

## LABOR ECONOMICS 250B - COURSE OUTLINE

PROFESSORS KATE ANTONOVICS AND ELI BERMAN, UCSD

### Winter 2014

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This course blends theoretical labor economics with applied research, studying appropriate methods of estimation as necessary. Economics 250A is NOT formally a prerequisite, although it will be immensely helpful.

We will cover topics from the following list:

- I. Demographics and Economics of the Family
- II. Religion
- III. Development and Conflict
- IV. Labor Demand
- V. Increased Returns to Skills and Increased Income Inequality
  
- VI. Race and Gender Inequality, Discrimination*
- VII. Wage and Employment Dynamics*

Professor Antonovics will teach topics in italics, while Berman is responsible for regular fonts.

### *Requirements for the Course/Schedule*

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To do well in this course you should have completed microeconomics and econometrics (A-C) courses. If you have not already taken Labor Economics 250A, please come chat with either of us, after looking at this:

[http://www.econ.ucsd.edu/~jbettis/Grad%20Courses/250A\\_syllabus\\_fall\\_2012FINAL.pdf](http://www.econ.ucsd.edu/~jbettis/Grad%20Courses/250A_syllabus_fall_2012FINAL.pdf)

We expect you to attend and participate actively in all classes.

### *Project*

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We offer you two options for this project. Consider in weeks 1 and 2 which of these options will be most helpful to you as you seek to complete your Ph.D.

1) Come up with a *proposal* for an original empirical paper. A *proposal* states how this paper would contribute to the literature, devises an empirical strategy that is (ideally) based in theory, discusses data sources that you could use and suggests a timeline for completion. Ideally, your proposal would be of sufficient quality that you could submit it as a grant proposal to an outside organization. (We do not require submitting a grant application, but encourage you to think along these lines. We will work with you if you decide to follow this route. E.g., IGCC proposals are due Feb. 10. <http://igcc.ucsd.edu/support/201415-funding-competition/> )

2) Alternatively you could initiate or continue an applied (or a theoretical) *paper*. Some of you may have initiated more empirically (or theoretically) oriented projects in 250A, 220F, or other graduate courses. You are welcome to continue that work in this course, but you must clear this with us, provide the final version you prepared for those classes, and write a two page proposal on how you will extend that analysis. Note that if the empirical project is limited in scope it may be conceivable for you to start from scratch, develop a plan, acquire and clean data, and perform the empirical analysis. (This goes beyond option 1 above.) We certainly would welcome this but do talk to us first so that we can help judge whether it is feasible over the 10 weeks of quarter.

Here is some advice on finding a topic. Perusing recent issues of the Journal of Labor Economics, the Journal of Human Resources, or general interest journals such as the QJE, AER, JPE, Econometrica, R.E.Stat, JPubEcon, etc. may give you some ideas for topics. NBER working papers provide another source. The reading list for this course might also help you. If you already have a general area in mind (immigration, labor supply, economics of education etc.) but not a specific topic, one of the more difficult challenges is to focus your interest on something specific. The Handbook of Labor Economics provides literature reviews that may help you see what areas are well trodden and which are relatively sparsely researched. A third approach is to flip through the Statistical Abstract of the United States or related government publications such as the Digest of Education Statistics – sometimes seeing what sorts of data the government collects and patterns in data can get your creative juices flowing. Fourth, *talk to us about your ideas. We may have some of our own. Research is why we are here!*

### *Evaluation and Schedule*

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**5% Submit two ideas for proposals or papers by Friday of week 2 (Jan. 17) before class.** Each should be at least one page long, with references. Feel free to consult either of us informally before submitting. We will work with you to decide which idea to pursue, or to generate new ideas.

**30% A final draft of your proposal or paper.** Due before class on Friday of week 10 (March 14). Please bring two copies. We also would appreciate receiving a copy by email. There will be no extensions beyond the end of quarter. Papers submitted after March 14 will lose 5 percentage points (out of 35) per day late.

