
⌘ Harvard University ⌘
Economics 2330: History and Human Capital
Spring 2019 Monday and Wednesday 10:30 to 11:45am, Littauer M-16
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Reading List and Course Outline

Introduction

This course concerns human capital and its relationship to economic growth and distribution in historical context.

The wealth of a nation is no longer just the value of its physical capital and land. Rather, it depends largely on its human capital. Significant income growth occurred historically, first because of increased trade, then due to the accumulation of physical capital, and most recently because of augmented human capital. The latter fact is evident in modern growth accounting and the size of the residual.

But what exactly is human capital and how does that amorphous mass impact economic growth? In what manner does the role of human capital depend on the institutions of the labor market and whether workers are free, contract labor, tenants, serfs, or slave? Why does economic growth per capita not get eroded away by population growth, in a classic Malthusian fashion? Why did birth rates plummet, even when contraceptive technologies were limited? How does health, a critical input to human capital, impact economic growth and how does economic growth impact health? Human capital is often produced in school-based settings, and education is generally provided by the “state.” What has been the history of formal education, and why is the government almost always involved?

The course then turns to aspects of distribution and group differences. Economic inequality in the U.S. and elsewhere rose greatly in the 1980s, but it had previously decreased for much of the early part of the twentieth century. We explore the reasons for these disparate trends and why the top of the income distribution has expanded so greatly. Differences in income, education, and mobility by race in the U.S. can be traced historically to slavery. But how much economic inequality by race can be attributed to those factors? What accounts for the narrowing since the 1940s? Gender differences in economic outcomes and education have also narrowed substantially over time, although some remain. What portion of the remaining pay gap is due to aspects of marriage, family, children, and home production, and how much to the labor market?

The course is organized as both lecture and class discussion, with two classes per week. All readings are linked and some are also available on the “files” part of the website.

Course Requirements

1. Read assigned materials before class and be an active participant.
2. Write a research paper (see “Research Paper” on Ec2330 Canvas assignments).
3. Pass a final examination.

Four final exam questions will be circulated at the end of the semester and two will be on the exam. You are encouraged to study in groups. *Note:* The final exam will be scheduled to avoid conflict with generals and other comprehensive exams. Those with end-of-year comprehensives will also be granted an extension on the research paper. The official (Registrar) day for the Ec2330 final exam is May 17.

Course Outline

Symbols: • = required reading; ° = to be referenced, discussed in class.

Papers are listed within section in alpha order by author: “required,” “browse,” then additional readings.

A. Human Capital and Economic Growth

Meetings

Jan. 28 **History and Human Capital: An Introduction**

- Goldin, Claudia. [“Human Capital,”](#) *Handbook of Cliometrics*, C. Diebolt and M. Hauptert, eds. Springer-Verlag (2014). [A good introduction to the historical parts of the course.]
- ° Schultz, Theodore W. [“Investment in Human Capital,”](#) *AER* 51 (March 1961), pp. 1-17.

Jan. 28, **1. How Does Human Capital Affect Economic Performance?**

Jan. 30, In the basic economic growth model, human capital is a private investment, like physical capital. In
Feb. 4 more sophisticated models knowledge has multiplier effects through technological change and the
diffusion of technology. Why is the residual in growth accounting large?

