ECON 670-02: Economic Research Methods
Spring 2020

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CSUEB

Course Logistics

Instructor:	Marina Lovchikova
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Office phone	Telephone: (510)-885-4688
Lectures	Friday, 6:00-9:45pm
Lecture classroom:	VBT 137
Office hours	Friday, 2-4pm
Units:	4
Prerequisites:	Post-baccalaureate standing

Course overview

This is a Masters course in economics research methods and it will cover selected topics in theoretical and empirical analysis of technology and technological change.

There will be weekly writing assignments based on assigned readings, which counts towards 40% of the grade. The remaining 60% of the grade will be divided between at least two presentations (paper and critique) and two referee reports.

Learning outcomes of the class are as follows:
- Formulate well-defined research questions,
- Identify and evaluate the relevant primary economic literature on a research topic,
- Analyze the structure of arguments in primary economic literature,
- Discuss the validity and limitations of research findings

Readings

This course is built around journal articles, and there is no required textbook. The reading list (to be announced) provides a tentative list of readings

for each class session. Each class students sign up for the next week's assignment: I will confirm what is required on a weekly basis.

Assignments and grading

The list of graded items is below. Additional information about each assignment will be posted on Blackboard. All paper summaries and referee reports must be uploaded on Blackboard AND on paper in class. Late submissions of summaries and reports are accepted with 50% penalty.

1. Paper summary / Reverse outline ($\sim$ 1 page max). Due each class, except Jan 24, March 13, May 8. (40%)

2. Presentation of the paper ($\sim$ 10 slides). Only in person, no make-ups. Due dates vary by student (15%)

3. Discussion of the paper ($\sim$ 3 slides). In person or via Zoom/ Skype, no make-ups. Due dates vary student (15%)

4. Referee report. Due March 13, May 8; (30%)

Policy Disclosures

a. Student Conduct

The University is committed to maintaining a safe and healthy living and learning environment for students, faculty, and staff. Each member of the campus community should choose behaviors that contribute toward this end `http://www.csueastbay.edu/studentconduct/student-conduct.html`

b. Policy on Academic Dishonesty

In fairness to students who put in an honest effort, cheating and any academic dishonesty will be taken extremely seriously. The University has a published policy on cheating and academic dishonesty. Students are expected to be familiar with the policy and to abide by it. By enrolling in this class, the student agrees to uphold the standards of academic integrity described in the catalogue:

`http://www.csueastbay.edu/aps/academic-policies/academic-dishonesty.html`

Cheating will result in 1) a zero score on the assignment; and/or 2) an "F" grade for the course; and/or 3) referral to the Academic Vice President for expulsion from the University.

c. Accommodations for students with disabilities

If you have a documented disability and wish to discuss academic accommodations, or if you would need assistance in the event of an emergency evacuation, please contact me as soon as possible. Students with disabilities needing accommodation should speak with the Accessibility Services.

d. Emergency Information

Information on what to do in an emergency (earthquake, electrical outage, fire, extreme heat, severe storm, hazardous materials, terrorist attack) may be found at: http://www.csueastbay.edu/af/departments/risk-management/ehs/emergencymanagement

Please be familiar with these procedures. Information on this page is updated as required. Please review the information on a regular basis.

e. A Note on Discrimination, Harassment, and Retaliation (DHR)

Title IX and CSU policy prohibit discrimination, harassment and retaliation, including Sex Discrimination, Sexual Harassment or Sexual Violence. CSUEB encourages anyone experiencing such behavior to report their concerns immediately. CSUEB has both confidential and non-confidential resources and reporting options available to you. Non-confidential resources include faculty and staff, who are required to report all incidents and thus cannot promise confidentiality. Faculty and staff must provide the campus Title IX coordinator and or the DHR Administrator with relevant details such as the names of those involved in an incident. For confidential services, contact the Confidential Advocate at 510-885-3700 or go to the Student Health and Counseling Center. For 24-hour crisis services call the BAWAR hotline at 510-845-7273. For more information about policies and resources or reporting options, please visit the following websites: http://www.csueastbay.edu/af/departments/risk-management/investigations/register-complaints.html

http://www.csueastbay.edu/titleix

Reading list (TENTATIVE)

The list of papers and podcasts is tentative, it might be changed as semester progresses. Papers with a double star (**) are for presentations, podcasts with a double plus (++) are recommended for listening before the class.