**5% A presentation of your proposal or paper:** A 15-minute presentation of your paper in the last week of class. You should present your question, the motivation for your question, the theoretical model and/or econometric technique you will use to answer this question, the data you will use (if you're doing an empirical project), any preliminary results, and how you expect your results to shed light on the question you initially posed. After your presentation, there will be 5 minutes for discussion.

**10% Written referee reports and short class presentations** on TWO recent working papers of your choice, related to material on the reading list. One will be during Professor Antonovics' section of the course and one during Professor Berman's. Choices must be approved. Suggestions follow. Unstarred papers on the reading list are also good choices.

Please send us your choices as soon as possible (and certainly by Monday, Jan 13.) so that we can intersperse your presentation with lectures. Feel free to consult with either or both of us in advance. Rank order the papers if you select more than one, and we can jointly decide which might be the most appropriate. One week before the scheduled presentations, please email the paper (or url) to all classmates and to us. In your presentation, you should plan to present the paper as if it were “yours”, to offer constructive criticism and ideas for how you might extend the work.

**50% Final exam. Wed. March 19 at 8am.**

*Suggestions for Referee Reports-Berman (Antonovics' suggestions will arrive later)*

On the Origin of States: Stationary Bandits and Taxation in Eastern Congo

Raul Sanchez de la Sierra, Columbia University - Economics Department, November 2013

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2358701](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2358701)

Does Secular Education Impact Religiosity, Electoral Participation and the Propensity to Vote for Islamic Parties? Evidence from an Education Reform in a Muslim Country

by Resul Cesur, Naci H. Mocan - NBER #19769

Do People Overreact? Evidence from the Housing Market After the Wenchuan Earthquake

by Guoying Deng, Li Gan, Manuel A. Hernandez - NBER #19515

Childhood Health and Sibling Outcomes: The Shared Burden and Benefit of the 1918 Influenza Pandemic, by John Parman - NBER #19505

The Size of the LGBT Population and the Magnitude of Anti-Gay Sentiment are Substantially Underestimated

by Katherine B. Coffman, Lucas C. Coffman, Keith M. Marzilli Ericson - NBER #19508

Girl Power: Cash Transfers and Adolescent Welfare. Evidence from a Cluster-Randomized Experiment in Malawi

by Sarah J. Baird, Ephraim Chirwa, Jacobus de Hoop, Berk Ozler NBER #19479

Does Economic Growth Reduce Corruption? Theory and Evidence from Vietnam

by Jie Bai, Seema Jayachandran, Edmund J. Malesky, Benjamin A. Olken NBER #19483

Accounting for Income Changes over the Great Recession (2007-2010) Relative to Previous Recessions: The Importance of Taxes and Transfers

Jeff Larrimore, Richard V. Burkhauser, Philip Armour, NBER #19699, December 2013

## Reading

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**Books:** There is no required text. Students looking for a starting point or background material may wish to use Cahuc P. and Zylberberg A. *Labor Economics* (MIT press, 2004) [C&Z]. For a clear, accessible summary of much of the empirical literature up till about 2000, try Ehrenberg, Ronald G. and Robert S. Smith (2006) *Modern Labor Economics, Theory and Public Policy*, (9th edition), HarperCollins, New York. Good writing is important. For an entertaining style manual, see Becker, Howard S. (1986) *Writing For Social Scientists*, U. of Chicago.

**Reading List:** The list is subject to renegotiation. The (\*) means priority reading. We will also try to give you some guidance as to which papers are the most important.

## Berman Topics

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### I. Economics of the Family, Fertility and Demographics (Jan. 10)

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Background: Ray, Debraj *Development Economics* ch 9, or Weil, David *Economic Growth* (2<sup>nd</sup> edition) ch 4 & 5.

\* Becker, Gary S. "The Demand for Children," and Becker, Gary S. and Barro, Robert "A Reformulation of the Economic Theory of Fertility," in Becker, Gary S. *A Treatise on the Family*, (Harvard, Cambridge MA, 1991).

