

LABOR ECONOMICS 250B
UCSD
PROFESSORS ELI BERMAN AND JULIAN BETTS
Winter 2006
COURSE OUTLINE

The course will provide a blend of theoretical labor economics and applied research. The three main themes will be labor supply, labor demand, and wage and employment determination. There will also be a fairly heavy methodological emphasis. 250A is NOT a prerequisite for 250B, although it will prove helpful.

We will cover three broad themes:

- A The Supply Side of the Labor Market (Including Education and Training)
- B Theories of Unemployment and Empirical Evidence on Unemployment
- C Labor Demand
- D Increased Returns to Skills and Increased Income Inequality

Professor Betts will teach topics A and B and Professor Berman will teach topics C and D.

Requirements for the Course/Schedule

To do well in this course you should have completed microeconomics and econometrics (A-C) courses. It would be helpful if you have already taken Labor Economics 250A or its predecessor 236B, because there we covered many of the empirical methods that we will use in this course. If you are unsure please consult one of the past 250A course syllabi, at <http://weber.ucsd.edu/~jbetts/250A%202004.html> and discuss with either of us if there are holes in your knowledge of the relevant empirical methods.

You are required to write your own original term paper, on a subject in labor economics of your choosing. There will also be a final exam. You are also expected to attend and participate actively in all classes.

There will be no classes on Tuesday 1/24 or Thursday 1/26 but Professor Betts will schedule makeup classes at a mutually agreeable time.

Evaluation

5% A paper proposal. Please email both of us a one to three page proposal with a few references by Thursday of Week 2 in class (1/19). (You should also feel free to consult either of us more informally before that time.) Most likely you will choose to write a 15-25 page literature review of a topic in labor economics. Ideally this literature review would also include suggestions for future research. Alternatively you could initiate or continue an applied project. Some of you may have initiated more empirically oriented projects in 250A. You are welcome to continue with that work in this course, but you must clear this with us and provide us with a copy of the final version of the paper you

prepared for those classes, along with a clear statement of how you will extend that analysis. However, we do not encourage you to develop an empirical project from scratch just for this course, due to the severe time limitations. A third alternative, for those of you taking the 3rd year paper course, is to extend your 3rd year literature review in a new direction. A fourth alternative is to take an existing paper you have written in a closely related field such as public economics and propose to us how you will extend it. Again, please provide us with a copy of the paper in pdf or hardcopy and a plan for extending your work.

45% A final draft of your paper. Due: In class on Thursday of week 10 (March 16). Please bring two copies. There will be no extensions beyond the end of quarter, and papers submitted after March 16 will lose 5 percentage points (out of 45) per day late.

50% A three-hour final exam in finals week.

Readings

We provide a detailed reading list later in this syllabus. A very useful supplementary graduate text on labor economics (the only one we know of) is available at the bookstore:

Cahuc, Pierre and Andre Zylberberg (2004), **Labor Economics**, Cambridge, MA: MIT Press.

Office Hours

Professor Betts will hold office hours Wednesdays 11-12 throughout the quarter. Also feel free to email either of us if the announced hours cause conflicts for you, to set up an alternative time for a meeting. Professor Berman's hours will be announced at a later date.

E-mail addresses: jbetts@ucsd.edu and elib@ucsd.edu

Please put "250" somewhere in the subject of your message so that we can keep track of correspondence related to the report.

A More Detailed Agenda:

A. The Supply Side of the Labor Market

1) The Quantity of Labor Supplied

- i) Static Labor Supply -- Theory and Estimation
- ii) Dynamic Labor Supply -- Theory and Basic Estimation
- iii) Using Non-linear Budget Constraints Induced by Taxes and Subsidies to Estimate Labor Supply Responses
- iv) Pensions and Retirement
- v) Health Insurance and Labor Supply

2) The Quality of Labor Supplied: Human Capital

a) The Economics of Education

- i) Human Capital Theory
- ii) Econometric Techniques For Estimating The Returns To Education
 - a) Standard Approach
 - b) Heckman Selectivity Correction
 - c) IV Methods
 - d) Fixed Effect Methods
- iii) Human Capital Versus Signaling
 - a) A Review of the Signaling Model
 - b) Empirical Evidence
- iv) The Social Returns to Education and Education Externalities
- v) The Determinants of School Quality
 - a) Literature Review on School Inputs and Student Outcomes
 - b) The Labor Market for Teachers
 - c) Peer Groups and Ability Grouping
 - d) School Choice and School Competition
 - e) School Standards and Accountability
- vi) Postsecondary School Quality

b) On-the-Job Training

c) Government Training Programs

B. Theories of Unemployment and Empirical Evidence on Unemployment

1) An Overview Of Different Theoretical Explanations and Evidence

a) Efficiency Wages

b) Minimum Wages And Unemployment

c) Insider-Outsider/Hysteresis Theories

d) Sectoral Shifts

2) Empirical Evidence on the Incidence and Duration of Unemployment

a) Gross Job Flows

b) Unemployment Insurance and the Duration of Unemployment

C. Labor Demand

Static Models

Empirical Applications of Static Models

Dynamic Models

Equilibrium with Heterogeneous Labor

Immigration

D. Increased Returns to Skills and Increased Income Inequality

The basic facts on quantities and prices

Race

International Evidence

Historical Perspective

Basic Human Capital Theory

Trade as an Explanation

Skill Biased Technological Change as an Explanation

Human Capital and Technological Change in Growth Models

Papers preceded by an asterisk (*) represent key papers that we will focus on extensively in class. Please let us know of any incorrect references in the attached reading list.

The readings for sections C and D to be taught by Professor Berman may be updated before he begins teaching in week 7 or 8.

READING LIST

A. The Supply Side of the Labor Market

1) The Quantity of Labor Supplied

a) Labor Supply

* Blundell, Richard and Thomas MaCurdy (1999) "Labor Supply: A Review of Alternative Approaches", in Handbook of Labor Economics, Volume 3A, eds O. Ashenfelter and D. Card, Amsterdam: Elsevier Science.