Week 1. Introduction

Chad Jones. The Facts of Economic Growth `https://web.stanford.edu/~chadj/facts.pdf`

Philippe Aghion, Benjamin F. Jones, Charles I. Jones "Artificial Intelligence and Economic Growth". In The Economics of Artificial Intelligence: An Agenda, Agrawal, Gans, and Goldfarb. 2019

Ekkehard Ernst, Rossana Merola and Daniel Samaan. (2018) The economics of artificial intelligence: Implications for the future of work. International Labor Organization. (link)

Week 2. History of technological progress; Models of technological change: Part I

Gregory Clark (2005),"The Condition of the Working-Class in England, 1209-2004" Journal of Political Economy, 113(6): 1307-1340.

Katz, Lawrence F., and Margo, Robert A. 2013. "Technical Change and the Relative Demand for Skilled Labor: The United States in Historical Perspective." NBER Working Paper 18752

**Michael Kremer (1993). "Population Growth and Technological Change: One Million B.C. to 1990" The Quarterly Journal of Economics, Vol. 108, No. 3, pp. 681-716

**Henry, Peter Blair, and Conrad Miller. 2009. "Institutions versus Policies: A Tale of Two Islands." American Economic Review, 99 (2): 261-67.

++Robert Solow on Growth and the State of Economics (Oct 27 2014). Econtalk podcast, available at `http://bit.ly/37dPwEK`

Week 3. Models of technological progress: Part II

Aghion, Philippe and Peter Howitt (1992) "Model of Growth Through Creative Destruction." Econometrica, 60(2), pp. 323-351.

Romer, Paul M. (1990) Endogenous Technological Change." Journal of Political Economy 98(5), pp. S71-S102.

**Goldin, Claudia, and Lawrence F. Katz. 1998. "The Origins of Technology-Skill Complementarity." Quarterly Journal of Economics 113(3): 693-732.

Jones, Charles I (1995) Time Series Tests of Endogenous Growth Models." Quarterly Journal of Economics, 110(2), pp. 495-525.

Stephen Redding "Path Dependence, Endogenous Innovation, and Growth", International Economic Review, 43(4), 2002, 1215-48.

Rachel Griffith,Stephen Redding and John Van Reenen "R&D and Absorptive Capacity: Theory and Empirical Evidence", Scandinavian Journal of Economics, 105(1), 2003, 99-118.

Romer, Paul (1987) Growth Based on Increasing Returns Due to Specialization." American Economic Review Papers and Proceedings, pp. 77(2), 56-62

++Paul Romer on Growth (Aug 27 2007). Econtalk podcast, Available at `https://www.econtalk.org/romer-on-growth/`

Week 4. Technology diffusion and knowledge spillovers: Part I

**Bloom, Nicholas, Mark Schankerman and John Van Reeenen, J. (2013) Identifying Technology Spillovers and Product Market Rivalry." Econometrica, 81(4), pp. 1347-1393.

Griliches, Zvi (1992) The Search for R&D Spillovers." Scandinavian Journal of Economics, 94, S29-47.

Irwin, Douglas and Peter Klenow (1994) Learning by Doing Spillovers in the Semiconductor Industry." Journal of Political Economy, 102(6), pp. 1200-1227.

Jaffe, Adam (1986) Technological Opportunity and Spillovers of R&D: Evidence from Firms' Patents, Profits and Market Value." American Economic Review, 76(5), pp. 984-1001.

Rachel Griffith,Stephen Redding and Helen Simpson (2009) "Technological Catch-up and Geographic Proximity" Journal of Regional Science, 49(4), 689-720

Parente, S. L. (1994). Technology Adoption, Learning-by-Doing, and Economic Growth. Journal of Economic Theory, 63, 346?369.

**Lucking, B, N Bloom and J Van Reenen (2018), Have R&D Spillovers Changed?, NBER Working Paper No. 24622.

Week 5. Technology diffusion and knowledge spillovers: Part II

Diego Comin and Bart Hobijn (2010) An Exploration of Technology Diffusion, American Economic Review 100 (December 2010): 2031-2059

Acemoglu, Daron and Fabrizio Zilibotti (2001) "Productivity Differences." Quarterly Journal of Economics, 116(2), pp. 563-606.

**Basu, Susanto and David N. Weil (1998) Appropriate Technology and Growth." Quarterly Journal of Economics, 113(4), pp. 1025-1054.

Parente, Stephen L. and Edward C. Prescott (1994) Barriers to Technology Adoption and Development." Journal of Political Economy, 102(2), pp. 298-321.