\* Becker, Gary S. "A Theory of the Allocation of Time", *Economic Journal* 75 (Sept. 1965): 493-517.

\* Gronau, Reuben. "Leisure, Home Production, and Work -- The Theory of the Allocation of Time Revisited," *Journal of Political Economy*, 85 (1977): 1099-1123.

Lundberg, S.J., R.A. Pollak and T.J. Wales "Do Husbands and Wives Pool their Resources? Evidence from the U.K. Child Benefit," *Journal of Human Resources* 32(3) 1997: 463-480.

Ashraf, Nava, "Spousal Control and Intra-Household Decision Making: An Experimental Study in the Philippines" *American Economic Review*, 99(4), September 2009, pp. 1245-1277.

J. Mincer, "Labor Force Participation of Married Women," *Aspects of Labor Economics*, Princeton University Press, 1962.

Goldin, Claudia, *Understanding the Gender Gap*, Oxford, 1990, chapters 2 and 5.

Goldin, Claudia and Lawrence F. Katz, "Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions," *Journal of Political Economy*, (August 2002).

## II. The Economics of Religion (Jan. 17)

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- \* Iannaccone, Laurence R (1998) "Introduction to the Economics of Religion," Journal of Economic Literature, 36, pp. 1465-1496.
  - \* Smith, Adam, An Inquiry into the Nature and Causes of the Wealth of Nations (Reprint of 1776 version) Modern Library: New York; 1965. Book V, Chapter I, Part III, Article III "Religious Institutions."
  - \* Iannaccone, Laurence R. (1992) "Sacrifice and Stigma: Reducing Free-riding in Cults, Communes, and other Collectives" Journal of Political Economy, 100(21), pp. 271-291.
  - \* Berman, Eli, "Sect, Subsidy and Sacrifice: An Economist's View of Ultra-Orthodox Jews," Quarterly Journal of Economics, August 2000.
- Chen, Daniel, "Club Goods and Group Identity: Evidence from Islamic Resurgence during the Indonesian Financial Crisis" *Journal of Political Economy*, 118(2), 2010.
- Liang, Wang Choon (2009) "Restricting Secular Education - Prohibition or Sacrifice? Evidence from the Amish," UCSD mimeo,  
<http://www.econ.ucsd.edu/~lwang/AmishRestriction.pdf>
- Aimone, Jason, Laurence Iannaccone, Michael Makowsky and Jared Rubin, "Endogenous Group Formation via Unproductive Costs," Chapman U. mimeo, 2011.  
<http://faculty.fullerton.edu/jrubin/EndogGroup.pdf>
- Andreoni, James, Abigail Payne, Justin D. Smith, David Karp, "Diversity and Donations: The Effect of Religious and Ethnic Diversity on Charitable Giving," NBER WP #17618, November 2011.
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### III. Development and Conflict (Jan. 24)

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Note: This material is frequently updated at [igcc.ucsd.edu/DACOR](http://igcc.ucsd.edu/DACOR)

#### *Why violence? Pareto would object.*

Fearon, James (1995), Rationalist Explanations for War, *International Organization* 49: pp. 379-414.

#### *Religion and Terrorism*

Berman, Eli and Larry Iannaccone, "Religious Extremists: The Good the Bad and the Deadly," (with Laurence Iannaccone), NBER WP 11663 and *Public Choice* (2006).

\* Berman, Eli and Laitin, David, "Religion, Terrorism and Public Goods: Testing the Club Model" *Journal of Public Economics*, 2008.

Skarbeck, David, "Governance and Prison Gangs," *American Political Science Review*, November 2011.

#### *Does Poverty cause Political Violence?*

Blattman, Christopher and Edward Miguel. 2010. "Civil War." *Journal of Economic Literature*, 48(1).