Killingsworth, Mark (1983), *Labor Supply*, (Cambridge: Cambridge University Press) Chapters 1 and 2.

* Ben-Porath, Yoram (1973), "Labor Force Participation Rates and the Supply of Labor", *Journal of Political Economy* (May/June).

i) Static Labor Supply -- Theory and Estimation

* Heckman, James (1974), "Shadow Prices, Market Wages and Labor Supply", *Econometrica* (July).

* Heckman, James (1979), "Sample Selection Bias as a Specification Error With an Application to the Estimation of Labor Supply Functions", in James Smith (Ed.) *Female Labor Supply*, (Princeton: Princeton University Press).

Moffitt, Robert (1984), "The Estimation of a Joint Wage-Hours Labor Supply Model", *Journal of Labor Economics*, (October).

Mroz, Thomas (1987), "The Sensitivity of an Empirical Model of Married Women's Hours of Work to Economic and Statistical Assumptions", *Econometrica*, (July).

ii) Dynamic Labor Supply -- Theory and Basic Estimation

Altonji, Joseph (1986), "Intertemporal Substitution in Labor Supply: Evidence from Micro Data", *Journal of Political Economy*, (June), Supplement.

Camerer C, Babcock L, Loewenstein G, et al., (1997), "Labor supply of New York City cabdrivers: One day at a time," *Quarterly Journal of Economics*, 112 (2): 407-441 May.

* Heckman, James (1974), "Life Cycle Consumption and Labor Supply: An Explanation of the Relationship between Income and Consumption Over the Life Cycle", *American Economic Review* (March).

* Heckman, James and Thomas MaCurdy (1980), "A Life Cycle Model of Female Labor Supply", *Review of Economic Studies*, (January).

Lucas. Robert E. and Leonard Rapping (1969), "Real Wages, Employment, and Inflation", *Journal of Political Economy*, (October).

* MaCurdy, Thomas (1981), "An Empirical Model of Labor Supply in a Life Cycle Setting", *Journal of Political Economy* (December).

Oettinger, Gerald S (1999), "An empirical analysis of the daily labor supply of stadium vendors," *Journal of Political Economy* 107 (2): 360-392 April.

iii) Using Non-linear Budget Constraints Induced by Taxes and Subsidies to
Estimate Labor Supply Responses

*Richard Blundell, Alan Duncan, and Costas Meghir (1998), "Estimating Labor Supply Responses Using Tax Reforms," *Econometrica*, July, 827-61.

Ziliak, James and Thomas Kneisner (1999), "Estimating Life Cycle Labor Supply Tax Effects," *Journal of Political Economy*, April, 326-59.

Eissa, Nada and Jeffrey Liebman (1996), "Labor supply response to the earned income tax credit" *Quarterly Journal of Economic*, May (111:2).

Moffitt, Robert (1986), "The Econometrics of Piecewise-Linear Budget Constraints," *Journal of Business and Economic Statistics*, 4:3, 317-328.

iv) Pensions and Retirement

Coile, Courtney and Jonathan Gruber (2000), "Social Security and Retirement," NBER Working Paper No. 7830, August.

Samwick, Andrew (1998) "New Evidence on Pensions, Social Security, and the Timing of Retirement," *Journal of Public Economics*, November 1998, 207-36.

Gruber, Jonathan and Peter Orszag (2000), "Does the Social Security Earnings Test Affect Labor Supply and Benefits Receipt?" NBER Working Paper No. 7923, September.

v) Health Insurance and Labor Supply

Madrian, Brigitte (1994), "Employment-Based Health Insurance and Job Mobility: Is There Evidence of Job Lock?" *Quarterly Journal of Economics*, February, 27-54.

Gruber, Jonathan and Madrian, Brigitte C (1997) "Employment separation and health insurance coverage", *Journal of Public Economics*; December.

2) The Quality of Labor Supplied: Human Capital

a) The Economics of Education

i) Human Capital Theory

Becker, Gary (1975), **Human Capital**, 2nd edition, Chicago: University of Chicago Press.

* Ben-Porath, Y, "The Production of Human Capital and the Life Cycle of Earnings," *Journal of Political Economy*, August 1967, pp. 352-65.

ii) Econometric Techniques For Estimating The Returns To Education

a) Standard Approach

b) Heckman Selectivity Correction

Mincer, Jacob (1974), *Schooling, Experience and Earnings*, New York: Columbia University Press for NBER.

* Griliches, Zvi (1977), "Estimating the Returns to Schooling: Some Econometric Problems", *Econometrica*, **45**, Jan. pp. 1-22.

* Heckman, James (1979), "Sample Selection Bias as a Specification Error", *Econometrica*, **47**, pp. 153-161.

* Willis, R.J. and S. Rosen (1979), "Education and Self-Selection", *Journal of Political Economy*, **87**, (Supplement, October), pp. S7-S36.

c) IV Methods

* Angrist, Joshua D. and Alan B. Krueger (1991), "Does Compulsory School Attendance Affect Schooling and Earnings?", *Quarterly Journal of Economics*, **56**, #4, pp. 979-1014.

Angrist, Joshua D. and Alan B. Krueger (1991), "The Effect of Age at School Entry on Educational Attainment: An Application of Instrumental Variables with Moments from Two Samples", *Journal of the American Statistical Association*, **87**, #418, June, pp. 328-336.

Angrist, Joshua D. and Alan B. Krueger (1994), "Why do World War II Veterans Earn More than Nonveterans?", *Journal of Labor Economics*, **12**, #1, Jan., pp. 74-97.

* Ashenfelter, Orley and Alan Krueger (1994), "Estimates of the Economic Return to Schooling from a New Sample of Twins", *American Economic Review*, December.

* Bound, John, David A. Jaeger and Regina M. Baker (1995), "The Cure Can be Worse than the Disease: A Cautionary Tale Regarding Instrumental Variables", *Journal of the American Statistical Association*, June.

Card, David (1999), "The Causal Effect of Education on Earnings", in Orley Ashenfelter and David Card (eds.), *Handbook of Labor Economics Volume 3A*.