Gavin Cameron, James Proudman and Stephen Redding "Technological Convergence, R&D, Trade and Productivity Growth", European Economic Review, 49(3), 775-807, 2005.

**Comin, Diego, and Bart Hobijn. "Lobbies and Technology Diffusion." Review of Economics and Statistics 91, no. 2 (May 2009): 229-244.

++Michael Spence on Growth (Jan 25 2010). Econtalk podcast, available at `https://www.econtalk.org/spence-on-growth/`

++Parag Khanna on Technology Diffusion and the Rise of Asia, Exponential View podcast, available at`http://bit.ly/2RDKNp1`

Week 6. Innovation and competition

Aghion, Philippe, Christopher Harris, Peter Howitt and John Vickers (2001) Competition, Imitation, and Growth with Step-by-Step Innovation." Review of Economic Studies, 68(3), pp. 467-492.

Aghion, Philippe, Nicholas Bloom, Richard Blundell, Rachel Griffith and Peter Howitt (2005) Competition and Innovation: An Inverted-U Relationship."Quarterly Journal of Economics, 120(2), pp. 701-728.

Aghion, P., Bechtold, S., Cassar, L., & Herz, H. (2014). The Causal Effects of Competition on Innovation : Experimental Evidence. NBER WP 19987, 1?31.

Bonanno, G. and Haworth, B. (1998). Intensity of competition and the choice between product and process innovation. International Journal of Industrial Organization, 16(4):495-510.

Flach, L. and Irlacher, M. (2018). Product versus process: Innovation strategies of multiproduct firms. American Economic Journal: Microeconomics, 10(1):236?77.

**Thoenig, M., & Verdier, T. (2003). A Theory of Defensive Skill-Biased Innovation and Globalization. AER, 93(3).

**Gorodnichenko, Y., Svejnar, J., and Terrell, K. (2008). Globalization and innovation in emerging markets. NBER Working Paper No. 14481.

Iacovone, Leonardo, Wolfgang Keller and Ferdinand Rauch. Innovation responses to import competition. (2011).

++Patrick Collison on Innovation and Scientific Progress (Jan 28 2019). Econtalk podcast, available at `http://bit.ly/38riTDH`

++Graham on Start-ups, Innovation, and Creativity (Aug 3 2009), Econtalk podcast, available at `http://bit.ly/2TDzIqV`

Week 7. Productivity paradox and innovation policies

Gordon, Robert J. 2012. Is U.S. Economic Growth Over? Faltering Innovation Confronts the Six Headwinds. NBER Working Paper 18315.

Brynjolfsson, E., Syverson, C., & Rock, D. (2017). "Artificial Intelligence and the modern Productivity Paradox". NBER WP24001.

**Nicolas Crafts (2002), "The Solow Productivity Paradox in Historical Perspective"

**Moser, Petra (2005) How Do Patent Laws Influence Innovation? Evidence from Nineteenth-Century World Fairs." American Economic Review, 95(4), pp. 1214-1236.

Aghion, Philippe, Mathias Dewatripont, Luosha Du, Ann Harrison, and Patrick Legros (2015) "Industrial Policy and Competition", NBER Working Paper No. 18048

Acemoglu, Daron and Ufuk Akcigit (2012) "Intellectual Property Rights Policy, Competition and Innovation." Journal of the European Economic Association, 10(1), pp. 1-42.

**Sabrina T. Howell, 2017. "Financing Innovation: Evidence from R&D Grants," American Economic Review, American Economic Association, vol. 107(4), pages 1136-1164, April.

++Joel Mokyr on Growth, Innovation, and Stagnation (Nov 25 2013). Econtalk podcast, available at `http://bit.ly/38okTfL`

++Kelly on the Future, Productivity, and the Quality of Life (Jan 21 2013). Econtalk podcast, available at `http://bit.ly/3aq2LUF`

++Alex Tabarrok on Innovation (Dec 26 2011). Econtalk podcast, available at `https://www.econtalk.org/tabarrok-on-innovation/`

Week 8. Government-sponsored innovation

Goolsbee, A (1998) Does Government R&D Policy Mainly Benefit Scientists and Engineers? American Economic Review, 88(2): 298-302.

Viktor Slavtchev & Simon Wiederhold, 2016. "Does the Technological Content of Government Demand Matter for Private R&D? Evidence from US States," American Economic Journal: Macroeconomics, American Economic Association, vol. 8(2), pages 45-84, April.

