



**Universität
Zürich** ^{UZH}

Department of Political Science – Master Seminar
Spring Semester 2020

Political Consequences of Technological Change

Weekly **Monday, 12.15-13.45**

Room: **AFL-E-019**

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What kind of jobs are particularly threatened by smart software, robotization or artificial intelligence – and who are the winners of economic modernization? How does labor market experience translate into political behavior? Have “robots helped elect Trump”, as the New York Times claimed? Does new technology reinforce urban-rural divides? How can policy-makers cushion economic hardship and can they efficiently compensate losers of automation? Should governments regulate Uber? Is the introduction of a universal basic income inevitable in the long-term?

These are some of the key questions we will address in this four-part seminar. We start with a general introduction and a historical perspective on previous industrial revolutions. We then discuss recent key contributions in labor economics to get a sense of the distributive implications of computerization, automation, digitalization and the increasing prevalence of robots at the workplace. The third part deals with the political repercussions on the voter level (preferences and voting behavior). The fourth and final part focuses on policy remedies and the question of what governments can do to mitigate political disruption in the age of automation.

Program

Part I: The Long-Term Perspective		
1	February 17 2020	Introduction
2	February 24 2020	Structural Changes: Four Industrial Revolutions

Part II: Economic Fundamentals		
3	March 2 2020	Transformation of the Employment Structure
4	March 9 2020	Impact of Different Kinds of New Technology
5	March 16 2020	Platform Work and Gig Economy
6	March 23 2020	How to Measure Technological Innovation?

Part III: Political Consequences		
7	March 30 2020	Political Preferences in the Age of Automation
8	April 6 2020	Vote Choice in the Age of Automation
	April 13 2020	<i>no seminar, Easter Monday [Group work preparation time]</i>
	April 20 2020	<i>no seminar, Sechseläuten [Group work preparation time]</i>
9	April 27 2020	Economic Geography and Spatial Inequality

Part IV: Government Response		
10	May 4 2020	Policy Response: Investment vs. Consumption
11	May 11 2020	Policy Response: Regulation, Taxation
12	May 18 2020	Mini-Conference
13	May 25 2020	Mini-Conference / Debate

Course Requirements and Grading

The final grade consists of three elements:

- **Active Participation (20%):** The most important assignment is to read the studies carefully, think hard about them, be ready to answer questions about them, critique them, and finally consider possible follow-up studies. We have chosen 1-2 readings each week for you to read especially carefully and be prepared to discuss in detail.
- **Writings (50%):**
 - Response papers: We expect you to write two response papers (1-2 pages) where you critique the week's reading. We will provide an interpretation, a claim or a "headline" for every session, to which you are expected to respond to. These papers should make an argument, not just summarize. To distribute the papers across the semester, we will arrange a sign-up. The papers need to be sent to us the day before class at the latest. We expect students who submit a response paper to be present in class and ready to summarize, discuss and defend their argument.
 - Group work: To prepare for the third part of the seminar on policy responses, we will organize a practical exercise in small groups. Building on the readings of the previous weeks, you will prepare a short written hand-out (1-2 pages) to a policy problem related to the technology-induced transformation of labor markets.
- **Short Final Essay (30%):** You will write a *short* final essay (approx. 10 pages). We have two possible types of short essay in mind. (1) You produce one informative descriptive plot and discuss relevant political implications. (2) Or you write a theoretical piece in which you discuss pros and cons of a conceivable policy response to automation.

You will have the chance to present an early-stage idea at the mini-conference that we will hold during the last two weeks of the course. Note that you are *not* expected to hand in your *final* paper at that point but only later in summer.

Learning Outcomes

At the end of the course students

- have a good overview of the current debate on the distributive implications of technological innovation and its likely political consequences.
- are familiar with the main theories and empirical applications in the field.
- are able to critically reflect and evaluate media contributions as well as academic articles and position themselves in this ongoing debate.
- learn hands-on empirical analyses to assess technological change.
- are able to write a short empirical essay or a policy paper on the topic.

Detailed Program

February 1, 2020: Introduction

We will provide a short introduction regarding current public and academic debates on the economic and political consequences of technological change. The main goal is to give you an overview of the topics we would like to discuss during the next 14 weeks but also to get a better idea of what *you* are interested in most.

Reading

- “Automation and anxiety. Will smarter machines cause mass unemployment?” (2016). *The Economist*. Special report. Jun 23rd 2016 edition.

February 24, 2020: Long-Term Structural Economic Changes

Before zooming in on particular aspects of technological change, we take a more historic perspective and discuss previous economic transformations and their societal implications. We travel from the first to the fourth industrial revolution.

Reading

- Boix, C. (2019). *Democratic capitalism at the crossroads: technological change and the future of politics*. Princeton University Press, Princeton, NJ, Chapter 1 (Introduction).
- Mokyr, J., Vickers, C., and Ziebarth, N. L. (2015). The History of Technological Anxiety and the Future of Economic Growth: Is This Time Different? *Journal of Economic Perspectives*, 29(3):31–50.

