



Göttingen, 5. Oktober 2023

Master-Seminar (Winter Term 2023/24): Automation and Development

If, after reading this info file, you have any questions left, write an email to johannes.schuenemann@wiwi.uni-goettingen.de

Overview

In this Master seminar we discuss recent research on the implications of trends in robotization and artificial intelligence for employment, wages, productivity, economic growth, and more.

Structure of the seminar

- **26.10.2023, 14:15, room VG 0.111 : Intro meeting.**
- Until **02.11.2023**: After the intro meeting, you have one week to submit your application for the seminar, via email to johannes.schuenemann@wiwi.uni-goettingen.de. ***You can find the application form as a separate file in StudIP.*** You can name up to 4 topic preferences, with no guarantee given that you will receive one of your preferred topics as your seminar topic. In case that there are more applications than available places we will distribute the places according to the study regulation. Please choose your top priorities carefully to ensure that you are comfortable with your selected topic. **Also: if not done already, this is the time to register for the course in StudIP. All further announcements will be done through StudIP!**
- Starting from **02.11.2023**: **publication of the list of participants and the list of topics.** The list will be published as fast as possible, sometimes the process of allocation takes a few days. After publication, the official work-time for writing the seminar paper begins.
- **02.11.2023 – 11.01.2024**: Period for the binding registration or cancellation for the course via FlexNow.
- **18.12.2023**: submission of your seminar paper no later than 15:00. A .pdf version is to be sent to Johannes Schünemann (johannes.schuenemann@wiwi.uni-goettingen.de), a paper copy is not necessary. **Please notice that due to organizational constraints, the submission deadline of the seminar paper cannot be extended by any circumstances (e.g. illness).**
- Starting from **18.12.2023**: publication of the exact schedule for the block meeting and the matching between topics and discussants.
- Until **11.01.2024, 15:00**: submission of the slides of your seminar presentation. A .pdf version is to be sent to Johannes Schünemann (johannes.schuenemann@wiwi.uni-goettingen.de). This is to ensure that there is at least a working presentation available on the day of the seminar. You can improve your slides after sending them to me, and use the updated version on the seminar day.
- **12.01.2024, whole day, room Oec. 1.163**: block seminar.
- **13.01.2024, whole day, room Oec. 1.162**: block seminar.

Attendance at the whole blocked seminar is compulsory.

Grading

Grading will be based upon the following:

- 1) Seminar paper (15 pages, in English)
- 2) Presentation (30 minutes, in English)
- 3) Discussion of another topic (5 minutes, in English)

The seminar paper accounts for 50% of the final grade. Presentation and discussion account for the other 50% of the final grade. Students need to pass both of these requirements in order to pass the seminar.

Topics

Please make sure to use the source provided here, and not an alternative working paper version.

1. Robots and Jobs: Evidence from US Labor Markets

Reference: Acemoglu, D., & Restrepo, P. (2020). Robots and jobs: Evidence from US labor markets. *Journal of political economy*, 128(6), 2188-2244.

2. The Adjustment of Labor Markets to Robots

Reference: Dauth, W., Findeisen, S., Suedekum, J., & Woessner, N. (2021). The adjustment of labor markets to robots. *Journal of the European Economic Association*, 19(6), 3104-3153.

3. Demographics and Automation

Reference: Acemoglu, D., & Restrepo, P. (2022). Demographics and automation. *The Review of Economic Studies*, 89(1), 1-44.

4. Artificial Intelligence and Jobs: Evidence from Online Vacancies

Reference: Acemoglu, D., Autor, D., Hazell, J., & Restrepo, P. (2022). Artificial intelligence and jobs: Evidence from online vacancies. *Journal of Labor Economics*, 40(S1), S293-S340.

5. Tasks, Automation, and the Rise in US Wage Inequality

Reference: Acemoglu, D., & Restrepo, P. (2022). Tasks, automation, and the rise in US wage inequality. *Econometrica*, 90(5), 1973-2016.

6. The Origins and Content of New Work, 1940–2018

Reference: Autor, D., Chin, C., Salomons, A. M., & Seegmiller, B. (2022). New Frontiers: The Origins and Content of New Work, 1940–2018 (No. w30389). National Bureau of Economic Research.

7. Computerization of White Collar Jobs

Reference: Dillender, M., & Forsythe, E. (2022). Computerization of white collar jobs. National Bureau of Economic Research Working Paper No. w29866.

8. How Intangibles Complement General Purpose Technologies

Reference: IBrynjolfsson, E., Rock, D., & Syverson, C. (2021). The productivity J-curve: How intangibles complement general purpose technologies. *American Economic Journal: Macroeconomics*, 13(1), 333-72.