De Rassenfosse, G., Decarolis, F., Giuffrida, L.M., Iossa, E. & Mollisi, V. & Raiteri, E. & Spagnolo, G., 2019. "Buyers' Role in Innovation Procurement," CEPR Discussion Papers 13777, C.E.P.R. Discussion Papers.

Dirk Czarnitzki & Bernd Ebersberger & Andreas Fier, 2007. "The relationship between R&D collaboration, subsidies and R&D performance: Empirical evidence from Finland and Germany," Journal of Applied Econometrics, John Wiley & Sons, Ltd., vol. 22(7), pages 1347-1366.

Dirk Czarnitzki & Paul Hünermund & Nima Moshgbar, 2018. "Public procurement as policy instrument for innovation," Working Papers of Department of Economics, Leuven 606259, KU Leuven, Faculty of Economics and Business (FEB), Department of Economics, Leuven.

Lichtenberg, Frank R, 1988. "The Private R&D Investment Response to Federal Design and Technical Competitions," American Economic Review, American Economic Association, vol. 78(3), pages 550-559, June.

**Enrico Moretti, Claudia Steinwender, John Van Reenen. (2019) The Intellectual Spoils of War? Defense R&D, Productivity and International Spillovers. NBER Working Paper No. 26483.

**Mariana Mazzucato (2016) From market fixing to market-creating: a new framework for innovation policy, Industry and Innovation, 23:2, 140-156, doi:10.1080/13662716.2016.1146124

++Mariana Mazzucato on the Value of Everything (Dec 24 2018). Econtalk podcast, available at `http://bit.ly/2sIea17`

++ Carlota Perez on Bubbles, Golden Ages, and Tech Revolutions. Exponential View podcast, available at `https://podplayer.net/?id=84104649`

Week 9. Technology and labor market: Part 1

Krusell, P., Ohanian, L. E., Ros-Rull, J.-V., and Violante, G. L. (2000). Capital-Skill Complementarity and Inequality: A Macroeconomic Analysis. Econometrica, 68(5):1029-1053.

Dale T. Mortensen, Christopher A. Pissarides, "Technological Progress, Job Creation, and Job Destruction", Review of Economic Dynamics, Volume 1, Issue 4, 1998, Pages 733-753.

Postel-Vinay, F. (2002). The Dynamics of Technological Unemployment. International Economic Review, 43(3), 737-760.

**Akerman, A., Gaardner, I., and Mogstad, M. (2015). The Skill Complementarity of Broadband Internet. Quarterly Journal of Economics, 130(4):1781-1824.

Gould, E. D., and Weinberg, B. A. (2001). Precautionary Demand for Education , Inequality , and Technological Progress. Journal of Economic Growth, 6(2000), 285-315.

Week 10. Technology and labor market: Part 2

Goos, M., Manning, A., and Salomons, A. (2014). Explaining Job Polarization: Routine-Biased Technological Change and Offshoring. American Economic Review, 104(8):2509-2526.

Beaudry, P., Green, D. A., and Sand, B. M. (2016). The Great Reversal in the Demand for Skill and Cognitive Tasks. Journal of Labor Economics, 34(S1):S199-S247.

Feng, A., & Graetz, G. (2015). Rise of the Machines : The Effects of Labor-Saving Innovations on Jobs and Wages. In IZA DP 8836.

**Jaimovich, Nir and Henry Siu (2013). The Trend Is the Cycle: Job Polarization and Jobless Recoveries. Duke University mimeo.

Foote, Christopher L. and Richard W. Ryan (2014). Labor Market Polarization over the Business Cycle. Federal Reserve Bank of Boston, mimeo.

Autor, D. H. and Dorn, D. (2013). The Growth of Low-Skill Service Jobs and the Polarization of the US Labor Market. American Economic

Review, 103(5):1553-1597.

**Daron Acemoglu and Pascual Restrepo (2017), "Robots and Jobs: Evidence from US Labor Markets" NBER Working Paper No. 23285, March 2017

++Brynjolfsson on the Second Machine Age (Feb 3 2014). Econtalk podcast, available at `http://bit.ly/38i6TnY`

Week 11. Technological change and inequality

Karabarbounis, L., & Neiman, B. (2014). The Global Decline of the Labor Share. 61-103. https://doi.org/10.1093/qje/qjt032.

Hemous, D., & Olsen, M. (2014). The Rise of the Machines : Automation, Horizontal Innovation and Income Inequality. WP.

Shi, S. (2002). A directed search model of inequality with heterogeneous agents and skill-biased technology. Review of Economic Studies, (69):467-491.

