Friedrich-Alexander-Universität
Fachbereich Wirtschafts- und Sozialwissenschaften | WiSo

Syllabus for Seminar No 57494

"Technological Change and the Labour Market (TCLM)"

Prof. Dr. Melanie Arntz

Summer Term 2026

The seminar examines the intersection of technological change and the labour market, exploring how advances in technology impact employment, wages, inequality, and the nature of work. More specifically, this year's seminar focuses on the ongoing and highly dynamic debate surrounding the labour market impact of artificial intelligence. We will look at the most recent papers in this field to gain an understanding of the ongoing dynamics, the current empirical insights and findings, but also the research gaps and open questions about the likely path of AI adoption and its impact.

The seminar is aimed at students of the Master in Economics, the Master in Labor Market and Human Resources (Arbeitsmarkt und Personal) and the Master Socioeconomics (Sozialökonomik). Course work includes preparing a seminar paper, presenting the paper in class (25 min), discussing a fellow student's paper (5 min) and class participation in the general discussion.

Introductory meeting:	Tuesday, 14.04.2026, 16:00 - 17:30, Zoom
Seminar presentations:	Friday, 10.07.2026, 9:00 - 16:00, LG 3.155 Saturday, 11.07.2026, 9:00 - 13:00, LG 3.155

Participation

If you are interested in participating, please contact the supervisor's assistant Michele Dinelli (michele.dinelli@iab.de) no later than **April 8th** and include your name, matriculation number, and topic preferences.

Ten possible topics are listed on the next page; you may also suggest another topic or your own empirical analysis. Please check the literature before deciding on a topic; the articles suggested vary in difficulty and length. Topics will be assigned on a first-come, first-served basis. **Once you received your topic, you can register on StudOn and will be admitted to the course.** Participants can begin their work as soon as they received a confirmation for a topic.

Note that to **receive a grade** for TCLM Seminar, you must **register for the corresponding exam at Campo on April 27 or April 28 2026**. After these dates, it will no longer be possible to register or deregister for the exams!

Please make an early appointment with the course instructor (melanie.arntz@iab.de) to discuss your proposed outline of the paper. You must submit the paper (approximately 15 pages) via email to both Melanie Arntz and Michele Dinelli by June 25, 2026. You will be assigned a fellow student's paper for discussion by June 29, 2026. Attendance at all seminar presentations is mandatory.

List of Topics

Topic 1: Task Automation and Expertise

Research Question: How should we think about the impact of AI from a theoretical perspective? How does task automation change the value of human expertise? What are the resulting effects on wages and employment?

Readings:

- Autor, D., & Thompson, N. (2025). Expertise. *Journal of the European Economic Association*, 23(4), 1203-1271. (doi.org/10.1093/jeea/jvaf023)

Note: Long and rather demanding read, thus focus is mainly on this one paper only.

Topic 2: Measuring AI's Impact on Tasks and Occupations

Research Question: Which tasks are exposed to AI? In which jobs is AI more likely to automate vs augment work?

Readings:

- Eloundou, T., Manning, S., Mishkin, P., & Rock, D. (2024). GPTs are GPTs: Labor market impact potential of LLMs. *Science*, 384(6702), 1306-1308. (https://doi.org/10.1126/science.adj0998)
  (plus the more extensive discussion paper: Eloundou, T., Manning, S., Mishkin, P., & Rock, D. (2023). *GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models*. *arXiv preprint arXiv:2303.10130*.)
- Handa, K., Tamkin, A., McCain, M., Huang, S., Durmus, E., Heck, S., ... & Ganguli, D. (2025). *Which economic tasks are performed with ai? evidence from millions of claude conversations. arXiv preprint arXiv:2503.04761*. (https://doi.org/10.48550/arXiv.2503.04761)

Topic 3: AI Adoption at Firm and Worker Level

Research Question: How widespread is (generative) AI? And how equal or unequal is the diffusion process?

