

POLS/ECON 409 · *Automation, employment & inequality, Part 2*

productivity effect	composition effect	generative model
reinstatement effect	labor share	large language model
displacement effect	hallucination	text corpus

1. Last time, we discussed the long-standing question of whether automation creates or destroys net jobs. How do Acemoglu and Restrepo (in the *Journal of Economic Perspectives*) attempt to formalize the effect of innovation on employment? What concepts do they introduce, and how do they use them? Some specific notes to hit: What is the role of ex ante labor scarcity in their model? What is the difference between factor-augmenting innovation and automation? Why does the effect of automation in one industry depend on the labor intensity of other industries?
2. Did the introduction of robots to manufacturing reduce the overall demand for labor in the US economy, or did this innovation instead unleash sufficient new opportunities for labor to be a net employment boon? Use as much theory and evidence from both Acemoglu and Restrepo articles as you can. For those who read the *Journal of Political Economy* article closely, how well do Acemoglu and Restrepo fend off challenges to their argument?
3. Why do Acemoglu and Restrepo (in the *Journal of Economic Perspectives*) say that “so-so” innovations threaten labor more than brilliant ones? Why do they worry that the US may no longer find new labor-intensive tasks to reinstate workers displaced by automation? Use their ideas to compare 19th century and 21st century innovations, with an eye to potential implications for outcomes (employment, inequality, and growth) and policies to improve those outcomes.
4. What does generative AI actually do? Is this true artificial intelligence? Nicknames from critics (including Bender & Hanna) include “spicy autocomplete” and “stochastic parrots”: do these labels reflect fair criticisms or not? Do chatbots or other kinds of generative AI have genuine promise to revolutionize work, life, and the economy, as Suleyman and others claim, or are they overhyped?

5. What are some promising applications of generative AI with either an economic benefit or labor-saving impacts? What do you expect to be the biggest economic effects of this new technology? Be specific regarding tasks, products, and sectors that might be most or least impacted by chatbots? Feel free to bring in outside knowledge, but also try to engage with arguments from our readings, including Acemoglu and Restrepo, Acemoglu, Autor, Bender and Hanna, Goldin and Katz, and Galbraith.
6. What does it mean for chatbots to “hallucinate,” and what problems does it pose for use-cases of the technology? Why are Acemoglu (and Bender & Hanna) skeptical of general-use LLMs? Why do Bender & Hanna fear a “two-tier” system?
7. What is Autor’s (2024) conjecture about the effects of AI on workers displaced by the information technology revolution of the past few decades? What does he mean by mass expertise, and what would it take to generate it using AI? How does he differ from those who think AI will replace expertise completely? How might Bender and Hanna respond to Autor, and could they potentially find common ground with Bender and Hanna, or at least common parameters?
8. What role does “tacit knowledge” play in Autor’s argument, and does it connect with emerging “embodied AI” technologies?
9. Why does Acemoglu conclude generative AI will have modest net economic benefits over the next decade? What effects does he forecast regarding inequality between labor of differing skills? Between labor and capital? What do his forecasts leave out? Is GDP even the right metric for these questions?
10. A theme in this week’s reading is the shifting returns to labor and to capital over the last century and a half. But is generative AI even capital, properly understood? Or is it a tool for theft of labor’s intellectual property – the copyrighted output of creative individuals? Can generative AI exist without creative labor’s input? How might new intellectual property law on the inputs and outputs of AI affect its uptake? Finally, can human labor “fight back” against AI?

CHRISTOPHER ADOLPH
UNIVERSITY OF WASHINGTON
30 APRIL 2025