Card, David (1993), "Using Geographic Variation in College Proximity to Estimate the Return to Schooling", NBER Working Paper 4483. Published in 1995 in *Aspects of Labour Market Behaviour: Essays in Honour of John Vanderkamp, Louis Christofides et al. (eds.)*, Toronto: University of Toronto Press.

Kane, Thomas J. and Cecilia E. Rouse (1995), "Labor Market Returns to Two- and Four-Year College", *American Economic Review*, June.

Staiger, Douglas and James H. Stock (1997), "Instrumental variables regression with weak instruments", *Econometrica* v65, n3 (May 1997).

Harmon, Colm and Ian Walker (1995), "Estimates of the Economic Return to Schooling for the United Kingdom", *American Economic Review*:1278-1286.

d) Fixed Effect Methods

Altonji, Joseph and Thomas Dunn, (1996), "The Effects of Family Characteristics on the Return to Education", *Review of Economics and Statistics*, (November).

Angrist, Joshua and Whitney Newey (1991), "Over-identification Tests in Earnings Functions with Fixed Effects", *Journal of Business and Economic Statistics* (July).

Ashenfelter, Orley and David Zimmerman (1997), "Estimates of the Returns to Schooling from Sibling Data: Fathers, Sons and Brothers", *Review of Economics & Statistics* v79, n1 (Feb.).

* Ashenfelter, Orley and Alan Krueger (1994), "Estimates of the Economic Return to Schooling from a New Sample of Twins", *American Economic Review* (December). (Note: This paper uses both instrumental variables and fixed effects.)

* Light, Audrey (1995), "The Effects of Interrupted Schooling on Wages", *Journal of Human Resources* (Summer).

iii) Human Capital Versus Signaling

a) A Review of the Signaling Model

* Spence, Michael (1973), "Job Market Signalling", *Quarterly Journal of Economics*.

Stiglitz, Joseph (1975), "The Theory of Screening, Education, and the Distribution of Income", *American Economic Review*.

b) Empirical Evidence

Altonji, Joseph (1995), "The Effects of High School Curriculum on Education and Labor Market Outcomes", *Journal of Human Resources*, (Summer).

Altonji, Joseph and Charles R. Pierret (2001), "Employer learning and statistical discrimination", *Quarterly Journal of Economics*, Feb. 116:1 313-350.

* Bedard, Kelly (2001), "Human capital versus signaling models: University access and high school dropouts", *Journal of Political Economy*, Aug., (109:4), 749-775.

* Farber, Henry S. and Robert Gibbons (1995), "Learning and Wage Dynamics", *Quarterly Journal of Economics* (November).

* Gibbons, Robert and Lawrence F. Katz (1991), "Layoffs and Lemons", *Journal of Labor Economics*, 9, #4, pp. 351-380.

* Lang, Kevin and David Kropp (1986), "Human Capital versus Sorting: The Effects of Compulsory Attendance Laws", *Quarterly Journal of Economics*, **101**, #3, pp. 609-624.

Rose, Heather and Julian R. Betts (2004), "The Effect of High School Courses on Earnings", *Review of Economics and Statistics*, May (**86**:2), pp. 497-513.

Weiss, Andrew (1988), "High School Graduation, Performance, and Wages", *Journal of Political Economy* (**96**:4).

iv) The Social Returns to Education and Education Externalities

Currie, J. and Moretti, E. "Mother's Education and the Intergenerational Transmission of Human Capital: Evidence from College Openings." *Quarterly Journal Of Economics*, 2003, 118(4), pp. 1495-532.

Lochner, L. and Moretti, E. "The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports." *American Economic Review*, 2004, 94(1), pp. 155-89.

Milligan, K.; Moretti, E. and Oreopoulos, P. "Does Education Improve Citizenship? Evidence from the United States and the United Kingdom." *Journal Of Public Economics*, 2004, 88(9-10), pp. 1667-95.

Moretti, E. "Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-Sectional Data." *Journal Of Econometrics*, 2004a, 121(1-2), pp. 175-212.

_____. "Workers' Education, Spillovers, and Productivity: Evidence from Plant-Level Production Functions." *American Economic Review*, 2004b, 94(3), pp. 656-90.

Rauch, J. E. "Productivity Gains from Geographic Concentration of Human-Capital - Evidence from the Cities." *Journal of Urban Economics*, 1993, 34(3), pp. 380-400.

v) The Determinants Of School Quality

a) Literature Review on School Inputs and Student Outcomes

Basic Literature Review

Coleman, James et al. (1966), "*Equality of Educational Opportunity*", Washington: Government Printing Office.

* Hanushek, Eric A. (1986), "Production and Efficiency in Public Schools", *Journal of Economic Literature*, **24**, #3, pp. 1141-1177.

See also the articles in Burtless, Gary (Ed.) (1996), "*Does Money Matter? The Effect of School Resources on Student Achievement and Adult Success*." (Washington, DC: Brookings Institution).

More Recent Evidence

* Betts, Julian R., (1995), "Does School Quality Matter? Evidence from the National Longitudinal Survey of Youth", *Review of Economics and Statistics*.

* Betts, Julian R., (1996), "Is There a Link Between School Inputs and Earnings? Fresh Scrutiny of an Old Literature", in Gary Burtless (Ed.), *"Does Money Matter? The Effect of School Resources on Student Achievement and Adult Success."* (Washington, DC: The Brookings Institution).

Betts, Julian R. (1996), "Do School Resources Matter Only for Older Workers?", *Review of Economics and Statistics* (**78**:4), pp. 638-652.

Betts, Julian R. (2001), "The Impact of School Resources on Women's Earnings and Educational Attainment: Findings from the National Longitudinal Survey of Young Women", *Journal of Labor Economics*, (**19**:3), pp. 635-657.

Betts, Julian R. and Jamie L. Shkolnik (2000), "The Behavioral Effects of Variations in Class Size: The Case of Math Teachers", *Educational Evaluation and Policy Analysis*, Summer, (**20**:2), pp. 193-213.