- a) Theory and basic facts: Solow model and beyond
- Mankiw, G., D. Romer, and D. Weil. [“A Contribution to the Empirics of Economic Growth,”](#) *QJE* 107 (May 1992), pp. 407-38.
- Romer, P. [“Why, Indeed, in America? Theory, History, and the Origins of Modern Economic Growth,”](#) *AER* 86 (May 1996), pp. 202-06.
- ° Jones, C. and P. Romer. [“The New Kaldor Facts: Ideas, Institutions, Population, and Human Capital,”](#) *AEJ: Macro* 2 (Jan. 2010), pp. 224-45.
- Jones, C. [“The Facts of Economic Growth,”](#) *Handbook of Macroeconomics*, Vol. 2A, 2016.
- Milanovic, B. [“Global Inequality of Opportunity: How Much of Our Income is Determined by Where We Live?”](#) *RESTAT* 97 (May 2015), pp. 452-60.
- b) Fertility and growth: Escaping Malthus with human capital accumulation
- Galor, O. and D. Weil. [“Population, Technology, and Growth: From the Malthusian Regime to the Demographic Transition,”](#) *AER* 90 (Sept. 2000), pp. 806-28.
- Galor, O. [“The Demographic Transition: Causes and Consequences,”](#) *Cliometrica* 6 (Jan. 2012), pp. 1-28.
- Ashraf, Q. and O. Galor, [“Dynamics and Stagnation in the Malthusian Epoch,”](#) *AER* 101 (Aug. 2011), pp. 2003-41.
- Clark, G. *A Farewell to Alms: A Brief Economic History of the World* (Princeton Press), 2007. [Quirky book but good background for Galor and Weil, especially chap. 3]
- c) Causal relationships between education and growth: Measurement
- Goldin, C. and L. Katz. *RBET, Introduction; Part I: chap. 1* (Note: Only Chap. 1 from Part I; includes footnotes and references at the end).
- Krueger, A. and M. Lindahl. [“Education for Growth: Why and for Whom?”](#) *JEL* 39 (Dec. 2001), pp. 1101-136.
- Easterlin, R. [“Why Isn’t the Whole World Developed?”](#) *JEH* 51 (Mar. 1981), pp. 1-19.
- Hall, R. and C. Jones. [“Why Do Some Countries Produce So Much More Output per Worker than Others?”](#) *QJE* 114 (Feb. 1999), pp. 83-116.
- ° Hanushek, E. and L. Woessmann. [“The Role of Cognitive Skills in Economic Development,”](#) *JEL* 46 (Sept. 2008), pp. 607-68.
- Bils, M. and P. Klenow. [“Does Schooling Cause Growth?”](#) *AER* 90 (Oct. 2000), pp. 1160-83.
- Bils, M., P. Klenow, and C. Ruane. [“Misallocation or Mismeasurement?”](#) Dec. 2018.
- Clark, G. [“Why Isn’t the Whole World Developed? Lessons from the Cotton Mills,”](#) *JEH* 47 (March 1987), pp. 141-73. [Comment on Easterlin.]
- Gennaioli, N., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer. [“Human Capital and Regional Development,”](#) *QJE* 128 (Feb. 2013), pp. 105-64.
- Hendricks, L. and T. Schoellman. [“Human Capital and Development Accounting: New Evidence from Wage Gains at Migration,”](#) *QJE* 133 (May 2018), pp. 665-700.

- Hsieh, C. and P. Klenow. "[Development Accounting](#)," *AEJ: Macro* 2 (Jan. 2010), pp. 207-23.
- Hsieh, C., E. Hurst, C. Jones, and P. Klenow. "[The Allocation of Talent and Economic Growth](#)," NBER WP no. 18693 (Jan. 2013). Revised Apr. 2018 version is linked.
- Jones, C. "[Sources of U.S. Growth in a World of Ideas](#)," *AER* 92 (Mar. 2002), pp. 220-39.
- Manuelli, R. and A. Seshadri. "[Human Capital and the Wealth of Nations](#)," *AER* 104 (Sept. 2014), pp. 2736-62.
- Nelson, R. and N. Phelps. "[Investment in Humans, Technological Diffusion, and Economic Growth](#)," *AER* 56 (May 1966), pp. 69-75.
- Valero, A. and J. Van Reenen. "[The Economic Impact of Universities: Evidence from Around the Globe](#)," CEPP Discussion Paper no. 1444 (Sept. 2018). Also, *Economics of Education Review* 68 (Feb. 2019), pp. 53-67.
- Welch, F. "[Education in Production](#)," *JPE* 78 (Feb. 1970), pp. 35-59.