Collier, Paul and Anke Hoeffler (2001) "Greed and Grievance in Civil War" <http://econ.worldbank.org/progarms/library>.

Fearon, James D. and David D. Laitin (2003) "Ethnicity, Insurgency and Civil War" *American Political Science Review* 97(1): 75-90 (February 2003).

Lucas Condra "The Perils of the Periphery," UCSD mimeo.

Berman, Eli, Jacob Shapiro and Joseph Felter, "Do Working Men Rebel? Insurgency and Unemployment in Iraq and the Philippines," *Journal of Conflict Resolution* 2011.

#### *Development in Conflict Spaces*

Akerloff, George A., and Janet L. Yellen, "Gang Behavior, Law Enforcement and Community Values," in *Values and Public Policy*, Henry J. Aaron, Thomas E. Mann and Timothy Taylor, eds. (Washington D.C.: Brookings Press, 1994).

\* Berman, Eli, Jacob Shapiro and Joseph Felter, "Can Hearts and Minds Be Bought?" *Journal of Political Economy*, August 2011.

Berman, Eli, Joseph Felter, Jacob N. Shapiro and Erin Troland. 2013. "Modest, Secure and Informed: Successful Development in Conflict Zones," NBER WP #18674.

## IV. Labor Demand (Jan. 31)

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### *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.

## V. Increased Returns to Skills and Increased Income Inequality (Feb. 7)

### *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.

Rodrik, Dani, "Unconditional Convergence," NBER WP #17546, October 2011.

## VI. Race and Gender Inequality

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### *Basic Facts About Race and Gender Inequality*

- \* Altonji, Joseph and Rebecca Blank. "Race and Gender in the Labor Market," in O. Ashenfelter and D. Card (ed.) *Handbook of Labor Economics*, Vol 3C, Chapter 48. New York, NY: Elsevier, 1999.
- \* Altonji, Joseph, P. Bharadwaj and F. Lange. "Changes in the Characteristics of American Youth: Implications for Adult Outcomes" *Journal of Labor Economics*, 2012, 30(4).
- Blau, F. and L. Kahn, "Swimming Upstream: Trends in the Gender Wage Differential in the 1980s." *Journal of Labor Economics*, 15 (1997), 1-42.
- Bound, John and Richard B. Freeman. "What Went Wrong? The Erosion of Relative Earnings and Employment Among Young Black Men in the 1980s." *Quarterly Journal of Economics*, February 1992, 107(1), pp. 201-32.
- Brown, Charles. "Black-White Earnings Ratios Since the Civil Rights Act of 1964: The Importance of Labor Market Dropouts." *Quarterly Journal of Economics*, February 1984, 99(1), pp. 31-44.
- Card, D. and Lemieux, T. "Wage Dispersion, Returns to Skill, and Black-White Wage Differentials", *Journal of Econometrics*, 1996, 74, 319-361.
- Card, David and Alan Krueger. "School Quality and Black-White Relative Earnings: A Direct Assessment." *Quarterly Journal of Economics*, February 1992, 107(1), pp. 151-200.
- Chandra, Amitabh. "Is the Convergence of the Racial Wage Gap Illusory?" NBER Working Paper No. 9476, February 2003
- Donohue, John J III and James J. Heckman. "Continuous Versus Episodic Change: The Impact of Civil Rights Policy on the Economic Status of Blacks." *Journal of Economic Literature*, December 1991, 29(4), pp. 1603-43. [JS]
- Neal, Derek. "Why Has Black-White Skill Convergence Stopped?" NBER Working Paper No. 11090, January 2005.
- Smith, James P. "Affirmative Action and the Racial Wage Gap." *American Economic Review Papers and Proceedings*, May 1993, 83(2), pp. 79-84.

