AI Insights Forum
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Leader Schumer and Senators Rounds, Heinrich, and Young, I am honored to participate in this forum. I will make four points: First, fears of technological unemployment are overblown. Second, advances in generative Artificial Intelligence will have profound impact on what workers do, even though it will not affect unemployment. Third, broader concerns about generative AI are overblown. Fourth, these changes call for changes in public policy that encourage and support employment and participation in economic life.

Technological unemployment

At least since the nineteenth century Luddite movement, there has been widespread concern that advances in technology will lead to substantial increases in unemployment, defined as workers who are willing and able to work but who cannot secure employment. This concern seems reasonable at first blush, but it rests on a zero-sum view of the economy that is empirically unsupported.

Instead, the lesson from history is more nuanced. Technological advances increase the productivity of workers by allowing them to produce more goods and services for every hour they work. In this way, new technology increases the value of workers to firms, who compete for them more aggressively in labor markets. This competitive process bids up workers' wages and increases their incomes. Because they have higher incomes, their own demand for goods and services increases. Because aggregate demand is higher, businesses find themselves needing more workers. Technological unemployment — job loss due to technological advances — is therefore avoided. Moreover, technological advances tend to increase the quality and

variety of consumer goods and services, and lead to new goods and services coming to market. This further increases consumer demand, and therefore increases the employers' demand for workers.

We do not need to go back to the Industrial Revolution to study this. The past five decades of American history have witnessed substantial technological advances, including — among others — the widespread adoption of the personal computer, the internet, and the smartphone, and advances in robotics in the manufacturing sector. Despite these technological advances, we do not see an upward trend in the unemployment rate over this period. This indicates that it has not become systematically more difficult for workers to find jobs.
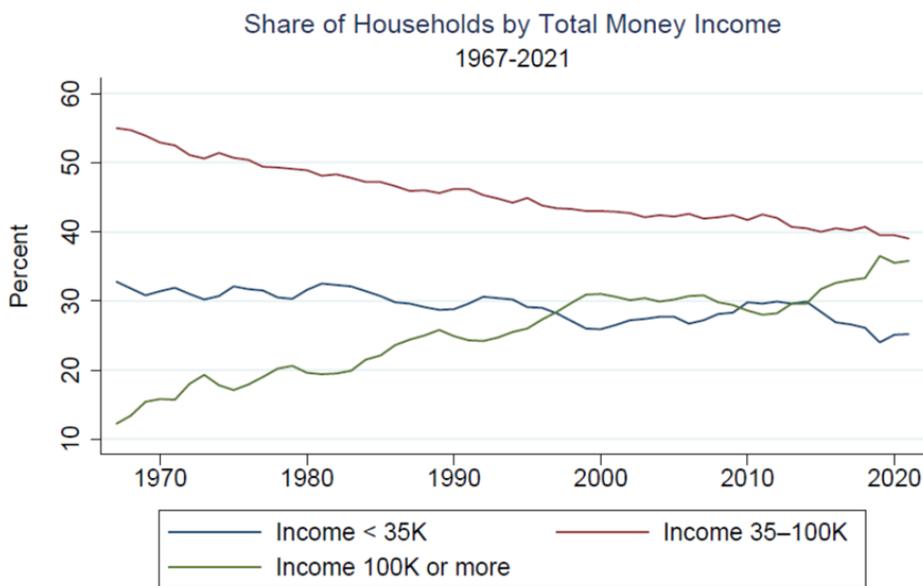

Technological disruption

To argue that generative AI will not unleash technological unemployment is not to argue that it will not be disruptive. Indeed, it surely will be. The precise nature of that disruption is very hard to predict because we do not know how the technology itself will evolve and develop, how quickly and to what extent businesses will use it, and what social and political factors will affect how it spreads throughout the economy. But we can say that this process of creative destruction will be disruptive.

Again, we do not need to look back to the Industrial Revolution. Over the past five decades, advances in technology have had a profound effect on the U.S. labor force. If you assign all occupations in the U.S. economy to one of three groups — low-wage, middle-wage, or high-wage — and look at how employment was spread across these groups, what you will see in 1970 is a pretty even spread. But by the middle of the last decade, you see only around one-quarter of all jobs in middle-wage occupations.