Feb. 6

2. Labor Markets, Endogenous Institutions, and Human Capital Investment

Labor market institutions differ in how amenable they are to human capital investments, and under some (e.g., slavery) investments have been severely restricted by the state. What accounts for these investment inefficiencies? Are human capital institutions endogenous with respect to initial endowments, strength of government, role of the family, and colonial settlement?

a) Role of endogenous institutions in human capital investment

- de la Croix, D., M. Doepke, and J. Mokyr. "[Clans, Guilds, and Markets: Apprenticeship Institutions and Growth in the Preindustrial Economy](#)," (Feb. 2018) *QJE* 133(1), pp. 1-70.
- Sokoloff, K. and S. Engerman. "[History Lessons: Institutions, Factor Endowments, and Paths of Development in the New World](#)," *JEP* 14 (Sum. 2000), pp. 217-32.
- Acemoglu, D., S. Johnson and J. Robinson. "[Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution](#)," *QJE* 117 (Nov. 2002), pp. 1231-94.
- Goldin, C. "[Labor Markets in the Twentieth Century](#)," In *CEHUS*, vol. III (Cambridge, 2000), pp. 549-623.
- Ogilvie, S. "[The Economics of Guilds](#)," *JEP* 28 (Fall 2014), pp. 169-92.
- Acemoglu, D., F. Gallego, and J. Robinson. "[Institutions, Human Capital, and Development](#)," *ARE* 6 (2014), pp. 875-912.
- Engerman, S. and K. Sokoloff. [Economic Development in the Americas since 1500: Endowments and Institutions](#) (Chicago, 2012). [Note: Link is for chapter outline only.]
- Margo, R. [Race and Education in the American South](#) (Chicago, 1990), esp. chaps. 1, 2, 5, 8.
- Squicciarini, M. and N. Voigtlander. "[Human Capital and Industrialization: Evidence from the Age of Enlightenment](#)," *QJE* (Nov. 2015), 130(4), pp. 1825-83.
- b) Invention of free labor
- Engerman, S. "[Coerced and Free Labor: Property Rights and the Development of the Labor Force](#)," *EEH* 29 (Jan. 1992), pp. 1-29.
- Galenson, D. "[The Rise and Fall of Indentured Servitude in the Americas: An Economic Analysis](#)," *JEH* 44 (Mar. 1984), pp. 1-26.
- Hornbeck, R. and S. Naidu. "[When the Levee Breaks: Labor Mobility and Economic Development in the American South](#)," *AER* 104 (March 2014), pp. 963-90.
- Naidu, S. and N. Yuchtman. "[Labor Market Institutions in the Gilded Age of American Economic History](#)," *The Oxford Handbook of American Economic History*, vol. 1 (July 2018). NBER WP no. 22117 (Mar. 2016) is linked.
- Naidu, S. and N. Yuchtman. "[Coercive Contract Enforcement: Law and the Labor Market in 19th Century Industrial Britain](#)," *AER*, 103 (Jan. 2013), pp. 107-44.

Feb. 11,

3. Population and Fertility

Feb. 13

Population increase can check intensive economic growth. Why do certain groups limit population growth by reducing fertility? What accounts for the extremely high initial fertility in the U.S., its

long-run decline, and the “cycles” of the latter twentieth century? Why are so many nations today below replacement rate?