Betts, Julian R., Andrew Zau and Lorien Rice (2003), **Determinants of Student Achievement: New Evidence from San Diego**, San Francisco: Public Policy Institute of California.

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

* Card, David and Alan B. Krueger (1992a), "Does School Quality Matter? Returns to Education and the Characteristics of Public Schools in the United States", *Journal of Political Economy*, **100**, pp. 1-40.

Card, David and Alan B. Krueger (1992b), "School Quality and Black-White Relative Earnings: A Direct Assessment", *Quarterly Journal of Economics*, **57**, #1, pp. 151-200.

Card, David and Alan B. Krueger (1996), "School Resources and Student Outcomes: An Overview of The Literature and New Evidence from North and South Carolina", *Journal Of Economic Perspectives*, (**10**:4), (Fall).

Grogger, J., (1996), "Does School Quality Explain the Recent Black/White Wage Trend?", *Journal of Labor Economics* (April).

Hanushek, Eric A. and Lori L. Taylor (1990), "Alternative Assessments of the Performance of Schools: Measurement of State Variations in Achievement", *Journal of Human Resources*, **25**, #2, pp. 179-201.

* Heckman, James J, Anne S. Layne-Farrar and Petra E. Todd (1996), "Does Measured School Quality Really Matter?", in Gary Burtless (Ed.), *"Does Money Matter? The Effect of School Resources on Student Achievement and Adult Success."* (Washington, DC: The Brookings Institution).

* Lazear, Edward (2001), "Educational Production", *Quarterly Journal of Economics*, August (116:3). This paper is also available as NBER Working Paper 7349.

See also the November 1996 issue of *Review of Economics and Statistics* for a Symposium on School Quality and Educational Outcomes.

Krueger, Alan B. (1999), "Experimental Estimates of Education Production Functions", *Quarterly Journal of Economics* (May):497-532.

b) The Labor Market for Teachers

Boyd, D.; Lankford, H.; Loeb, S. and Wyckoff, J. "The Draw of Home: How Teachers' Preferences for Proximity Disadvantage Urban Schools." *Journal of Policy Analysis And Management*, 2005a, 24(1), pp. 113-32.

_____. "Explaining the Short Careers of High-Achieving Teachers in Schools with Low-Performing Students." *American Economic Review*, 2005b, 95(2), pp. 166-71.

Lankford, H.; Loeb, S. and Wyckoff, J. "Teacher Sorting and the Plight of Urban Schools: A Descriptive Analysis." *Educational Evaluation And Policy Analysis*, 2002, 24(1), pp. 37-62.

Hanushek, Eric A., John F. Kain, and Steven G. Rivkin (1998), "Teachers, Schools, and Academic Achievement" National Bureau of Economic Research Working Paper 6691.

Hoxby, Caroline M. (1996), "How Teachers' Unions Affect Education Production," *Quarterly Journal of Economics*, 111:3.

Loeb, Susanna and Marianne E. Page (2000), "Examining the Link between Teacher Wages and Student Outcomes: The Importance of Alternative Labor Market Opportunities and Non-pecuniary Variation," *Review of Economics and Statistics*, August, 82(3): 393-408.

c) Peer Groups and Ability Grouping

Angrist, Joshua D. and Kevin Lang (2002), "How Important are Classroom Peer Effects? Evidence from Boston's Metco Program," National Bureau of Economic Research Working Paper 9263.

Argys, L. M., Rees, D. I., Brewer, D. J., 1996. Detracking America's Schools: Equity at Zero Cost? *Journal of Policy Analysis and Management* 15, (4), 623-645.

Betts, Julian R. and Jamie L. Shkolnik (2000), "The Effects of Ability Grouping on Student Math Achievement and Resource Allocation in Secondary Schools", *Economics of Education Review*, (19:1), pp. 1-15.

Betts, Julian R. and Andrew Zau (2003), "Peer Groups and Academic Achievement: Panel Evidence from Administrative Data," manuscript, Department of Economics, UCSD.

Hanushek, Eric A., John F. Kain, Jacob M. Markman and Steven G. Rivkin (2001), "Does Peer Ability Affect Student Achievement?" National Bureau of Economic Research Working Paper 8502.

Hoxby, Caroline M., "Peer Effects in the Classroom: Learning from Gender and Race Variation," NBER Working Paper No. 7867, 2001.

Lazear, Edward (2001), "Educational Production", *Quarterly Journal of Economics*, August (116:3). This paper is also available as NBER Working Paper 7349. (This paper has as much to say about peers as it does about class size.)

Vigdor, Jacob L. and Thomas S. Nechyba (2004), "Peer Effects in North Carolina Public Schools." Kennedy School of Government Program on Education Policy and Governance Research Paper #04-20, July 2004.

d) School Choice and School Competition

Cullen, J. B.; Jacob, B. A. and Levitt, S. D. "The Impact of School Choice on Student Outcomes: An Analysis of the Chicago Public Schools." *Journal Of Public Economics*, 2005, 89(5-6), pp. 729-60. (See also NBER Working Paper 7888.)

Epple, Dennis and Romano, Richard (1998), "Competition Between Private and Public Schools, Vouchers, And Peer-Group Effects," *American Economic Review* 88, 33-62.

Hoxby, Caroline M. (1998), "What Do America's 'Traditional' Forms of School Choice Teach Us about School Choice Reforms?", (March) *Economic Policy Review*, downloadable from www.ny.frb.org.

* Hoxby, Caroline M. (2000), "Does Competition among Public Schools Benefit Students and Taxpayers?", *American Economic Review*, December.

Hoxby, Caroline M. "School Choice and School Productivity (Or, Could School Choice be a Rising Tide that Lifts All Boats," in C. Hoxby, ed. *The Economics of School Choice*, Chicago: University of Chicago Press, 2003.

Hsieh, C. T. and Urquiola, M. "When Schools Compete, How Do They Compete? An Assessment of Chile's Nationwide School Voucher Program." *Journal Of Economic History*, 2003, 63(2), pp. 558-58. (See also NBER Working Paper 10008.)