This "hollowing out of the middle" is one of the most important economic changes in the past half century. It is such an important economic change that it has had profound social and political effects, as well. It was mostly caused by advances in computing and robotics, which eliminated the need for many middle-wage clerical, administrative, office, manufacturing production, and construction jobs.

The public debate around these changes often misattributes their cause to international trade. It has focused on the destructive aspects of creative destruction. But creative destruction destroys as well as creates.

This is mostly a tale of upward mobility. The chart below shows that over the past five decades the share of households earning middle-income — defined here as between $35,000 and $100,000, adjusted for inflation — has indeed declined. But on the whole households have moved up into the six-figure-income range.

Source: Census Bureau; Michael Strain calculations

And while employment in middle-wage manufacturing and office/administrative jobs has fallen, a "new middle" is rising in its place. The fastest-growing "new middle" occupations include sales representatives, truck drivers, managers of personal service workers, heating and air conditioning mechanics and installers, computer support specialists, self-enrichment education teachers, event planners, health technologists and technicians, massage therapists, social workers, marriage and family counselors, AV technicians, paralegals, healthcare social workers, chefs and head cooks, and food service managers.

These jobs probably require a little more education, skills, and experience than jobs in the old middle. They require more situational adaptability, social intelligence, customer service and interpersonal interaction, and technical and administrative skills. But they are a pathway to the middle class.[1]

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[1] For more on the "new middle," see: Michael R. Strain, *The American Dream Is Not Dead: (But Populism Could Kill It)*, Templeton Press, 2020.

Share of Employment in Middle Class Occupations: 2000-2022

Source: BLS; Michael Strain calculations

Much of the debate over the disruptive effects of generative AI seems to forget that the United States has been living with the disruptive effects of technology for decades. Like advances in computing and robotics of recent decades, generative AI will change the tasks that many workers do and reduce the employment share of some occupations.

But creative destruction also creates. Consider that 60 percent of jobs held by workers in 2018 had not been invented as of 1940.[2] Despite the considerable uncertainty around the specific impacts of AI, there is every reason to expect that the net effect of AI will be to create new employment opportunities and to increase the productivity of workers and the incomes of households.

Broader concerns

The broader concerns about AI reflect what I have described as astonishing pessimism.[3] Tech leaders and AI scientists have argued that AI systems pose profound risks to society, and even to the future of humanity. The public is hearing these concerns. A recent poll found that nearly half of respondents are concerned "about the possibility that AI will cause the end of the human race on Earth."[4]

This view seems to ignore the astonishing advances in human welfare caused by technological advances. Over the past 12 decades, child mortality has plunged from one-third to 4 percent, due in large part to technological advances in drugs, therapies, and medical treatment, along with the wage, income, and wealth gains driven by productivity gains.

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[2] David Autor, Caroline Chin, Anna M. Salomons, and Bryan Seegmiller, "New Frontiers: The Origins and Content of New Work, 1940-2018," *NBER Working Paper Series*, no. 30389, August 2022.

[3] Michael R. Strain, "The Inflated Sum of AI Fears," Project Syndicate, June 14, 2023.

[4] YouGov poll: "How concerned, if at all, are you about the possibility that AI will cause the end of the human race on Earth?" Conducted April 3, 2023. Accessed October 27, 2023.

Concerns about the threat of AI to democracy are overblown. "Deepfakes" of political leaders and candidates for high office are a real threat, of course. But the same technology that allows for these sinister schemes can also be deployed to counter them. Indeed, such tools are already being developed, and the financial rewards from developing and refining them are enormous.

In fact, AI is likely to strengthen democracy in its use as an educational tool. When every child has a private AI tutor, the educational outcomes of children will increase. This will make them more valuable workers, increasing their productivity and wages. It will also make them wiser citizens, which will brighten the outlook for democracy. As James Madison wrote, "Knowledge will forever govern ignorance: And a people who mean to be their own Governors, must arm themselves with the power which knowledge gives."

AI is more likely to save humanity than to wipe it out. AI is already being used to develop drugs. The threat from a future pandemic will be mitigated by advances in AI. AI is helping scientists to better understand volcanic activity — the source of most previous mass extinction events — and to detect and eliminate the threat of an asteroid hitting the earth.

Public policy

The right response to economic disruption is not to stop the clock. Instead, policy makers need guiding principles: Work is good. Participation in economic life should be encouraged. The disruption from technological change should be smoothed, but not at the expense of denying workers and households the vast benefits technological advances will bring.