policy alternatives, *Educational Evaluation and Policy Analysis* 21, 179-192.
<http://epa.sagepub.com/cqi/reprint/21/2/179>

B. Does Money Matter?

Hanushek, E. 2002. "The Failure of Input-based Schooling Policies." *The Economic Journal* 113 (February): 64-98.

Ferguson R., and H. Ladd. 1996. "How and Why Money Matters," in H. Ladd (ed.) *Holding Schools Accountable*. Washington, DC: The Brookings Institution, pp. 265-298.

Papke, L.E., "The Effects of Changes in Michigan's School Finance System," *Public Finance Review* 36, 456-474, July 2008.

Papke, L.E., "The Effects of Spending on Test Pass Rates: Evidence from Michigan," *Journal of Public Economics* 89, 821-839, 2005.

5. Changing Finance Patterns; K-12 School Funding Adequacy

Koski, W.S. and J. Hahnel, "The Past, Present, and Possible Future of Educational Finance Reform Litigation," Handbook Chapter 3

Baker, B.D., and P.C. Green, "Conceptions of Equity and Adequacy in School Finance," Handbook Chapter 12

Downes, T.A., and L. Stiefel, "Measuring Equity and Adequacy in School Finance," Handbook Chapter 13

Duncombe, W.D., and J. Yinger, "Measurement of Cost Differentials," Handbook Chapter 14.

Picus, L.O., and M. Goertz and A. Odden, "Intergovernmental Aid Formulas and Case Studies," Handbook Chapter 15.

Gordon, N. "The Changing Federal Role in Education Finance and Governance," Handbook Chapter 17

Corcoran, S. P. and W. N. Evans, "Equity, Adequacy and the Evolving State Role in Education Finance," Handbook Chapter 19.

Downes, T.A., and D.N. Figlio, "Tax And Expenditure Limits: School Finance and School Quality," Handbook Chapter 21.

Silva, F. and Sonstelie, J. (1995) "Did Serrano Cause a Decline in School Spending," *National Tax Journal*, pp. 199-215.

Murray, S.E., Evans, W.N., Schwab, R.M. (1998). "[Education-Finance Reform and the Distribution of Education Resources.](#)" *American Economic Review*, 88(4), 789-812.

Hoxby, C. 1996. "[Are Efficiency and Equity in School Finance Substitutes or Complements?](#)" *Journal of Economic Perspectives*. Vol. 10 No. 4 (Autumn), pp. 51-7

Nechyba, T. "[Prospects for Achieving Equity or Adequacy in Education: The Limits of State Aid in Georgia Equilibrium](#)" in J. Yinger (ed) *Helping Children Left Behind.*:Cambridge: MIT Press, (2004), 111-143

Costrell, R. E. Hanushek, S. Loeb. "[What Do Cost Functions Tell Us About the Cost of an Adequate Education?](#)" *Peabody Journal of Education*. 83 (2): 198-223.

A. Indirect Effects: The Case of Housing

Charles Tiebout. 1956. "[A Pure Theory of Local Expenditures.](#)" *Journal of Political Economy*. Vol. 64 No. 5 (October), pp. 416-424.

David Figlio and Maurice Lucas. 2004. "[What's in a Grade? School Report Cards and Housing Prices.](#)" The American Economic Review, Vol. 94, No. 3 (June), 591-604

6. The Theory of School Choice; Decentralization

Levin, H. M. "Issues in Education Privatization," Handbook Chapter 22.

Bifulco, R., and K. Bulkley, "Charter Schools," Handbook Chapter 24.

Zimmer, R. and E. P. Bettinger, "Beyond the Rhetoric: Surveying the Evidence on Vouchers and Tax Credits," Handbook Chapter 25.

A. Vouchers

Friedman, M. (1962) "The role of government in education" in *Capitalism and Freedom*, Chicago: University of Chicago Press. <http://www.schoolchoices.org/roo/fried1.htm>

Neal, D. "[How Vouchers Could Change the Market for Education.](#)" Journal of Economic Perspectives. Vol. 16 No. 4 (2002), pp. 25-44.

Ladd, H. "[School Vouchers: A Critical View](#)" Journal of Economic Perspectives. Vol. 16 No. 4 (2002), pp. 3-24.

Levin, M. and C. R. Belfield. "The Marketplace in Education." Review of Research in Education, Chapter 6, 2003.

B. The Impact of School Choice

Mayer, D.P., Peterson, P.E., Mayers, D.E., Tuttle, C.C., and Howell, W.G., *School Choice in New York City after Three Years: An Evaluation of the School Choice Scholarships Program* (Washington, DC: Mathematica Policy Research, Inc., 2002).

Krueger, A.B. and P. Zhu, "Another Look at the New York City School Voucher Experiment," Working Paper 9418 (Cambridge, MA: National Bureau of Economic Research, 2002).