Further reading (optional)

- Benanav, A. (2019a). Automation and the future of work 1. *New Left Review*, (119):5–38
- Benanav, A. (2019b). Automation and the future of work 2. *New Left Review*, (120):117–146

March 2, 2020: Tech-induced Transformations of the Employment Structure

In this session, we focus on the basic distributive implications of technological innovation and how it affects labor markets. We will extensively discuss the meaning of routine and non-routine task content of occupations, a core concept of the literature that will remain important throughout the semester because it encapsulates susceptibility to recent waves of automation.

Reading

- Goos, M., Manning, A., and Salomons, A. (2009). Job polarization in Europe. *The American Economic Review*, 99(2):58–63.
- Oesch, D. and Rodriguez-Menes, J. (2011). Upgrading or polarization? Occupational change in Britain, Germany, Spain and Switzerland, 1990–2008. *Socio-Economic Review*, 9(3):1–29.

Further reading (optional)

- Autor, D. H., Levy, F., and Murnane, R. J. (2003). The Skill Content of Recent Technological Change: An Empirical Exploration. *The Quarterly Journal of Economics*, 118(4):1279–1333.
- Goos, M. and Manning, A. (2007). Lousy and Lovely Jobs: The Rising Polarization of Work in Britain. *Review of Economics and Statistics*, 89(1):118–133.
- 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.
- Autor, D. and Salomons, A. (2018). Is Automation Labor-Displacing? Productivity Growth, Employment, and the Labor Share. Technical Report w24871, National Bureau of Economic Research, Cambridge, MA.
- Kurer, T. and Gallego, A. (2019). Distributional consequences of technological change: Worker-level evidence. *Research & Politics*, 6(1).

March 9, 2020: Impact of Different Kinds of New Technology

We expand our discussion on distributive implications by further differentiating between different kinds of technological innovation. Does investment in information and communication technology (ICT) produce different distributive effects than artificial intelligence (AI)? And how do the replacement effects of robotization differ from the introduction of smart software?

Reading

- Arntz, M., Gregory, T., and Zierahn, U. (2016). The Risk of Automation for Jobs in OECD Countries. Technical report, OECD Social, Employment and Migration Working Papers Nr. 189.
- Acemoglu, D. and Restrepo, P. (2019). Automation and New Tasks: How Technology Displaces and Reinstates Labor. *Journal of Economic Perspectives*, 33(2):3–30.

Further reading (optional)

- Frey, C. B. and Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, 114:254–280.
- Michaels, G., Natraj, A., and Van Reenen, J. (2014). Has ICT Polarized Skill Demand? Evidence from Eleven Countries over Twenty-Five Years. *Review of Economics and Statistics*, 96(1):60–77.
- Graetz, G. and Michaels, G. (2018). Robots at Work. *The Review of Economics and Statistics*, 100(5):753–768.
- Dauth, W., Findeisen, S., Suedekum, J., and Woessner, N. (2018). Adjusting to Robots: Worker-Level Evidence.

- Roberts, C., Parks, H., Statham, R., and Rankin, L. (2019). The future is ours: Women, automation, and equality in the digital age. Technical report, IPPR The Centre for Economic Justice.

March 16, 2020: Platform Work and Gig Economy

After two more empirical sessions, we turn to even newer developments that have not yet been well-examined empirically: platform work and the gig economy. Do the new vanguard firms of the twenty-first century (Amazon, Google, Facebook, Uber) represent a new type of firm model? And how do new forms of employment at Uber, Deliveroo or MechanicalTurk change the way we think about labor markets and precarious work? How do these firms change the balance of power between capital, labor, and consumers?

Reading

- Rahman, K. S. and Thelen, K. (2019). The rise of the platform business model and the transformation of twenty-first-century capitalism. *Politics & Society*, 47(2):177–204.
- Culpepper, P. D. and Thelen, K. (2019). Are we all amazon primed? consumers and the politics of platform power. *Comparative Political Studies*.

Further reading (optional)

- Johnston, H., Land-Kazlauskas, C., et al. (2018). Organizing on-demand: Representation, voice, and collective bargaining in the gig economy. *Conditions of work and employment series*, 94.
- Vandaele, K. (2017). Will trade unions survive in the platform economy? *ETUI Working Paper*.
- De Stefano, V. (2015). The rise of the just-in-time workforce: On-demand work, crowd-work, and labor protection in the gig-economy. *Comp. Lab. L. & Pol'y J.*, 37:471.

March 23, 2020: How to empirically capture technological change?

This will be a hands-on empirical session, in which we work with all the different indicators discussed during the previous sessions. Do they all measure the same? Do they all affect the same group of people? Please make sure to bring your computer to class!

March 30, 2020: Technological Change and Policy Preferences

After having laid the economic foundation, we build on our better understanding of the distributive implications of technological change to examine its political consequences. How do social policy preferences change in response to automation risk? Do people at risk have stronger redistributive preferences? Or do they even push for a universal basic income?

