

How Robots Damaged the American Dream

A study looks at the effects of automation in the 21st century.

By Ty Burke September 19, 2024 CBR - Economics

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The populist earthquake that has rocked the United States over the past decade can be linked to automation, the kind that transformed the manufacturing sector and negatively affected millions of workers, research suggests.

The findings come from an analysis of résumés that spanned 16 years, from 2000 to 2016. Barcelona School of Economics' [Maria Petrova](#); University of California at Los Angeles' [Gregor Schubert](#); [Bledi Taska](#) of SkyHive, a workforce-management software company; and University of Pennsylvania's [Pinar Yildirim](#) tapped into the online collection of millions of résumés from Burning Glass Technologies to explore job patterns.

As automation accelerated in the new millennium, Americans' ability to move into better jobs declined, leading to changes in spending and voting patterns, the study indicates.

"We observe a stronger relationship between Donald Trump's vote share and the family economic situation of younger respondents," the researchers write.

They created a measure of exposure to automation based on the prevalence of industries in specific geographic areas that were more or less likely to adopt robot automation. During the period studied, transitions between jobs, especially moves to higher-paying roles, declined. Fewer people shifted from production-focused jobs into management or engineering positions. This effect was more pronounced in manufacturing-intensive areas with higher-than-average exposure to automation—such as in and around Detroit, a long-time hub for car making. Automation is also heavy in other manufacturing industries including food processing and textiles, Yildirim notes.

And this trend affected people beyond the manufacturing sector. Workers elsewhere in the economy were also less likely to move into better-paying roles. According to the researchers, the reason for this is not entirely clear, but it could be that workers who lost manufacturing jobs sought employment in other industries, creating a surplus of labor and reducing the bargaining power of all workers in automation-intensive regions. Higher levels of education helped mitigate these negative effects for some, leaving lower-skilled workers throughout the local economy to bear the brunt of the pain.

“Automation happens at a large scale, and it happens rapidly,” Yildirim says. The initial effects can be particularly strong because while workers can be quickly displaced by robots, it takes more time for those workers to be retrained.

This showed up in spending figures too. The researchers correlated their results with NielsenIQ Consumer Panel Data housed at Chicago Booth’s Kilts Center for Marketing. From 2004 to 2016, areas with higher levels of robotization saw overall consumption decline significantly, the data show. For each additional robot per 1,000 workers, there was a 2.5 percent decline in overall consumption.

Because manufacturing often clusters in specific locations, factory automation affected some regions more than others. In areas where automation was highest, consumer spending declined in the retail and service sectors, the study finds. Additionally, people living in these areas were more pessimistic about the economy: respondents to a 2016 Gallup survey were less likely in those places than elsewhere to believe that the economy was getting better.

Yildirim suggests that as the economy evolves, more workers will develop the advanced manufacturing skills needed to succeed in highly automated environments. Automation could thus yield big economic benefits by boosting production, creating new kinds of jobs, and padding corporate bottom lines. But while the negative effects on workers could ultimately be temporary, that is cold comfort for those experiencing reduced upward mobility and lower consumption today.

“New technologies can create jobs, but they also create winners and losers,” Yildirim says. “The question is whether they will create more winners than losers. Will automation generate jobs at a faster speed than it eliminates them? That question is still to be answered.”

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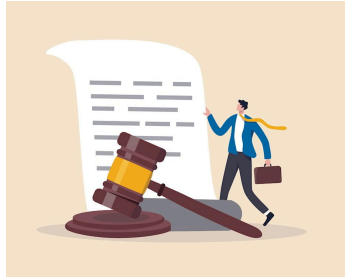
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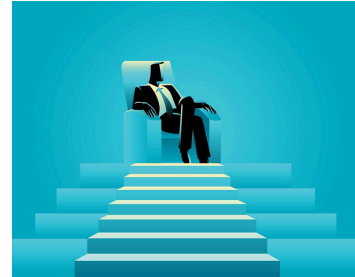
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