9. Automation, Partial and Full

Reference: Growiec, J. (2022). Automation, partial and full. *Macroeconomic Dynamics*, 26(7), 1731-1755.

10. The Hardware-Software Model

Reference: Growiec, J. (2021). The Hardware-Software Model: A New Conceptual Framework of Production, R&D, and Growth with AI, Working Paper.

11. Will the AI Revolution Cause a Great Divergence?

Reference: Alonso, C., Berg, A., Kothari, S., Papageorgiou, C., & Rehman, S. (2022). Will the AI revolution cause a great divergence?. *Journal of Monetary Economics*, 127, 18-37.

12. Information Technology and the Future of Economic Growth

Reference: Nordhaus, W. D. (2021). Are we approaching an economic singularity? Information technology and the future of economic growth. *American Economic Journal: Macroeconomics*, 13(1), 299-332.

13. Nonrivalry and the Economics of Data

Reference: Jones, C. I., & Tonetti, C. (2020). Nonrivalry and the Economics of Data. *American Economic Review*, 110(9), 2819-58.

14. Robots and Reshoring: Evidence from Mexican Labor Markets

Reference: Faber, M. (2020). Robots and reshoring: Evidence from Mexican labor markets. *Journal of International Economics*, 127, 103384.

15. Robots, Marriageable Men, Family, and Fertility

Reference: Anelli, M., Giuntella, O., & Stella, L. (2021). Robots, marriageable men, family, and fertility. *Journal of Human Resources*, 1020-11223R1.

16. The AI Dilemma: Growth versus Existential Risk

Reference: Jones, C.I. (2023). The AI Dilemma: Growth versus Existential Risk, Discussion Paper. Stanford University.

Required background knowledge

BA - courses in Mathematics, Econometrics, Macro- and Microeconomics

Read this! ➤ Advice ⇐ Read this!

The seminar paper

Content:

In your seminar paper you should present the **idea and the central mechanisms** of the underlying journal article in your own words. **The objective of the seminar paper is that a reader unfamiliar with the original journal article and chapter is thoroughly familiarized with the topic.**

Formatting:

The seminar paper must not be **longer than 15 pages** (excluding appendices and the list of references). Tables and figures to which you refer to in the text should also be placed in the text, and can be agreed on to not count towards the 15 pages. Please use the following layout:

type size 12, spacing 2.0, indentation 2.5 cm

The seminar paper and the presentation are an optimal opportunity to familiarize yourselves with the open-source typesetting software Latex that is used nowadays in science. If you choose to prepare the paper in Word please use the typeface “Times New Roman”.

Advices for preparing a seminar paper:

- use as few footnotes as possible.
- attach a bibliography to your paper.
- do not include lists of figures, tables or abbreviations. They are not necessary in such a short seminar paper.
- properly cite all sources that you refer to. Follow the practice of international journals. Example: If you want to refer to an article written by Hazan in 2009 cite it in the text as [...](Hazan, 2009). Please do not use footnotes for citation.

Students who copy-paste from any source will automatically be expelled from the course. They are graded with 5.0 and are furthermore reported to the registrar’s office (“Prüfungsamt”). Note that also one-for-one translations from another language account as plagiarism.

The presentation

Every participant of the seminar acts as a presenter of his **own topic (30 minutes)** as well as a **“first participant in discussion” (around 5 minutes)** of another topic of the seminar. The technical equipment for the presentation (laptop, beamer, laser-pointer) will be provided by the institute. **The slides have to be sent to Johannes Schünemann (johannes.schuenemann@wiwi.uni-goettingen.de) as a .pdf file (no ppt files!) until the day before the seminar, 15:00 latest.**

If you are uncertain about the composition of your presentation the following advices might be helpful.

- The first 3 minutes of a presentation are crucial because you have the full attention of the audience. Use them to deliver the main point/the takeaway of your talk
- The available speaking time of 30 minutes is not sufficient to say everything that could be said about the topic.
- Practice the presentation several times beforehand to get a feeling for the time constraints etc.

You should pay attention to the following advices when preparing your slides:

- No more than 1 slide per minute
- Every slide should be equipped with a title
- The title should be self-explanatory
- No footnotes, detailed bibliographic information, long formulas, big tables or long sentences
- A slide with too little text is preferable to a slide with too much text, optimal are 20 - 40 words per slide
- A figure or a formula is worth a 1000 words
- Do not use fancy layouts (or other fancy Powerpoint options)