Owen Compher  
Professor Kris Rafferty  
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How will automation, robots, and AI affect the economy and income inequality?

Increasing automation has drastically changed economies and how we live our life. The problem of computers and new technologies displacing jobs has been especially relevant since at least the 1960s. For the most part, employment is unaffected in the long run, but there is evidence that technological advancement could lead to worsening income inequality.

While automation has been happening throughout all modern history, robots and AI (artificial intelligence) are newer technologies that many believe seriously threaten to drastically change our society, probably for the worse. The Triple Revolution report, published by an “Ad Hoc Committee” of prominent scientists, economists, and activists in 1964, warns of the “cybernation revolution” which will result in massive unemployment and poverty. While the drastic changes predicted by the message have not exactly been realized, income inequality has worsened and concerns about the effects of automation have not gone away. Recently, efforts have been made to properly model these effects (Berg, et al; Kattan, et al) and suggest solutions. The models, and much of the discourse on the topic, focuses on identifying how and why automation effects unemployment. Income inequality and the distribution of resources is often overlooked, but those who do have mostly pessimistic views for the future.

Despite being the primary focus of popular concerns about automation, unemployment has not been drastically affected. *Robots, Growth, and Inequality*, an article by members of the International Monetary Fund, explains how the "optimistic narrative” is supported by increases in productivity and employment in new jobs created by technological advances (Berg, et al, 2). Massive unemployment due to robots taking jobs have historically been avoided.

In *The wrong kind of AI? Artificial intelligence and the future of labour demand* Daron Acemoglu and Pascual Restrep argue that AI could have a negative impact on employment and inequality, but mostly because recent technological advances have been biased towards AI that automates things instead of AI that creates new tasks for human productivity. They argue that if “the ‘wrong’ kind of AI” is adopted, “rampant automation would contribute to joblessness, anaemic growth and inequality.” The widespread adoption of AI could be bad for society, but it doesn’t have to be, since some AI can create just as many new jobs as it takes away.

One of the models (Kattan, Raja, et al.) concludes that education reform could be a solution to inequality resulting from automation. The model found that “education could reduce automation’s marginal effect on the wage gap ... by up to 3 percentage points” by ensuring that every student achieves basic cognitive skills and by increasing “elasticity in automation-complementing skill supply”. School systems should be reformed to maximize educational attainment potential, and promote gaining skills that complement automation (such as creative or social fields) instead of vocational skills that will soon be displaced by automation. The reasoning and methods are thorough, and the paper supplies solid evidence that education reform would have a positive effect on wage inequality caused by automation.

In *Robots, Growth, and Inequality,* they use a model that “assume[s] that robots are almost perfect substitutes for human labor” and finds that output per person predictably increases, but inequality worsens (Berg, et al). The higher output is obvious, as their base assumption means robots can do the same work without needing pay, but the problem comes from that output going mostly towards the owners of the robots and not to most of the population- as it currently does- through wages. The article ends by suggesting education and the redistribution of capital income as solutions to inequality caused by robots.

The chapter “Is This Time Different?” in *Rise of the Robots* covers the history of discussion about possible negative impacts of robots and automation and identifies “Seven Deadly Trends” that suggest continued technological advancements will yet have negative effects on the economy (Ford, Martin).

Works Cited

Acemoglu, Daron, and Pascual Restrep. “The wrong kind of AI? Artificial intelligence and the future of labour demand.” *Cambridge Journal of Regions, Economy and Society*, Nov. 2019.

Ad Hoc Committee. “The Triple Revolution.” *International Socialist Review*, vol. 24, no. 3, 1964, pp. 85-89.

Berg, Andrew, et al. “Robots, Growth, and Inequality.” *Finance and Development*, vol. 53, no. 3, Sep. 2016, [www.imf.org/external/pubs/ft/fandd/2016/09/berg.htm](https://www.imf.org/external/pubs/ft/fandd/2016/09/berg.htm).

Ford, Martin. “Is This Time Different?” *Rise of the Robots: Technology and the Threat of a Jobless Future,* Basic Books, 2015.

Furman, Jason, and Robert Seamans. “AI and the Economy.” *Innovation Policy and the Economy*, vol. 19, 2019.

Kattan, Raja, et al. “The Role of Education in Mitigating Automation’s Effect on Wage Inequality.” *Labour: Review of Labour Economics & Industrial Relations,* vol. 35 (1), 2021, pp. 79-104.

Rotman, David. “How to solve AI’s inequality problem.” *MIT Technology Review*, Apr. 19, 2022, [www.technologyreview.com/2022/04/19/1049378/ai-inequality-problem/](http://www.technologyreview.com/2022/04/19/1049378/ai-inequality-problem/), Sep. 19, 2022.