Krueger, A. and Zhu, P. (2003), "Another look at the New York City school voucher experiment, NBER Working Paper 9418, National Bureau of Economic Research.

Myers, D., Peterson, P., Mayer, D., Chou, J. and Howell, W. (2000), "School Choice In New York City After Two Years: An Evaluation Of The School Choice Scholarships Program," Research Paper 8404-045, Mathematica Policy Research Inc.

Rouse, Cecilia E. (1998), "Schools and Student Achievement: More Evidence from the Milwaukee Parental Choice Program", (March) *Economic Policy Review*, downloadable from www.ny.frb.org.

Urquiola, M. "Does School Choice Lead to Sorting? Evidence from Tiebout Variation." *American Economic Review*, 2005, 95(4), pp. 1310-26.

e) School Standards and Accountability

Theoretical Work on Standards

* Costrell, Robert M. (1994), "A Simple Model of Educational Standards", *American Economic Review*, September, 84(4), pp. 956-71.

* Betts, Julian R., (1998), "The Impact of Educational Standards on the Level and Distribution of Earnings", *American Economic Review*, (**88**:1), pp. 266-275.

Empirical Evidence

Betts, Julian (1998), "The Two-Legged Stool: The Neglected Role of Educational Standards in Improving America's Schools", (March) *Economic Policy Review*, downloadable from www.ny.frb.org.

Betts, Julian R. Betts and Jeff Grogger (2003), "The Impact of Grading Standards on Student Achievement, Educational Attainment, and Entry-Level Earnings", *Economics of Education Review*, (**22**:4), August, pp. 343-352.

Chay, K. Y.; McEwan, P. J. and Urquiola, M. "The Central Role of Noise in Evaluating Interventions That Use Test Scores to Rank Schools." *American Economic Review*, 2005, 95(4), pp. 1237-58.

Clotfelter, C. T.; Ladd, H. F.; Vigdor, J. L. and Diaz, R. A. "Do School Accountability Systems Make It More Difficult for Low-Performing Schools to Attract and Retain High-Quality Teachers?" *Journal Of Policy Analysis And Management*, 2004, 23(2), pp. 251-71.

Jacob, B. A. "Accountability, Incentives and Behavior: The Impact of High-Stakes Testing in the Chicago Public Schools." *Journal Of Public Economics*, 2005, 89(5-6), pp. 761-96.

Jacob, B. A. and Levitt, S. D. "Rotten Apples: An Investigation of the Prevalence and Predictors of Teacher Cheating." *Quarterly Journal Of Economics*, 2003, 118(3), pp. 843-77.

Roderick, M.; Jacob, B. A. and Bryk, A. S. "The Impact of High-Stakes Testing in Chicago on Student Achievement in Promotional Gate Grades." *Educational Evaluation And Policy Analysis*, 2002, 24(4), pp. 333-57.

v) Postsecondary School Quality

James, E., N. Alsalam, J.C. Conaty and D.-L. To, (1989), "College Quality and Future Earnings: Where Should You Send Your Child to College?", *American Economic Review*, **79**, #2, pp. 247-252.

Dale, Stacy Berg and Alan B Krueger (2002), "Estimating the payoff to attending a more selective college: An application of selection on observables and unobservables", *Quarterly Journal of Economics*, Nov.

b) On-the-Job Training

Lynch, Lisa (1992) "Private-Sector Training and the Earnings of Young Workers," *American Economic Review* (March).

Barron; John M., Mark Berger and Dan Black (1999), "Do workers pay for on-the-job training?" *Journal of Human Resources*, Spring (34:2) 235-252.

c) Government Training Programs

* Heckman, James Rober LaLonde, and Jeff Smith. (1999) "The economics and econometrics of active labor market programs," *Handbook of Labor Economics*, Vol. 3A, O. Ashenfelter and D. Card, eds. Amsterdam: North Holland, 1865-2097.

Ashenfelter, Orley and David Card (1985) "Using the Longitudinal Structure of Earnings to Estimate the Effect of Training Programs on Earnings," *Review of Economics and Statistics*, 648-60.

Heckman, James and V.J. Hotz (1989) "Choosing Among Alternative Nonexperimental Methods for Estimating the Impact of Social Programs: The Case of Manpower Training," *JASA* 84 (408), December, 862-880.

* LaLonde, Robert (1986), "Evaluating the Econometric Evaluations of Training Programs with Experimental Data," *American Economic Review*, September, 604-620.

* R. Dehejia and S. Wahba (1999), "Causal Effects in Non-Experimental Studies: Re-Evaluating the Evaluation of Training Programs," *JASA* 94 (December), 1053-62.

Abadie, Alberto, J. Angrist, and G. Imbens (2002), "Instrumental Variables Estimates of the Effects of Training on the Quantiles of Trainee Earnings," *Econometrica* 70 (January), 91-117.

Heckman, James, H. Ichimura and P. Todd (1997), "Matching as an econometric evaluation estimator: Evidence from evaluating a job training programme", *Review of Economic Studies*, Oct. 64:221, 605-654.

Smith, Jeffrey and Petra Todd (2001), "Reconciling conflicting evidence on the performance of propensity-score matching methods", *American Economic Review*, May, 91:2, 112-118.

B. Theories of Unemployment and Empirical Evidence on Unemployment

1) An Overview Of Different Theoretical Explanations and Evidence

Katz, Lawrence F. (1988), "Some Recent Developments in Labor Economics and Their Implications for Macroeconomics", *Journal of Money, Credit and Banking*, **20**, #3, August, pp. 507-522.

Stiglitz, Joseph E. (1986), "Theories of Wage Rigidity", in James L. Butkiewicz, Kenneth J. Koford and Jeffrey B. Miller (Eds.), *Keynes' Economic Legacy: Contemporary Economic Theories*, New York: Praeger, pp. 153-206.

den Haan, Wouter J., Gary Ramey and Joel Watson (2000), "Job destruction and propagation of shocks", *American Economic Review*, June.

a) Efficiency Wages

a) Survey Articles

Carmichael, H. Lorne (1990), "Efficiency Wage Models of Unemployment - One View", *Economic Inquiry*, **28**, April pp. 269-295.