### *Discrimination--Theory*

- \* Aigner, Dennis J. and Glen C. Cain. "Statistical Theories of Discrimination in the Labor Market." *Industrial and Labor Relations Review*, January 1977, 30(2), pp. 175-87.
- Antonovics, Kate. "Statistical Discrimination and Intergenerational Income Mobility." *mimeo*, 2004.
- Arrow, Kenneth, "Models of Job Discrimination" and "Some Mathematical Models of Race in the Labor Market", in A. Pascal (ed.) *Racial Discrimination in Economic Life*. Lexington, MA: Lexington Books, 1972.
- Becker, Gary S., *The Economics of Discrimination*, Chicago, IL: The University of Chicago Press, 1957.
- Borjas, George and Matthew Goldberg. "Biased Screening and Discrimination in Labor Markets." *American Economic Review*, December 1978, 68(5), pp. 918-922.
- \* Coate, S. and Loury G. "Will Affirmative Action Eliminate Negative Stereotypes?" *American Economic Review*, December 1993, 83(5), pp. 1220-1240.
- Lundberg, S. and Startz, R. "Private Discrimination and Social Intervention in a Competitive Labor Market." *American Economic Review*, June 1983, 73(3), pp. 340-347.
- Lundberg, Shelly J. "The Enforcement of Equal Opportunity Laws Under Imperfect Information: Affirmative Actions and Alternatives." *Quarterly Journal of Economics*, February 1991, 106(1), pp. 309-326. [JS]
- Mailath, George J., Larry Samuelson and Avner Shaked. "Endogenous Inequality in Integrated Labor Markets with Two-Sided Search." *American Economic Review*, March 2000, 90(1), pp. 46-72.
- McCall, J. "The Simple Mathematics of Information, Job Search and Prejudice," in A. Pascal (ed.), *Racial Discrimination in Economic Life*. Lexington, MA: Lexington Books, 1972.
- Milgrom, Paul and Sharon Oster, "Job Discrimination, Market Forces, and the Invisibility Hypothesis." *Quarterly Journal of Economics*, 1987, 102(3), pp. 453-476.
- Schwab, Stewart, "Is Statistical Discrimination Efficient?" *American Economic Review*, March 1986, 76(1), pp. 228-234.

### *Discrimination--Empirical Evidence*

- \* Antonovics, Kate and Brian Knight. "A New Look at Racial Profiling: Evidence from the Boston Police Department." *Review of Economics and Statistics*, February 2009, 91(1), pp 163-177.
- \* Bertrand, Marianne and Sendhil Mullainathan. "Are Emily and Greg More Employable than Lakisha and Jamal? A Field Experiment in Labor Market Discrimination," *American Economic Review*, September 2004, 94(4), pp. 991-1013.
- \* Black, Sandra E. and Philip E. Strahan, "The Division of Spoils: Rent-Sharing and Discrimination in a Regulated Industry." *American Economic Review*, September 2001, 814-831.
- Hamermesh, Daniel and Jeff Biddle. "Beauty and the Labor Market," *American Economic Review*, December 1994.
- Hellerstein, Judith K. and David Neumark. "Wages, Productivity, and Worker Characteristics: Evidence from Plant- Level Production Functions and Wage Equations." *International Economic Review*, February 1999, 40(1), pp. 95-123.
- Hernández-Murillo, Rubén and John Knowles. "Racial Profiling or Racist Policing? Bounds Tests in Aggregate Data," *International Economic Review*, August 2004, 45(3). pp. 959-89.
- Knowles, John and Persico, Nicola. "Racial Bias in Motor Vehicle Searches: Theory and Evidence." *Journal of Political Economy*, 2001, 109(1), pp. 203-229.
- Oettinger, Gerald. "Statistical Discrimination and the Early Career Evolution of the Black- White Wage Gap," *Journal of Labor Economics*, January 1996, 14(1), pp. 52-78.
- \* Persico, Nicola. "Racial Profiling? Detecting Bias Using Statistical Evidence" Annual Review of Economics, September 2009, 1, pp. 229-254,  
<http://nicolapersico.com/files/ARoEPersico27.pdf>

## VII. Wage and Employment Dynamics

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- \* Neal, Derek and Sherwin Rosen. "Theories of the Distribution of Earnings." In *Handbook of Income Distribution*, 2000.