- a) Demographic transitions
 - Lee, R. “[The Demographic Transition: Three Centuries of Fundamental Change](#),” *JEP* 17 (Fall 2003), pp. 167-90.
 - Guinnane, T. “[The Historical Fertility Transition: A Guide for Economists](#),” *JEL* 49 (2011), pp. 589-614.
 - Haines, M. “[The Population of the United States, 1790-1920](#),” In *CEHUS*, vol. II. (Cambridge Press, 2000), pp. 143-205.
- b) Explaining fertility decline
 - Jones, L. and M. Tertilt. “[An Economic History of Fertility in the U.S.: 1826-1960](#),” NBER WP no. 12796 (Dec. 2006). Published in *Frontiers of Family Economics*, vol. 1 (2008).
 - Preston, S. and C. Hartnett. “[The Future of American Fertility](#),” In J. Shoven, *Demography and the Economy* (Chicago, 2010).
 - Becker, G. “[An Economic Analysis of Fertility](#),” In *Demographic and Economic Change in Developed Countries*, (Princeton Press for NBER, 1960).
 - Steckel, R. “[The Fertility Transition in the United States](#),” In C. Goldin and H. Rockoff, eds., *Strategic Factors* (Chicago, 1992), pp. 351-74
- c) Baby booms and baby busts
 - Greenwood, J. and A. Seshadri. “[The U.S. Demographic Transition](#),” *AER P&P* (2002), pp. 153-59.
 - Albanesi, S. and C. Olivetti “[Gender Roles and Medical Progress](#),” *JPE* 124(3) (2016), pp. 650-95.
 - Easterlin, R. “[Twentieth Century American Population Growth](#),” In *CEHUS*, vol. III, pp. 505-48.
 - Greenwood, J., A. Seshadri, and G. Vandenbrouke. “[The Baby Boom and Baby Bust: Some Macroeconomics for Population Economics](#),” *AER* 97 (Mar. 2005), pp. 183-207.
 - Bailey, M. “[Mama’s Got the Pill: How Anthony Comstock and *Griswold v. CT* Shaped U.S. Childbearing](#),” *AER* 100 (Mar. 2010), pp. 98-129.
 - Bailey, M. and W. Collins. “[Did Improvement in Household Technology Cause the Baby Boom? Evidence from Electrification, Appliance Diffusion, and the Amish](#),” *AEJ: Macroeconomics* 3 (Apr. 2011), pp. 189-217.

Feb. 20, 25, 27, Mar. 4 (Feb. 18 holiday) **4. Health: Long-term Change and Impact on Productivity**

Good health increases income; but greater income, in turn, raises the level of wellbeing, particularly when adequate nutrition is of critical importance. What do we know about the direction of causality historically? When did mortality and morbidity decrease and what have been the contributions of personal nutrition, medical knowledge, environmental factors, and public interventions?

- a) Health and economic growth: Direction of causality
 - Acemoglu, D. and S. Johnson. “[Disease and Development: The Effect of Life Expectancy on Economic Growth](#),” *JPE* 115 (Dec. 2007), pp. 925-85.
 - Fogel, R. “[Economic Growth, Population Theory, and Physiology: The Bearing of Long Term Processes on the Making of Economic Policy](#),” *AER* 84 (June 1994), pp. 369-95.
 - Weil, D. “[Accounting for the Effect of Health on Economic Growth](#),” *QJE* 122 (Aug. 2007), pp. 1265-306.
 - Fogel, R. “[Nutrition and the Decline in Mortality since 1700: Some Preliminary Findings](#),” In S. Engerman and R. Gallman, eds. *Long Term Factors in American Economic Growth* (Chicago, 1986), pp. 439-555.
 - Acemoglu, D., S. Johnson, and J. Robinson. “[The Colonial Origins of Comparative Development](#),” *AER* 91 (Dec. 2001), pp. 1369-1401.
 - Ashraf, Q., A. Lester and D. Weil. “[When Does Improving Health Raise GDP?](#)” *NBER Macroeconomics Annual* 23 (2008), pp. 157-204.
 - Bleakley, H. “[Disease and Development: Comments on Acemoglu and Johnson](#),” (July 2006).
 - Bleakley, H. “[Health, Human Capital, and Development](#),” *ARE* 2 (2010), pp. 283-310.