Lang, Kevin and Shulamit Kahn (1990), "Efficiency Wage Models of Unemployment - A Second View", *Economic Inquiry*, **28**, April pp. 296-306.

b) The Shirking Model

* Shapiro, Carl and Joseph Stiglitz (1984), "Equilibrium Unemployment as a Worker Discipline Device", *American Economic Review*, **74**, June, pp. 433-444.

c) Other Models

i) Adverse Selection

* Weiss, A. (1980), "Job Queues and Layoffs in Labor Markets with Flexible Wages", *Journal of Political Economy*, **88**, June, pp. 526-538.

ii) Turnover Costs

* Salop, Steven C. (1979), "A Model of the Natural Rate of Unemployment", *American Economic Review*, **69**, March, pp. 117-125.

iii) Sociological Explanations

Akerlof, George A. (1982), "Labor Contracts as Partial Gift Exchange", *Quarterly Journal of Economics*, **47**, November, pp. 543-569.

Akerlof, George A. (1984), "Gift-Exchange and Efficiency Wage Theory: Four Views", *American Economic Review*, **74**, May, pp. 79-83.

d) Theoretical Objections

i) Two Theoretical Objections to the Shirking Model

* Carmichael, H. Lorne (1985), "Can Efficiency Wage Unemployment be Involuntary?", *American Economic Review*, **75**, pp. 1213-1214.

* Macleod, Bentley and James Malcolmsom (1989), "Implicit Contracts, Incentive Compatibility and Involuntary Unemployment", *Econometrica*, **57**, pp. 312-322.

Shapiro, Carl and Joseph Stiglitz (1985), "Can Efficiency Wage Unemployment be Involuntary: Reply", *American Economic Review*, **75**, pp. 1215-1217.

ii) A Further Qualification of Both the Shirking and Adverse Selection

Models

* MacLeod, Bentley and James M. Malcolmson (1988), "Reputation and Hierarchy in Dynamic Models of Employment", *Journal of Political Economy*, 96, #4.

e) A Review of Empirical Evidence

Blackburn, McKinley and David Neumark (1992), "Unobserved Ability, Efficiency Wages, and Interindustry Wage Differentials", *Quarterly Journal of Economics*, **107**, #4, pp. 1421-1436.

Cappelli, Peter and Keith Chauvin (1991), "An Interplant Test of the Efficiency Wage Hypothesis", *Quarterly Journal of Economics*, **106**, #3, pp. 769-787.

* Gibbons, Robert and Lawrence Katz (1992), "Does Unmeasured Ability Explain Inter-Industry Wage Differentials?", *Review of Economic Studies*, **59**, #3, July, pp. 515-535.

Groshen, Erica L. and Alan B. Krueger (1990), "The Structure and Supervision of Pay in Hospitals", *Industrial and Labor Relations Review*, **43**, #3, Special Issue, pp. S134-S146.

Krueger, Alan B. and Lawrence H. Summers (1988), "Efficiency Wages and the Inter-Industry Wage Structure", *Econometrica*, **56**, #2, pp. 259-293.

b) Minimum Wages And Unemployment

Brown, Charles, Curtis Gilroy, and Andrew Kohen (1982), "The Effect of the Minimum Wage on Employment and Unemployment", *Journal of Economic Literature*, (June).

Card, David (1992), "Do Minimum Wages Reduce Employment? A Case Study of California, 1987-89", *Industrial and Labor Relations Review*, (October).

* Card, David and Alan B. Krueger (1994), "Minimum Wages and Employment - A Case Study of the Fast Food Industry in New Jersey and Pennsylvania", *American Economic Review*, (**84**:4), September.

Card, David and Alan B. Krueger (1995), *Myth and Measurement : The New Economics of the Minimum Wage*, (Princeton, N.J.: Princeton University Press).

Card, David, Lawrence Katz and Alan Krueger (1994), "Comment on David Neumark and William Wascher, 'Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws'", *Industrial and Labor Relations Review*, (47:3), April.

Castillo, Alida and Richard B. Freeman (1992), "When the Minimum Wage Really Bites: The Effect of the U.S.-Level Minimum on Puerto Rico", in George J. Borjas and Richard B. Freeman (Eds.), *The Economic Effects of Immigration in Source and Receiving Countries*, (Chicago: University of Chicago Press).

* Katz, Lawrence and Alan B. Krueger (1992), "The Effect of the Minimum Wage on the Fast Food Industry", *Industrial and Labor Relations Review*, (October).

* Kennan, John (1995), "The Elusive Effects of Minimum Wages", *Journal of Economic Literature*, (33:4) (December).

* Kim, Taeil and Lowell Taylor (1995), "The Employment Effect In Retail Trade Of California's 1988 Minimum Wage Increase", *Journal of Business & Economic Statistics* (13:2), (April).

Neumark, David and William Wascher (1994), "Employment Effects of Minimum and Subminimum Wages: Reply to Card, Katz, and Krueger", *Industrial and Labor Relations Review*, (47:3), April.

Neumark, David and William Wascher (1992), "Employment Effects of Minimum and Subminimum Wages: Panel Data on State Minimum Wage Laws", *Industrial and Labor Relations Review*, (46:1), October.

Neumark, David and William Wascher (1995), "Minimum-Wage Effects On School And Work Transitions Of Teenagers", *American Economic Review*, (85:2), (May).

Neumark, David and William Wascher (1995), "Minimum Wage Effects On Employment And School Enrollment", *Journal Of Business and Economic Statistics*, (13:2), (May).

Neumark, David and William Wascher (1995), "The Effect Of New Jersey's Minimum Wage Increase On Fast-Food Employment: A Re-Evaluation Using Payroll Records", NBER Working Paper #5224. See also their article in *American Economic Review* December 2000 and reply by Card and Krueger in same article.