### *Human Capital Models*

- Ben-Porath, Yoram. "The Production of Human Capital and the Life Cycle of Earnings." *Journal of Political Economy*, August 1967, 75(4), Part I, pp. 352-365.

### *Models of Learning and Sorting*

- Farber, H., and R. Gibbons. "Learning and Wage Dynamics." *Quarterly Journal of Economics*, November 1996, 111(4), pp. 1007-1047.

Gibbons, Robert and Michael Waldman. "A Theory of Wage and Promotion Dynamics Inside Firms." *Quarterly Journal of Economics*, November 1999, 114 (4), pp. 1321-58.

MacDonald, Glenn M. "A Market Equilibrium Theory of Job Assignment and Sequential Accumulation of Information," *American Economic Review*, December 1982, 72(5), pp. 1038-1055.

#### *Matching Models*

\* Jovanovic, Boyan. "Job Matching and the Theory of Turnover." *Journal of Political Economy*, October 1979, 87(5), pp. 972-990.

\* Jovanovic, Boyan. "Firm Specific Capital and Turnover." *Journal of Political Economy*, December 1979, 87(6), pp. 1246-1260.

Gittins, J.C. "Multi-Armed Bandit Allocation Indices." John Wiley and Sons (1989).

Miller, Robert. "Job Matching and Occupational Choice." *Journal of Political Economy*, December 1984, 92(6), pp. 1086-1120.

\* Sargent, Thomas J. Dynamic Macroeconomic Theory. Cambridge, MA: Harvard University Press, 1987, pp. 71-83.

#### *Insurance, Agency & Tournaments*

\* Harris, Milton and Bengt Holmstrom. "A Theory of Wage Dynamics." *Review of Economic Studies*, July 1982, 49, pp. 315-33 [JS]

Johnson, William. "A Theory of Job Shopping." *Quarterly Journal of Economics*, May 1978, 92(2), pp. 261-77.

Lazear, E and S. Rosen, "Rank-Order Tournaments as Optimum Labor Contracts." *Journal of Political Economy*, October 1981, 89(5), pp. 841-864. [JS]

Murphy, Kevin "Incentives, Learning and Compensation: A Theoretical and Empirical Investigation of Managerial Labor Contracts.," *Rand Journal of Economics*, Spring 1986, 17(1), pp. 59-76. [JS]

Prendergrast, Canice. "The Provision of Incentives in Firms," *Journal of Economic Literature*, March 1999, 37(1), pp. 7-63.

#### *Empirical Work on Wage & Employment Dynamics*

Abraham, K. and H. Farber. "Job Duration, Seniority, and Earnings," *American Economic Review*, June 1987, 77(3), pp. 278-297.

\* Altonji, J. and Pierret, C. "Employer Learning and Statistical Discrimination", *Quarterly Journal of Economics*, February 2001, 116(1), pp. 313-350.

Baker, George, Michael Gibbs and Bengt Holmstrom. "The Internal Economics of the Firm." *Quarterly Journal of Economics*, November 1994, 109(4), pp. 881-919.

Baker, George, Michael Gibbs and Bengt Holmstrom. "The Wage Policy of a Firm." *Quarterly Journal of Economics*, November 1994, 109(4), pp. 921-55.

Nagypal, Eva, "Learning-by-Doing Versus Learning About Match Quality: Can We Tell Them Apart?" Northwestern University, *mimeo*.

Neal, Derek. "Industry-Specific Human Capital: Evidence from Displaced Workers." *Journal of Labor Economics*, October 1995, 13(4), pp. 653-677.

\* Topel, Robert. "Specific Capital, Mobility, and Wages: Wages Rise with Job Seniority." *Journal of Political Economy*, February 1991, 99(1), pp. 145-176.