Readings:

- Humlum, A., & Vestergaard, E. (2025). The unequal adoption of ChatGPT exacerbates existing inequalities among workers. *Proceedings of the National Academy of Sciences*, 122(1), e2414972121. (https://doi.org/10.1073/pnas.2414972121)
- Bick, A., Blandin, A., & Deming, D. J. (2026). The rapid adoption of generative AI. *Management Science*. (https://doi.org/10.1287/mnsc.2025.02523)

Topic 4: AI´s Effect on Labor Demand

Research Question: Is AI changing labor demand? Who are the winners and losers?

Readings:

- 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. (https://doi.org/10.1086/718327)
- Teutloff, O., Einsiedler, J., Kässi, O., Braesemann, F., Mishkin, P., & del Rio-Chanona, R. M. (2025). Winners and losers of generative AI: Early Evidence of Shifts in Freelancer Demand. *Journal of Economic Behavior & Organization*, 235, 106845. (https://doi.org/10.1016/j.jebo.2024.106845)

Topic 5: AI adoption and Employment Effects

Research Question: Do early adopters see measurable changes in earnings, hours, or job mobility?

Readings:

- Humlum, A., & Vestergaard, E. (2025). *Large language models, small labor market effects* (No. w33777). National Bureau of Economic Research. (https://doi.org/10.3386/w33777)
- Hartley, J., Jolevski, F., Melo, V., & Moore, B. (2024). *The labor market effects of generative artificial intelligence*. Available at SSRN. (http://dx.doi.org/10.2139/ssrn.5136877)

Topic 6: AI, Wages and Unemployment

Research Question: Does AI change wages and unemployment in the short run? How and why results differ when measured at the firm vs the occupation level?

Readings:

- Azar, J., Gine, M., & Sanz-Espín, J. (2025). *AI Is Already Eroding Wages: Quasi-Experimental Evidence From Occupational Exposure.* Available at SSRN 5842084. (https://dx.doi.org/10.2139/ssrn.5842084)
- Chen, D., Kane, C., Kozlowski, A., Kunievsky, N., & Evans, J. A. (2025). *The (Short-Term) Effects of Large Language Models on Unemployment and Earnings*. arXiv preprint arXiv:2509.15510.

Topic 7: Productivity Effects of AI at the Workplace

Research Question: What is the effect of AI on labour productivity?

Readings:

- Brynjolfsson, E., Li, D., & Raymond, L. (2025). Generative AI at work. *The Quarterly Journal of Economics*, 140(2), 889-942. (https://doi.org/10.1093/qje/qjae044)

- Noy, S., & Zhang, W. (2023). Experimental evidence on the productivity effects of generative artificial intelligence. *Science*, 381(6654), 187-192. (https://doi.org/10.1126/science.adh2586)

Topic 8: AI and Entry Level Workers

Research Question: Are young workers the first affected by AI, or by macroeconomic conditions? Is there a seniority bias?

Readings:

- Brynjolfsson, E., Chandar, B., & Chen, R. (2025). *Canaries in the Coal Mine?: Six Facts about the Recent Employment Effects of Artificial Intelligence.* Stanford University.
- Hosseini, S. M. & Lichtinger, G. (2025). *Generative AI as seniority-biased technological change: Evidence from US resume and job posting data*. *Available at SSRN*. (http://dx.doi.org/10.2139/ssrn.5425555)

Topic 9: Macroeconomics of AI: Productivity, Growth and Future of Work

Research Question: How big will AI's macroeconomic effects be on productivity growth, labor demand and living standard? What mechanism determine whether the impact is modest or transformative?

Readings:

- Acemoglu, D. (2025). The simple macroeconomics of AI. *Economic Policy*, 40(121), 13-58. (https://doi.org/10.1093/epolic/eiae042)
- Jones, C. I. (2026). *AI and Our Economic Future* (No. w34779). National Bureau of Economic Research. (https://doi.org/10.3386/w34779)

Topic 10: AI, Income Inequality and the Labor Share

Research Question: How does AI affect the distribution of income and the labor share?

Readings:

- Minniti, A., Prettner, K., & Venturini, F. (2024). *Unslicing the pie: AI innovation and the labor share in European regions* (No. 27). Department of Economic Policy Working Paper Series. (https://hdl.handle.net/10419/315088)
- Drozd, L. A., & Tavares, M. (2024). Generative AI: A turning point for labor's share. *Economic Insights*, *9*(1), 2-11.