

BROOKINGS

TechTank
Improving Technology Policy

« Previous | Next »

Jack Karsten and Darrell M. West | October 26, 2015 7:30am

How robots, artificial intelligence, and machine learning will affect employment and public policy



Emerging technologies like industrial robots, artificial intelligence, and machine learning are advancing at a rapid pace, but there has been little attention to their impact on employment and public policy. Darrell West addresses this topic in a new paper titled *What Happens If Robots Take the Jobs? The Impact of Emerging Technologies on Employment and Public Policy*. It examines what happens if robots end up taking jobs from humans and how this will affect public policy.

While emerging technologies can improve the speed, quality, and cost of available goods and services, they may also displace large numbers of workers. This possibility challenges the traditional benefits model of tying health care and retirement savings to jobs. In an economy that employs dramatically fewer workers, we need to think about how to deliver benefits to displaced workers.

The impacts of automation technologies are already being felt throughout the economy. The worldwide number of industrial robots has increased rapidly over the past few years. The falling prices of robots, which can operate all day without interruption, make them cost-competitive with human workers. In the service sector, computer algorithms can execute stock trades in a fraction of a second, much faster than any human. As these technologies become cheaper, more capable, and more widespread, they will find even more applications in an economy.

The recent trend towards increased automation stems in part from the Great Recession, which forced many businesses to operate with fewer workers. After growth resumed, many businesses continued automating their operations rather than hiring additional workers. This echoes a trend among technology companies that receive massive valuations with relatively few workers. For example, in 2014 Google was valued at \$370 billion with only 55,000 employees, a tenth the size of AT&T's workforce in the 1960s.

Experts disagree on the size of the impact that automation technologies will have on the workforce. While some warn of staggering unemployment, others point out that technology may create new job categories that will employ displaced workers. A third group argues that the computers will have little effect on employment in the future. Any policy measures that address the future of employment must account for the uncertainty of outcomes on employment.

If automation technologies like robots and artificial intelligence make jobs less secure in the future, there needs to be a way to deliver benefits outside of employment. "Flexicurity," or flexible security, is one idea for providing healthcare, education, and housing assistance whether or not someone is formally employed. Expanding the Earned Income Tax Credit, providing a guaranteed basic income, and encouraging corporate profit-sharing are some ideas that need to be considered in the case of persistent unemployment.

Perhaps the most provocative question raised by the paper is how people will choose to spend their time outside of traditional jobs. "Activity accounts" could finance lifelong education or volunteering for worthy causes. Working fewer hours will enable some to spend more time with friends and family, or on creative pursuits. No matter how people choose to spend time, "there needs to be ways for people to live fulfilling lives even if society needs relatively few workers."

You can read the full paper here, and leave comments below.

Jack Karsten

Center Coordinator, Governance Studies, Center for Technology Innovation
@jtkarsten

Darrell M. West

Vice President and Director, Governance Studies
Founding Director, Center for Technology Innovation
@DarrWest

Darrell M. West is vice president and director of Governance Studies and holds the Douglas Dillon Chair. He is

founding director of the Center for Technology Innovation at Brookings and Editor-in-Chief of TechTank. His current research focuses on educational technology, health information technology, and mobile technology.

[More Posts from Darrell >](#) | [View Expert Page >](#)

Comments for this thread are now closed.



24 Comments

TechTank

1 Login

Recommend 2

Share

Sort by Best



loebner • 2 months ago

I started The Loebner Prize for AI in order to promote 100% unemployment. I have, for almost all of my life, considered work to be evil. When the competition was first started in 1991 there was very little thought or consideration of the possibility of universal unemployment. I am gratified to see that the possibility is being addressed.

The problem will not be to eliminate all human work, the difficulty will be to distribute the products to the masses.

3 ^ | v • Share



garrisonmoore → loebner • 2 months ago

I agree with the last. Productivity is way up by median incomes are down. The rest goes to executives and shareholders. That needs to be straightened out. The part about unemployment just doesn't jibe with the facts. Check the BLS employment numbers. 12 millions new jobs since depth of the recession. 4-5 million above the highest level before the recession.

^ | v • Share



Bjørnar Simonsen → loebner • 2 months ago

Ever heard of The Venus Project and their concept of a resource based economy?

^ | v • Share



Bieber before hos → loebner • 2 months ago

Work to me isn't evil, its the requirement to work that's evil. We all should be allowed to do whatever we please with our time. Housing, food, utilities, health care, even once a year vacation should all be provided free in a 21st century nation.

^ | v • Share



Arlin Carlson → Bieber before hos • 2 months ago

I would say it the economy stupid. We work because that how wealth accrues not because we love it, or that supposedly strong moral values result from it. (I have ton of examples, from Eron to LIBOR interest rate fixing to prove my point,that work doesn't increase moral values).

As long as food, clothes,and shelter are determined by income or lack there of people have no choice;and there are some point where