Rebitzer, James B and Lowell Taylor (1995), "The Consequences Of Minimum Wage Laws: Some New Theoretical Ideas", *Journal of Public Economics*, (56:2) (February).

Watson, Nadine (1996), Ph.D. Thesis, University of California, San Diego.

Baker, Michael, Dwayne Benjamin and Shuchita Stanger (1999), "The Highs and Lows of the Minimum Wage Effect: A Time Series Cross-Section Study of the Canadian Law", *Journal of Labor Economics* (April).

** Brown, Charles (1999), "Minimum Wages, Employment, and the Distribution of Income", in Handbook of Labor Economics, Volume 3B, eds O. Ashenfelter and D. Card, Amsterdam: Elsevier Science.

c) Insider-Outsider/Hysteresis Theories

Blanchard, Olivier J. and Lawrence H. Summers (1986), "Hysteresis and the European Unemployment Problem", in Stanley Fischer (Ed.), *NBER Macroeconomics Annual 1986*, Cambridge: MIT Press, pp. 15-77.

* Lindbeck, Assar and Dennis J. Snower (1988), "Cooperation, Harassment, and Involuntary Unemployment: An Insider-Outsider Approach", *American Economic Review* **78**, #1, pp. 167-188.

d) Sectoral Shifts

Abraham, Katherine G. and Lawrence F. Katz (1986), "Cyclical Unemployment: Sectoral Shifts or Aggregate Disturbances?", *Journal of Political Economy*, **94**, June, pp. 507-522.

Brainard, S. Lael and David M. Cutler (1993), "Sectoral Shifts and Cyclical Unemployment Reconsidered", *Quarterly Journal of Economics*, **58**, #1, Feb., pp. 219-243.

* Lilien, David M. (1982), "Sectoral Shifts and Cyclical Unemployment", *Journal of Political Economy*, **90**, August, pp. 777-793.

Murphy, Kevin M. and Robert H. Topel (1987), "The Evolution of Unemployment in the United States", in *NBER Macroeconomics Annual* 2, pp. 11-58.

2) Empirical Evidence on the Incidence and Duration of Unemployment

a) Gross Job Flows

Davis, Steven and John Haltiwanger (1992), "Gross Job Creation, Gross Job Destruction, and Employment", *Quarterly Journal of Economics*, Aug. 107:3, 819-863.

b) Unemployment Insurance and the Duration of Unemployment

Katz, Lawrence and Bruce Meyer. "Unemployment Insurance, Recall Expectations, and Unemployment Outcomes", *Quarterly Journal of Economics*, Nov. 1990.

Katz, Lawrence and Bruce Meyer. "The Impact of the Potential Duration of Unemployment Benefits on the Duration of Unemployment", *Journal of Public Economics*, 1990.

McCall, Brian (1996), "Unemployment Insurance Rules, Joblessness and Part-Time Work", *Econometrica*, May.

Meyer, Bruce (1990), "Unemployment Insurance and Unemployment Spells", *Econometrica*, July.

Woodbury, Stephen and Robert Spiegelman (1987), "Bonuses to Workers and Employers to Reduce Unemployment: Randomized Trials in Illinois", *American Economic Review*, Sept.

Labor Economics is a dynamic field. The readings for sections C and D to be taught by Professor Berman may be updated before he begins teaching in week 7 or 8.

C. Labor Demand

Static Models

*Hamermesh, Daniel S. Labor Demand, Princeton, NJ: Princeton University Press, 1993, chapters 2&3.

J. Hicks, Theory of Wages, chapter 1, Appendix, sections 18-19.

* D. Hamermesh, "The Demand for Labor in the Long Run," in O. Ashenfelter and R. Layard, eds., Handbook of Labor Economics, vol. 1, 1986.

Empirical Applications of Static Models

* K. Clark and R. Freeman, "How Elastic is the Demand for Labor?" RESTAT, November 1980, pp. 509_520.

C. Brown, C. Gilroy, and A. Kohen, "The Effect of the Minimum Wage on Employment and Unemployment," Journal of Economic Literature, June 1982.

R. Freeman, "The Effect of Demographic Factors on Age_Earnings Profiles," Journal of Human Resources, 1979, pp. 289-318.

R. Freeman, "The Effect of the Increased Relative Supply of College Graduates on Skill Differences and Employment Opportunities," in Z. Griliches et al., Income Distribution and Economic Inequality, Campus Verlag, 1978, pp. 240-55.

*Z. Griliches, "Capital_Skill Complementarity," RESTAT, November 1969.

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

Berman Eli and Linda Bui (2000), "Air Quality Regulation and Labor Demand: Evidence from the L.A. Basin," Journal of Public Economics xx x.

Dynamic Models

* W. Oi, "Labor As A Quasi_Fixed Factor," Journal of Political Economy, 1962, pp. 538-55.

S. Nickell, "Dynamic Models of Labour Demand," Handbook of Labor Economics, vol. 1, 1986.

* D. Hamermesh, "Labor Demand and the Structure of Adjustment Costs," American Economic Review, September 1989, pp. 675-90.

Equilibrium with Heterogeneous Labor

*Lang, Kevin and William T. Dickens. "Neoclassical and Sociological Perspectives on Segmented Labor Markets," in Farkas, G. and England, P. ,eds., Industries, Firms, and Jobs, New York: Plenum, 1988.

*Kahn, Shulamit. "Economic Estimates of the Value of Life," Institute of Electrical Engineers Technology and Society, June 1986.

Rosen, Sherwin. "The Theory of Equalizing Differences." in Handbook of Labor Economics, Vol. I.

Willis, Robert J. "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Functions," in Handbook of Labor Economics.

Immigration

* 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, U. of Chicago Press and NBER, 1991.

*Card, David, "The Impact of the Mariel Boatlift on the Miami Labor Market," Industrial and Labor Relations Review, 43 (January 1990): 245-57.

Chiswick, Barry R. "The Effect of Americanization on the Earnings of Foreign-born Men," Journal of Political Economy 86(5) (1978).