Caselli, F and A. Manning (2018) "Robot arithmetic: new technology and wages" LSE WP

Caballero, R. J., E. Farhi, and P.-O. Gorinchas (2017) "Rents, Technical Change and Risk Premia Accounting for Secular Trends in Interest Rates, Returns on Capital, Earning Yields and Factor Shares", American Economic Review, 107 (5), 614-620

Kaymak, B. and M. Poschke (2016) " The evolution of wealth inequality over half a century: the role of taxes, transfers and technology" Journal of Monetary Economics, 77 (C), 1-25.

**Martinez, J (2019) " Automation, Growth and Factor Shares", WP

Rachel, L (2019) " Automation, Unemployment and Inequality", WP

Week 12. AI and labor market perspectives

Anton Korinek, Joseph E. Stiglitz. "Artificial Intelligence and Its Implications for Income Distribution and Unemployment". in The Economics of Artificial Intelligence: An Agenda, Agrawal, Gans, and Goldfarb. 2019

**Benzell, S. G., Kotlikoff, L. J., Lagarda, G., & Sachs, J. D. (2015). Robots Are Us: Some Economics of Human Replacement.

Webb, Michael, The Impact of Artificial Intelligence on the Labor Market (November 6, 2019). Available at SSRN: `https://ssrn.com/abstract=3482150`

David Mindell on Our Robots, Ourselves (Nov 30 2015). Econtalk podcast, available at `http://bit.ly/2Gbhcye`

++Melanie Mitchell on Artificial Intelligence (Jan 6 2020). Econtalk podcast, available at `http://bit.ly/2TDAtAh`

McAfee, McArdle, and Ohanian on the Future of Work (Jun, 2, 2014). Econtalk podcast, available at `http://bit.ly/2GaOnlu`

Week 13. Technological change and labor policies

Abbott, R., & Bogenschneider, B. (2018). Should Robots Pay Taxes? Tax Policy in the Age of Automation. Harvard Law and Policy Review, 12, 145-175.

**Alesina, A., Battisti, M., & Zeira, J. (2018). Technology and Labor Regulations: Theory and Evidence. Journal of Economic Growth, 23(1), 41-78.

Cette, G., Lopez, J., and Mairesse, J. (2016). Labour Market regulations and capital intensity. NBER WP 22603.

Thewissen, S., & Rueda, D. (2019). Automation and the Welfare State: Technological Change as a Determinant of Redistribution Preferences. Comparative Political Studies, 52(2), 171-208.

**Guerreiro, J., Rebelo, S., & Teles, P. (2017). Should robots be taxed? NBER WP 23806.

++Michael Munger on the Basic Income Guarantee (Jan 16 2017). Econtalk podcast, available at `http://bit.ly/36iKhm0`

Edward Glaeser on Joblessness and the War on Work (Mar 26 2018). Econtalk podcast, available at `http://bit.ly/2tCZ6lN`

Matthew Yglesias and [The Weeds] Debating the robot takeover `https://podplayer.net/?id=90523144`

James Bessen on Learning by Doing (May 23 2016). Econtalk podcast, available at `http://bit.ly/3av0esz`

Week 14-15. Algorithms vs human

**Cowgill, Bo. 2018. "Bias and Productivity in Humans and Algorithms: Theory and Evidence from Resume Screening". WP `http://conference.iza.org/conference_files/MacroEcon_2017/cowgill_b8981.pdf`

Dionysios S. Demetis & Allen S. Lee (2018), When Humans using the IT artifact becomes IT using the Human Artifact, Journal of the Association for Information Systems, 19 (10), pp. 929-952 https://doi: 10.17705/1jais.00513

**Jenifer Doleac and Megan Stevenson. "Algorithmic Risk Assessment Tools in the Hands of Humans". IZA Discussion Paper No. 12853.

Elish, M. C., Moral Crumple Zones: Cautionary Tales in Human-Robot Interaction (March 1, 2019). Engaging Science, Technology, and Society.

Jon Kleinberg, Himabindu Lakkaraju, Jure Leskovec, Jens Ludwig, Sendhil Mullainathan, "Human Decisions and Machine Predictions", The Quarterly Journal of Economics, Volume 133, Issue 1, February 2018, Pages 237-293,

++Shoshana Zuboff on Surveillance Capitalism (Jul 29 2019). Econtalk podcast, available at `http://bit.ly/2uihf8J`

++Michael Munger on Sharing, Transaction Costs, and Tomorrow 3.0 (Oct 29 2018). Econtalk podcast, available at `http://bit.ly/36bfQOt`