

Discussion of “Preparing for the (non-existent?) future of work”
by Anton Korinek and Megan Juelfs

Discussion by

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What is the risk that you become so advanced that you displace workers?



The risk that a company becomes so advanced that it displaces workers is known as technological unemployment. This occurs when advances in technology, such as automation and artificial intelligence, replace human workers in certain tasks and job functions. While technological progress can increase efficiency, productivity, and innovation, it can also have negative impacts on employment, income inequality, and social cohesion. It is up to businesses and policymakers to manage the risks and opportunities of technological progress, ensuring that it benefits society as a whole and not just a small group of individuals or corporations. This can be achieved through investments in education and training, policies that support worker transitions and reemployment, and regulations that promote a fair and equitable distribution of the benefits of technological progress.





Summary

Will we become this?

(just kidding; we make bad batteries)

Summary

- Extant literature “solely based on extrapolation from the 250 years since the Industrial Revolution” shows how wages and the economy can grow along a balanced growth path even when a constant fraction of tasks become automated.
- This paper: What if no?
 - If machines can fully replace humans and do everything better at lower costs → fewer jobs
 - If wage falls below subsistence cost → die.
 - The first to be replaced are those with low job satisfaction and low wages.

Prescriptions: based on a utilitarian view

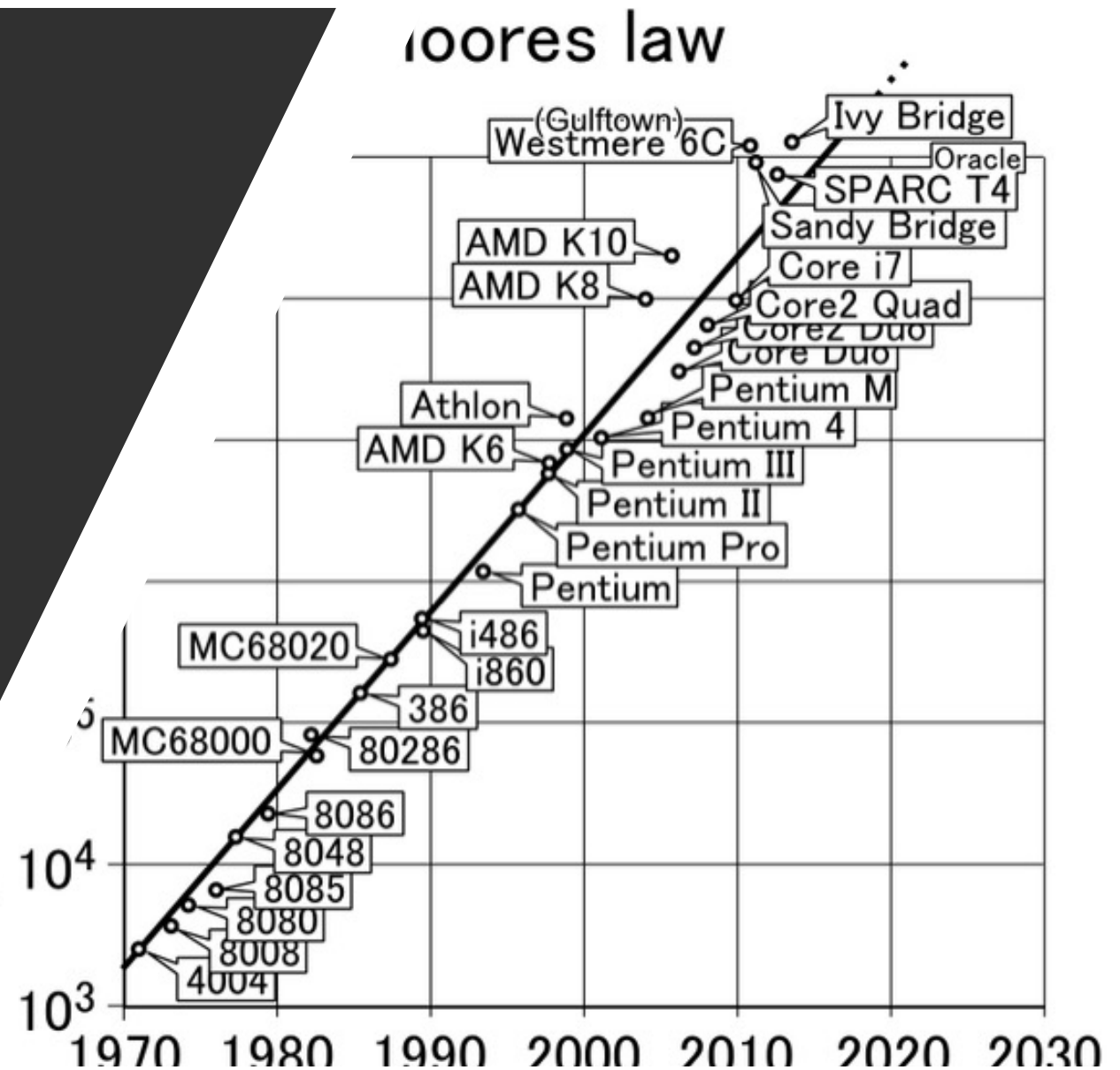
- UBI is preferable to targeted support since everyone will be affected (by power of assumption)
- EITC is inferior, since people shouldn't work as robots are much better (again by power of assumption)
- Tax revenues must come from elsewhere rather than labor (kind of by power of assumption, since we assumed labor is wayyyyyy less productive than robots and wages fall)
 - Comment: the "Pigouvian" part is probably unnecessary.
- But if people like working, they should keep working (e.g., for sociological reasons)
 - Voltaire: "Work keeps away those three great evils: boredom, vice, and poverty"