Friedberg, Rachel "The Impact of Mass Migration on the Israeli Labor Market," The Quarterly Journal of Economics 2001 116 (4)1373-1408.

*Borjas, George, "Self_Selection and the Earnings of Immigrants," American Economic Review, 77 (Sept. 1987): 531-53.

Berman, Eli, "Language-Skill Complementarity: Estimated Returns to Immigrant Language Acquisition," (with Kevin Lang and Erez Siniver), Labour Economics, 10 (3), (June 2003) 265-290.

Bleakely, Hoyt, and Aimee Chin, "Returns to English Language Skills among first generation immigrants: How much and why?" Review of Economics and Statistics, forthcoming.

D. Increased Returns to Skills and Increased Income Inequality ***The basic facts on quantities and prices***

Blackburn, M.L., D.E. Bloom and R.L. Freeman (1990). "The Declining Economic Position of Less_Skilled American Males," in G. Burtless (ed.), *A Future of Lousy Jobs?* Brookings, Washington D.C.

* Bound, John and George Johnson (1992) "Changes in the Structure of Wages During the 1980s: An Evaluation of Alternative Explanations," *American Economic Review*, 82(June).

* Katz, Lawrence F. and Kevin M. Murphy (1992). "Changes in Relative Wages, 1963-1987: Supply and Demand Factors," *Quarterly Journal of Economics*, 107(February) 35-78.

Murphy, Kevin M. and Finis Welch (1993) Industrial change and the rising importance of skill, in

Sheldon Danziger and Peter Gottschalk (eds.) *Uneven Tides: Rising Inequality in America*, New York: Russell Sage Foundation.

Murphy, Kevin M. and Finis Welch (1992) "The Structure of Wages," *Quarterly Journal of Economics*, 107(February): 285_326.

Race

Bound, John and Richard Freeman (1992) "What Went Wrong? The Erosion of Relative Earnings Among Young Black Men in the 1980s," *Quarterly Journal of Economics* 107(1), February.

International Evidence

Blau, Francine D. and Lawrence M. Kahn (1994) "International Differences in Male Wage Inequality: Institutions versus Market Forces," NBER WP #4678, March.

* Freeman, Richard and Lawrence Katz (1994) "Rising wage inequality: The United States vs. other advanced countries," in Richard Freeman (ed.) *Working Under Different Rules*, New York: Russell Sage Foundation.

Katz, Lawrence F., Gary W. Loveman and David G. Blanchflower (1993). "A comparison of Changes in the Structure of Wages in Four OECD Countries," National Bureau of Economic Research Working Paper #4297, March.

Historical Perspective

Goldin, Claudia and Robert Margo (1992) "The Great Compression: The Wage Structure in the United States at Mid-Century," *Quarterly Journal of Economics*, 107(1), February.

Basic Human Capital Theory

G. Becker, Human Capital, 2nd edition, 1975.

* Y. Ben_Porath, "The Production of Human Capital and the Life Cycle of Earnings," Journal of Political Economy, August 1967, pp. 352_65.

Hellerstein, Judith K., David Neumark and Kenneth R. Troske (1994) "Wages, Productivity and Worker Characteristics," Northwestern University, mimeo, November.

* R. Willis, "Wage Determinants: A Survey and Reinterpretation of Human Capital Earnings Functions," in O. Ashenfelter and R. Layard, eds., Handbook of Labor Economics, vol. 1, 1986.

* Mincer, Jacob (1994) "The Production of Human Capital and the Lifecycle of Earnings: Variations on a Theme," NBER WP #4838, August.

Mincer, Jacob (1994) "Investment in U.S. Education and Training," NBER WP #4844, August.

Trade as an Explanation

Borjas, George J. and Valerie A. Ramey (1994) "Foreign Competition, Market Power and Wage Inequality, UCSD mimeo.

Feenstra, Robert C. and Gordon Hanson, "Globalization, Outsourcing, and Wage Inequality" American Economic Review Paper and Proceedings, LXXXVI (1996), 240-245.

Helpman, Elhanan and Paul R. Krugman, Market Structure and Foreign Trade, (Cambridge, MA: MIT, 1985).

Krugman, Paul and Robert Lawrence (1993). "Trade, Jobs and Wages," National Bureau of Economic Research Working Paper #4478, September.

Lawrence, Robert and Matthew Slaughter (1993) 'International Trade and U.S. wages in the 1980s: Great sucking sound or small hiccup', *Brookings Papers on Economic Activity*, Fall, n2, pp161(66)

Sachs, Jeffrey and Howard Shatz (1994) 'Trade and jobs in U.S. manufacturing', *Brookings Papers on Economic Activity*.

Skill Biased Technological Change as an Explanation

Allen, Steven (1993) Technology and the Wage Structure, *Journal of Labor Economics*, 2001, vol. 19, issue 2, pages 440-83.

* Berman, Eli, John Bound and Zvi Griliches (1994) '*Changes in the demand for skilled labour within US manufacturing industries: Evidence from the Annual Survey of Manufacturing*', *Quarterly Journal of Economics*, 109, 367_98.

* Berman, Eli, John Bound and Stephen Machin "Implications of Skill-Biased Technological Change: International Evidence," (1998), *Quarterly Journal of Economics*, 113, November.

Mincer, Jacob (1991). "Human Capital, Technology and the Wage Structure: What do Time Series Show?" National Bureau of Economic Research Working Paper #3581.

Autor, David, Lawrence Katz and Alan Krueger (1998) "Computing Inequality" Quarterly Journal of Economics, 113.

Berman, Eli and Stephen Machin, "Skill-Biased Technology Transfer Around the World," Oxford Review of Economic Policy 16(3), Fall 2000.

Human Capital and Technological Change in Growth Models

Barro and Sala_I_Martin (1994) *Economic Growth*

Lucas, Robert E. (1988) "On the Mechanics of Economic Development," *Journal of Monetary Economics*, XXII, 3-42.

Mankiw, N. Gregory, David Romer and David N. Weil (1992) "A Contribution to the Empirics of Economic Growth," *The Quarterly Journal of Economics*, May.