- Bleakley, H., D. Costa, and A. Lleras-Muney. "[Trends in Health, Education, and Income in the United States: 1820-2000](#)." In L. Boustan, C. Frydman, and R. Margo, *Human Capital in History* (Chicago, 2014).
- Floud, R., B. Harris, and S. Hong. *The Changing Body* (Cambridge, 2011). [Note: Link is for chapter outline only. A dense volume with lots of interesting facts and data.]
- b) Long-term trends: Mortality and morbidity
- Costa, D. "[Health and the Economy in the United States from 1750 to the Present](#)." *JEL* (2015), 53(3), pp. 503-70.
 - Cutler, D., A. Deaton and A. Lleras-Muney. "[The Determinants of Mortality](#)," *JEP* 20 (2006), pp. 97-120.
- Jayachandran, S., A. Lleras-Muney, and K. Smith. "[Modern Medicine and the Twentieth Century Decline in Mortality: New Evidence on the Impact of Sulfa Drugs](#)," *AEJ: Applied* 2 (Apr. 2010), pp. 118-46.
- Pope, C. "[Adult Mortality in America before 1900](#)." In C. Goldin and H. Rockoff, eds., *Strategic Factors* (Chicago, 1992), pp. 267-96.
- c) Long-term impacts of early childhood environment
- Almond, D. "[Is the 1918 Influenza Pandemic Over? Long-term Effects of In Utero Influenza Exposure in the Post-1940 U.S. Population](#)," *JPE* 114 (Aug. 2006), pp. 672-712.
- Almond, D. and J. Currie. "[Human Capital before Age Five](#)." In *Handbook of Labor Economics*, v. 4, O. Ashenfelter and D. Card, eds., pp. 1315-486. NBER WP no. 15827 (Mar. 2010) is linked.
- Almond, D. and J. Currie. "[Killing Me Softly: The Fetal Origins Hypothesis](#)," *JEP* 25 (Sum. 2011), pp. 153-72.
- Currie, J. "[Inequality at Birth: Some Causes and Consequences](#)," *AER* 101(May 2011), pp. 1-22.
- d) Role of public interventions
- Bleakley, H. "[Disease and Development: Evidence from Hookworm Eradication in the American South](#)," *QJE* 122 (Feb. 2007), pp. 73-117.
 - Alsan, M. and C. Goldin. "[Watersheds in Child Mortality: The Role of Effective Water and Sewerage Infrastructure, 1880 to 1920](#)," *Journal of Political Economy* 127 (2019).
 - Bleakley, H. "[Malaria Eradication in the Americas: A Retrospective Analysis of Childhood Exposure](#)," *AEJ: Applied* 2 (Apr. 2010), pp. 1-45.
- Dupas, P. "[Health Behavior in Developing Countries](#)," *ARE* 3 (2011).
- Feyrer, J., D. Politi, and D. Weil. "[The Cognitive Effects of Micronutrient Deficiency: Evidence from Salt Iodization in the United States](#)," *JEEA* 15 (2017), pp. 355-87.

Mar. 6,
11

5. Education and Training

The "brawn" economy eventually became the "brain" or knowledge economy, and the returns to formal, general education increased relative to those to tacit, informal, specific training. The impact of these transitions on the world's people has depended greatly on the role of the state. But what role has it had?

- a) Rise of formal education: The three transformations of American education
- Goldin, C. and L. Katz. *RBET*, [Section II: chaps. 4, 5, 6 chap. 7](#) (browse chaps. ◦ 4 and ◦ 5; read 6 and 7; includes footnotes and references at end).
 - Goldin, C. and L. Katz. "[The Shaping of Higher Education: The Formative Years in the United States, 1890 to 1940](#)," *JEP* (Winter 1999), pp. 37-62.
- Hoxby, C. "[The Changing Selectivity of American Colleges](#)," *JEP* 23 (Fall 2009), pp. 95-118.
- b) Role of the state
- Goldin, C. and L. Katz. "[Mass Education and the State: The Role of State Compulsion in the High School Movement](#)." In D. Costa and N. Lamoreaux, eds., *Understanding Long Run Economic Growth* (Chicago, 2011), pp. 275-311.
- Becker, G. and K. Murphy. "[Family and the State](#)," *JL&E* 31 (Apr. 1988), pp. 1-18.