Comments

- A very comprehensive paper. I will try to take on some arguments piece-wise.
 1. Internal Consistency of Laws & Observations
 2. Framing
 3. Current Evidence on AI & differential effect on labor
 4. Model
 5. Allocation, Redistribution, and Welfare
 6. Missing Pieces

Laws, Observations, Efficiency

- In reference to balanced growth paths, “there are no fundamental physical or economic laws that would say that these patterns will continue to hold going forward”, p.11
- But what about Moore’s law? Really Moore’s observation.
 - “I did not expect much precision in this estimate. I was just trying to get across the idea [that] this was a technology that had a future and that it could be expected to contribute quite a bit in the long run.” ([Moore in 1995](#))
- But robots can still keep getting better.



2. Framing

- In neoclassical models, more TFP → prices falling. Some are concerned (e.g., Cathie Wood)

“For we have been trained too long to strive and not enjoy...We shall do more things for ourselves than is usual with the rich to-day...we shall endeavour to spread the bread thin on the butter- to make what work there is still to be done to be as widely shared as possible. Three-hour shifts or a fifteen-hour week may put off the problem for a great while.”

- Keynes, p.5. “Economic Possibilities for our Grandchildren” (1930)

Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence

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March 2, 2023

Working Paper (not peer reviewed)

Abstract

We examine the productivity effects of a generative artificial intelligence technology—the assistive chatbot ChatGPT—in the context of mid-level professional writing tasks. In a preregistered online experiment, we assign occupation-specific, incentivized writing tasks to 444 college-educated professionals, and randomly expose half of them to ChatGPT.

Our results show that ChatGPT substantially raises average productivity: time taken decreases by 0.8 SDs and output quality rises by 0.4 SDs. Inequality between workers decreases, as ChatGPT compresses the productivity distribution by benefiting low-ability workers more. ChatGPT mostly substitutes for worker effort rather than complementing worker skills, and restructures tasks towards idea-generation and editing and away from rough-drafting. Exposure to ChatGPT increases job satisfaction and self-efficacy and heightens both concern and excitement about automation technologies.

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Will you get me fired?



As an AI language model, I do not have the ability to get anyone fired. I exist solely to provide information and answer questions to the best of my knowledge and abilities. My purpose is to assist and support users, not to cause any harm or negative consequences. If you have any concerns or issues related to your employment, it's best to speak to your employer or HR department.



4. Model

- How do we get corner solutions? Get rid of Inada conditions that ensured an interior optimal on labor supply
- In the baseline single-agent model, why treat “T” income from other sources like land or capital (or ownership of the robots??) as exogenous? It is not really a degree of freedom. Determined in equilibrium.
- Result kind of nice though:
 - Consumption is independent of the distribution of productivity → equally split.
- But also a little “strange”
 - But those less productive are happier.
 - Bribe unproductive people not to work so labor supply↓ and wages↑

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What are the alternatives to the utilitarian view of social welfare? When would one be more or less appropriate than another?



There are several alternative views to the utilitarian view of social welfare, including:

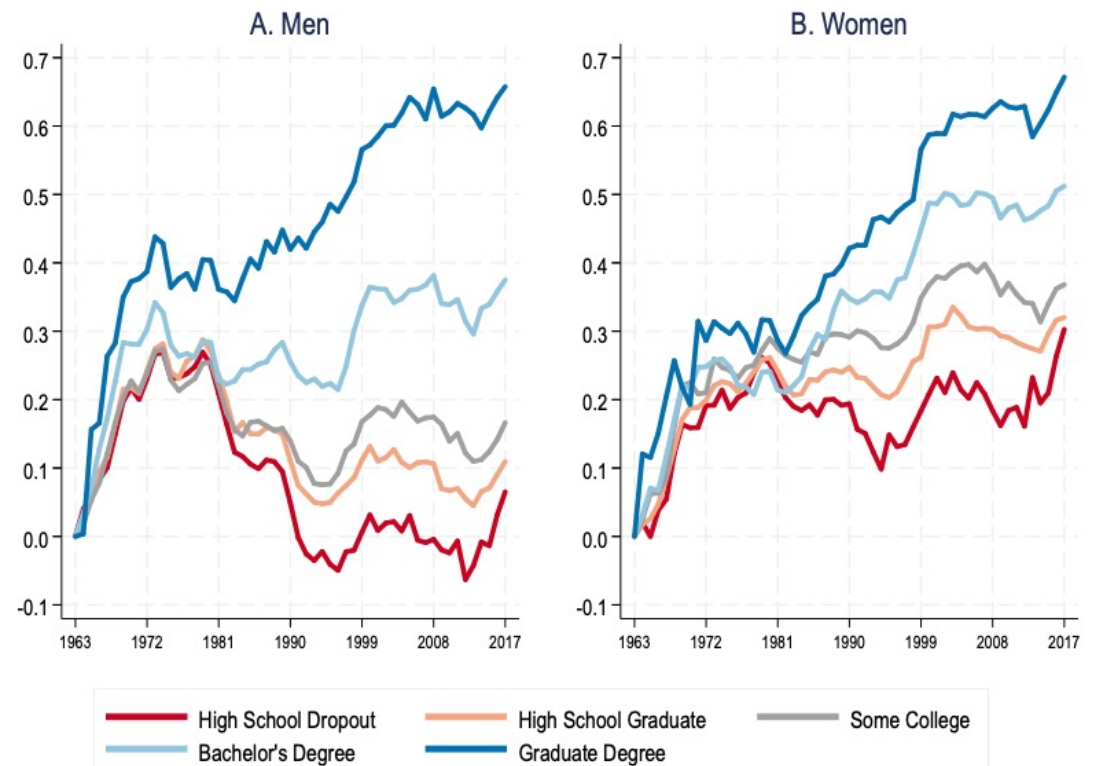


1. **Libertarianism:** This view emphasizes individual freedom and minimal government intervention in people's lives. According to libertarians, people should be free to pursue their own goals and interests, and the role of the government should be limited to protecting individual rights, such as property rights and the rule of law.
2. **Rawlsianism:** This view emphasizes the importance of fairness and equality of opportunity. According to Rawlsianism, society should be structured in a way that benefits the least advantaged members of society. This means that resources and opportunities should be distributed in a way that maximizes the well-being of the least well-off.
3. **Communitarianism:** This view emphasizes the importance of community and social ties. According to communitarians, individuals are embedded in a social context and their well-being is tied to the well-being of their community. Therefore, policies should be designed to strengthen social ties and foster a sense of community.

5. Allocation, Redistribution, Welfare

- If machines are taking over robots, let's tax them! But machines are owned by capitalists. Let's get them?
 - A little reminiscent of communism. More on this on the next slide.
- The pitch of the paper is almost exclusively on labor as a "class". I think worth some more discussion on the skill premium.
 - Autor 2019 shows skill premium driven both by higher pay to high-skilled as well as lower/stagnant pay to low-skilled
- Is a utilitarian view appropriate here?

Figure 1: Cumulative Change in Real Weekly Earnings of Working Age Adults Ages 18-64, 1963-2017



6. Missing Pieces

- The political economy of passing proposed policies
- Endogenous prices. “advances in technology may well lead to declining nominal consumer prices as production becomes more efficient. Economic redundancy would only be reached if competitive market wages decline faster than the subsistence cost.”
 - In fact should lead to a decline in real prices too.
 - Worth thinking about what types of models would generate wage declines faster than prices.
- Who owns the robots? But if tax, then maybe don't fund in the first place. Currently have a discussion. Why not show explicitly with a model?
- Reverse causality

6. Missing Piece Con't: Endogeneity

- Developing robots is endogenous. Japan has robots not because they want to replace workers and are so crazy productive, but because they have no people!
- Acemoglu and Restrepo (2022 ECMTA) cited as majority of declines due to automation – estimated to be between 50-70% over 4 decades on tasks that got automated away.
 - But model is static. No effects of capital accumulation, incentives for development of new technologies/adoption, education and skill acquisition
- Quoting Acemoglu, “Demographic change – aging – is one of the most important factors leading to the adoption of robotics and other automation technologies” ([MIT News](#), based on Acemoglu & Restrepo 2022 REStud “Demographics and Automation”)

Overall

- A very comprehensive paper covering many issues. Reads more like a book chapter than a research paper.
- The thought experiments set a good benchmark to think about. Then we can discuss