Reading

- Thewissen, S. and Rueda, D. (2019). Automation and the Welfare State: Technological Change as a Determinant of Redistribution Preferences. *Comparative Political Studies*, 52(2):171–208
- Chrisp, J. and Martinelli, L. (2018). The robots are coming! can the threat of automation drive public support for basic income? *Manuscript*

Further reading (optional)

- Sacchi, S., Guarascio, D., and Vannutelli, S. (2018). Risk of technological unemployment and support for redistributive policies. *Manuscript*, page 40
- Lim, S. (2020). Embedding technological transformation: the welfare state and citizen attitudes toward technology. *European Political Science Review*, pages 1–23

April 6, 2020: Technological Change and Vote Choice

After the previous session on policy preferences, we focus on how vote choice is affected by technological change. Do policy preferences match well on existing findings with regard to vote choice? How do winners vote? How do losers vote?

Reading

- Anelli, M., Colantone, I., and Stanig, P. (2019). We Were The Robots: Automation and Voting Behavior in Western Europe. *Manuscript*
- Gallego, A., Kurer T., und Schöll, N. (2020). Neither Superstar nor Left-Behind. Ordinal Winners of Digitalization at the Ballot Box. *Manuscript*.

Further reading (optional)

- Gingrich, J. (2019). Did State Responses to Automation Matter for Voters? *Research & Politics*, 6(1)
- Frey, C. B., Berger, T., and Chen, C. (2018). Political machinery: did robots swing the 2016 US presidential election? *Oxford Review of Economic Policy*, 34(3):418–442
- Im, Z. J., Mayer, N., Palier, B., and Rovny, J. (2019). The “losers of automation”: A reservoir of votes for the radical right? *Research & Politics*, 6(1)

April 27: Economic Geography and the Left Behind

A final important distributive dimension of technological change concerns the urban-rural divide. The benefits of economic modernization disproportionately cluster in large cities, thereby creating important and politically relevant patterns of spatial inequality.

Readings

- Rodríguez-Pose, A. (2018). The revenge of the places that don't matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society*, 11(1):189–209
- Zollinger, D. (2020). Booming cities versus left-behind communities? how the geography of the knowledge economy structures social identities in Switzerland. *Manuscript*

Further reading (optional)

- Rodden, J. A. (2019). *Why Cities Lose: The Deep Roots of the Urban-Rural Political Divide*. Basic Books, New York
- Maxwell, R. (2019). The urban-rural cosmopolitan divide: Evidence from Switzerland. *Manuscript*, page 80
- Moretti, E. (2013). *The New Geography of Jobs*. Mariner Books, Boston, Mass, reprint edition

May 4: Policy Response to Technological Change (Consumption vs. Investment)

We have two sessions on potential government responses to technological change. In the first session we focus on potential social policy responses, i.e. ex-post financial compensation (unemployment benefits, universal basic income) or ex-ante preparation to cope with change (education, active labor market policies).

Readings

- Eichhorst, W., Hemerijck, A. and Scalise, G. (2020). Welfare States, Labor Markets, Social Investment and the Digital Transformation. *Manuscript*.
- Palier, B. (2019). Work, social protection and the middle classes: What future in the digital age? *International Social Security Review*, 72(3):113–133

Further reading (optional)

- Korinek, A. (2019). Labor in the Age of Automation and Artificial Intelligence. *EconfiP Research Brief*, page 9
- Funke, C. and Picot, G. (2020). Gig Work in a Coordinated Market Economy. *Unpublished Manuscript*.
- Natali, D. and Raitano, M. (2020). Digitalization and Technological Changes: What Challenges for Pension Policies? *Manuscript*.

May 11: Policy Response to Technological Change (Regulation, Taxation)

In the second session, we focus on broader regulatory responses to technological change, ranging from policies to halt technological change to policies that accelerate technological change. A special focus will be on how countries responded differently to the market entry of Uber and new difficulties that arise from taxing such companies.

Readings

- Thelen, K. (2018). Regulating Uber: The Politics of the Platform Economy in Europe and the United States. *Perspectives on Politics*, 16(4):938–953
- Gelepithis, M. (2020). The Politics of Tax Policy in the Digital Age. *Manuscript*.

Further reading (optional)

- Stewart, A. and Stanford, J. (2017). Regulating work in the gig economy: What are the options? *The Economic and Labour Relations Review*, 28(3):420–437
- Daugareilh, I., Degryse, C., and Pochet, P. (2019). The platform economy and social law: Key issues in comparative perspective. *ETUI Research Paper-Working Paper*
- Iversen, T. and Rehm P. (2020). Data Revolution and the Transformation of Social Protection. *Manuscript*.

May 18 and May 25: Mini-Conference

To wrap-up, we will have two weeks of interactive mini-conferences, where students have the chance to bring up additional questions/topics and also present their early-stage ideas for the final essay in order to get feedback and stimulate the final discussion.