- Friedman, M. "[The Role of Government in Education](#)." In M. Friedman, *Capitalism and Freedom*, (1962), pp. 85-107.
- Hoxby, C. "[Are Efficiency and Equity in School Finance Substitutes or Complements?](#)" *JEP* 10 (Aut. 1996), 51-72.
- c) Education and earnings: The Mincerian human capital earnings function and beyond
- Card, D. "[The Causal Effect of Education on Earnings](#)." In O. Ashenfelter and D. Card, eds., *Handbook of Labor Economics*, vol. 3A (Elsevier, 1999).
 - Zimmerman, S. "[Elite Colleges and Upward Mobility to Top Jobs and Top Incomes](#)." *AER* 109 (Jan. 2019), 1-47.
 - Card, D. and A. Krueger. "[Does School Quality Matter? Returns to Education and Characteristics of Public Schools in the United States](#)" *JPE* 100 (Feb. 1992), pp. 1-40.
 - Chetty, R., J. Friedman, E. Saez, N. Turner, and D. Yagan. "[Mobility Report Cards: The Role of Colleges in Intergenerational Mobility](#)," July 2017.
 - Jackson, C.K., R. Johnson, and C. Persico. "[The Effects of School Spending on Educational and Economic Outcomes: Evidence from School Finance Reforms](#)." *QJE* 131 (Feb. 2016), pp. 157-218.
 - Galama, T., A. Lleras-Muney, and H. van Kippersluis. "[The Effect of Education on Health and Mortality: A Review of Experimental and Quasi-Experimental Evidence](#)," *Oxford Research Encyclopedia of Economics and Finance*, 2018.
 - Mincer, J. [Schooling, Experience, and Earnings](#) (Columbia Press for NBER, 1974).
 - Oreopoulos, P. and K. Salvanes. "[Priceless: The Nonpecuniary Benefits of Schooling](#)," *JEP* 25 (Winter 2011), pp. 159-84.
 - Stephens, M. and D. Yang. "[Compulsory Education and the Benefits of Schooling](#)," *AER* 104 (June 2014), pp. 1777-92.
 - Zimmerman, S. "[The Returns to College Admission for Academically Marginal Students](#)," *JOLE* 32 (Oct. 2014), pp. 711-54.

Mar. 18, *Spring Break*
 Mar. 20

B. Distribution and Group Differences

Mar. 25 **Historical Perspective on Inequality: An Introduction**

What were the trends in inequality in America from colonial times to the present? When did the US move from being the "best poor man's country" to having the widest labor income among the rich nations in the OECD? Is the Kuznets Curve (the inverted U) dead?

- Goldin, C. and L. Katz. *RBET*, [Section I: chap. 2](#) (pp. 45-88; footnotes and references at PDF end).
- Goldin, C. and R. Margo. "[The Great Compression: The U.S. Wage Structure at Mid-Century](#)," *QJE* 107 (Feb. 1992), pp. 1-34.

Mar. 27, **1. Inequality of Wages, Income, and Wealth**

Apr. 1, Wage inequality in the U.S. rose greatly since the 1980s, but fell in the early part of the twentieth
 3, 8, 10, century. What accounts for these conflicting trends? Why has the very top of the income
 15 distribution expanded so much more than the lower 99%? What accounts for the more recent
 "hollowing out" of the middle?

Mar. 27 a) Inequality trends, wage inequality, and the premium to education

- Autor, D. "[Skills, Education, and the Rise of Earnings Inequality among the Other 99 Percent](#)," *Science* 344 (23 May 2014), pp. 843-51.
- Card, D. and T. Lemieux. "[Can Falling Supply Explain the Rising Return to College for Younger Men? A Cohort-Based Analysis](#)," *QJE* 116 (May 2001), pp. 705-46.
- Goldin, C. and L. Katz. *RBET*, [Section I: chap. 3](#) (pp. 89-128); [Section III: chap. 8](#) (pp. 287-323).
 Note: Sections contain other chapters plus footnotes and references at end.