Hastings, J.S., T. Kane, and D. Staiger, "Preferences and Heterogeneous Treatment of Effects in a Public School Choice Lottery," Working Paper 12145 (2006).

Hastings, J. S. and J. M. Weinstein, "Information, School Choice, and Academic Achievement: Evidence from Two Experiments," NBER Working Paper 13623 (2007).

Cullen, J.B., B. Jacob, and S. Levitt, "The Effect of School Choice on Participants: Evidence from Randomized Lotteries," *Econometrica*, 74 no. 5 (2006), pp. 1191-1230.

Hoxby, Kang, and Murarka, (2009) "Technical report: How New York City charter schools affect achievement,"
http://www.nber.org/~schools/charterschoolseval/how_nyc_charter_schools_affect_achievement_technical_report_2009.pdf

Reardon, S.F. (2009). Review of "How New York City's Charter Schools Affect Achievement." Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit. Retrieved [date] from <http://epicpolicy.org/thinktank/review-How-New-York-City-Charter>

Zimmer, R., Gill, B. Booker, K., Lavertu, S., Sass, T., Witte, J. *Charter Schools in Eight States: Effects on Achievement, Attainment, Integration, and Competition, pages 1-91.*
http://www.rand.org/pubs/monographs/2009/RAND_MG869.pdf

Zimmer, R., C. Guarino, and Buddin. "School Choice: Options and Outcomes" Brookings Institute, forthcoming.

7. Overview of Accountability:

Figlio, D.N. and H.F. Ladd, "School Accountability and Student Achievement," Handbook Chapter 10.

Gill, B. and K. Booker, "School Competition and Student Outcomes," Handbook Chapter 11.

Harris, D. N., "Educational Outcomes of Disadvantaged Students: From Desegregation to Accountability," Handbook Chapter 31.

Stecher, B., Hamilton, L., & Gonzalez, G. (2003). *Working smarter to leave no child behind.* http://www.rand.org/pubs/white_papers/WP138/WP138.pdf

Stecher, B., & Kirby, S. N. (2004). *Organizational improvement and accountability: Lessons for education from other sectors.* Santa Monica, CA: Rand Corporation.
<http://www.rand.org/publications/MG/MG136/> Chapters 5-8.

Hamilton, L. (2003). Assessment as a policy tool. *Review of Research in Education*, 27, 25-68. http://www.rand.org/pubs/reprints/2005/RAND_RP1163.pdf

A. Do Federal and State Accountability Systems Work?

Dee, T.S., and B.A. Jacob, 2007. "Do High School Exit Exams Influence Educational Attainment or Labor Market Performance? In A. Gamoran, ed., *Standards-based reform and the poverty gap: Lessons for No Child Left Behind.* Washington D.C.: Brookings University Press.

Jacob, B. and L. Lefgren, 2004, "Remedial Education and Student Achievement: A Regression-Discontinuity Analysis," *Review of Economics and Statistics* LXXXVI (1): 226-244.

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.

Carnoy, M. and S. Loeb. 2002. "[Does External Accountability Affect Student Outcomes? A Cross-State Analysis.](#)" *Education Evaluation and Policy Analysis*. 2002.

Hanushek, E.A., M. E. Raymond. "[Does School Accountability Lead to Improved Student Performance?](#)" *Journal of Policy Analysis and Management*. NBER Working Paper 1 Derek Neal and

Schanzenbach, D.W., "[Left Behind by Design: Proficiency Counts and Test-Based Accounting](#)" NBER Working Paper W13293 (August 2007)

JEL Symposium on No Child Left Behind *Journal of Economic Perspectives* Vol. 24, Issue 3
Summer 2010 (on ANGEL):

Aiming for Efficiency Rather Than Proficiency (#9)
Derek Neal

Teachers' Views on No Child Left Behind: Support for the Principles, Concerns about the Practices (#11)
Richard J. Murnane and John P. Papay

Measurement Matters: Perspectives on Education Policy from an Economist and School Board Member (#12) Kevin Lang

Time permitting:

8. Higher Education

Handbook Chapters 36-40

Bettinger, E. and G. Long, "Addressing the Needs of Under-Prepared Students in Higher Education: Does College Remediation Work?", forthcoming at *Journal of Human Resources*.

T. Kane and C. Rouse. 1999. "[The Community College: Education Students at the Margin College and Work.](#)" *Journal of Economic Perspectives*. Vol. 13 No. 1 (Winter), pp. 63-84.

C. Goldin and L. Katz. "[The Shaping of Higher Education: The Formative Years in the United States, 1890 to 1940.](#)" *Journal of Economic Perspectives*. Vol. 13 No. 1 (Winter), pp. 37-62.

Gordon Winston. 1999. "[Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education](#)" *Journal of Economic Perspectives*. Vol. 13 No. 1, pp. 13-36.

9. Special Education

Handbook Chapters 32-35