- Katz, L. and D. Autor. "[Changes in the Wage Structure and Earnings Inequality](#)," in O. Ashenfelter and D. Card, eds., *Handbook of Labor Economics*, vol. 3A, pp. 1463-1555.
 - Acemoglu, D. and D. Autor. "[What Does Human Capital Do? A Review of Goldin and Katz's *The Race between Education and Technology*](#)," *JEL* 50 (June 2012), pp. 426-63.
 - Aguiar, M. and M. Bils. "[Has Consumption Inequality Mirrored Income Inequality?](#)" *AER* 105 (Sept. 2015), pp. 2725-56.
 - Attanasio, O. and L. Pistaferri. "[Consumption Inequality](#)," *JEP* 30 (Spr. 2106), pp. 3.28.
 - Bound, J. and G. Johnson. "[Changes in the Structure of Wages in the 1980s: An Evaluation of Alternative Explanations](#)," *AER* 82 (June 1992), pp. 371-92.
 - Carneiro, P. and S. Lee. "[Trends in Quality-Adjusted Skill Premia in the United States, 1960-2000](#)," *AER* 101 (Oct. 2011), pp. 2309-49.
 - Chetty, R., D. Grusky, M. Hell, N. Hendren, R. Manduca, and J. Narang. "[The Fading American Dream: Trends in Absolute Income Mobility since 1940](#)," *Science* 356 (Apr. 2017), pp. 398-406.
 - DeBacker, J., B. Heim, V. Panousi, and I. Vidangos. "[Rising Inequality: Transitory or Permanent? Evidence from a Panel of U.S. Tax Returns](#)," *BPEA* (Spr. 2013), pp. 67-142.
 - Fortin, N., T. Lemieux, and S. Firpo. "[Decomposing Wage Distributions using Recentered Influence Function Regressions](#)," *Econometrics* 6 (2018), pp. 1-40.
 - Goldin, C. and L. Katz. "[Long-Run Changes in the Wage Structure: Narrowing, Widening, Polarizing](#)," *BPEA*, no. 2 (2007), pp. 135-65.
 - Gottschalk, P. and R. Moffitt. "[The Rising Instability of U.S Earnings](#)," *JEP* 23 (Fall 2009), pp. 3-24.
 - Gruenen, F. G. Kaplan, J. Song, and J. Weidner. "[Lifetime Incomes in the United States over Six Decades](#)," Nov. 2018.
 - Jaravel, X. "[The Unequal Gains from Product Innovations](#)," *QJE*, forthcoming 2019.
 - Juhn, C. K.M. Murphy, and B. Pierce. "[Wage Inequality and the Rise in the Returns to Skill](#)," *JPE* 101 (June 1993), pp. 410-42.
 - Katz, L. and K. Murphy. "[Changes in Relative Wages, 1963-87: Supply and Demand Factors](#)," *QJE* 107 (Feb. 1992), pp. 35-78.
 - Kopczuk, W., E. Saez, and J. Song. "[Earnings Inequality and Mobility in the United States: Evidence from Social Security Data since 1937](#)," *QJE* 125 (Feb. 2010), pp. 91-128.
 - Leuven, E. H. Oosterbeek, and H. van Ophern. "[Explaining International Differences in Male Skill Wage Differentials by Differences in Demand and Supply of Skill](#)," *EJ* 114 (Apr. 2004), pp. 466-86.
 - Meyer, B. and J. Sullivan. "[Consumption and Income Inequality in the U.S. since the 1960s](#)," NBER WP no. 23665, Aug. 2017.
 - Murphy, K. and R. Topel. "[Human Capital Investment, Inequality, and Economic Growth](#)," *JOLE* 34-S2 (Apr. 2016), pp. S99-S127.
 - Pierce, B. "[Compensation Inequality](#)," *QJE* 116 (Nov. 2001), pp. 1493-525.
- Apr.1, 3 b) Technology and human capital
- Acemoglu, D. "[Technical Change, Inequality and the Labor Market](#)," *JEL* 40 (Mar. 2002), pp. 7-72.
 - Acemoglu, D. and D. Autor. "[Skills, Tasks, and Technologies: Implications for Employment and Earnings](#)," *Handbook of Labor Economics*, vol. 4, 2010.
 - Acemoglu, D. and P. Restrepo. "[Robots and Jobs: Evidence from U.S. Labor Markets](#)," July 2018.
 - Autor, D., L. Katz, and M. Kearney. "[The Polarization of the U.S. Labor Market](#)," *AER* 96 (May 2006), pp. 189-94.
 - Autor, D., F. Levy, and R. Murnane. "[The Skill Content of Recent Technological Change: An Empirical Exploration](#)," *QJE* 118 (Nov. 2003), pp. 1279-333.
 - Deming, D. "[The Growing Importance of Social Skills in the Labor Market](#)," *QJE* 132 (Nov. 2017), pp. 1593-640.
 - Acemoglu, D. "[Directed Technical Change](#)," *REStud*, 69 (2002), pp. 781-809.
 - Acemoglu, D. and P. Restrepo. "[Modeling Automation](#)," Feb. 2018

- Acemoglu, D. and P. Restrepo. "[The Race between Machine and Man: Implications of Technology for Growth, Factor Shares, and Employment](#)," June 2017, *AER* forthcoming.
- Akerman, A., I. Gaarder, and M. Mogstad. "[The Skill Complementarity of Broadband Internet](#)," *QJE* 130 (Nov. 2015), pp. 1781-824.
- Autor, D. "[Why Are There So Many Jobs? The History and Future of Workplace Automation](#)," *JEP* 29 (Sum. 2015), pp. 3-30.
- Autor, D. and D. Dorn. "[The Growth of Low Skill Service Jobs and the Polarization of the U.S. Labor Market](#)," *AER* 103 (Aug. 2013), pp. 1553-97.
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Apr. 17, **2. Gender and the Family**

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Abbreviations:

<i>AER</i>	= <i>American Economic Review (P&P = Papers and Proceedings)</i>
<i>AEJ</i>	= <i>American Economic Journal (Applied, Policy, Macro)</i>
<i>ARE</i>	= <i>Annual Review of Economics</i>
<i>BPEA</i>	= <i>Brookings Papers on Economic Activity</i>
<i>CEHUS</i>	= S. Engerman and R. Gallman (eds.), <i>Cambridge Economic History of the U.S.</i> , vols. II, III
<i>EEH</i>	= <i>Explorations in Economic History</i>
<i>EJ</i>	= <i>Economic Journal</i>
<i>ILRR</i>	= <i>Industrial and Labor Relations Review</i>
<i>JEEA</i>	= <i>Journal of the European Economic Association</i>
<i>JEH</i>	= <i>Journal of Economic History</i>
<i>JEL</i>	= <i>Journal of Economic Literature</i>
<i>JEP</i>	= <i>Journal of Economic Perspectives</i>
<i>JHC</i>	= <i>Journal of Human Capital</i>
<i>JHR</i>	= <i>Journal of Human Resources</i>
<i>JOLE</i>	= <i>Journal of Labor Economics</i>
<i>JPE</i>	= <i>Journal of Political Economy</i>
<i>RBET</i>	= C. Goldin and L. Katz, <i>Race between Education and Technology</i> (Belknap Press 2008)
<i>REStat</i>	= <i>Review of Economics and Statistics</i>
<i>REStud</i>	= <i>Review of Economic Studies</i>
<i>QJE</i>	= <i>Quarterly Journal of Economics</i>