

Remarks for testimony for HUMA Standing Committee, 2023/11/20

Good afternoon and thank you for having me. My name is David Autor, and I am the Ford Professor at the MIT Department of Economics and the MIT SFW. I am honored to speak with you today about my research on artificial intelligence and the future of work.

AI presents obvious threats to workers and the labor force. While machines of the past could only automate routine tasks with clear rules, AI can quickly adapt to problems that require creativity and judgement. It seems reasonable to worry that AI will suddenly make huge swaths of human work redundant. I believe these concerns are misplaced, however. Strong demand for labor has persisted through past periods of technical change like the Industrial or computing revolutions—and all signs point to growing labor scarcity, not the opposite. Instead, the important question to ask is how AI will impact the value of human expertise—by which I mean skills and judgment in specific domains like medicine, teaching, software development, or modern crafts such as electrical work or plumbing. Will new technologies augment the value of human expertise, or will it make human judgement valueless?

In industrialized economies, expertise is the primary source of labor's market value. Consider the jobs of air traffic controllers in comparison with crossing guards—both of which protecting lives by preventing vehicle collisions. Air traffic controllers are paid four times more than crossing guards. Why? Air traffic controllers have scarce expertise, painstakingly acquired and necessary for their important work. Clearly, this job would be impossible without technologies that complement expertise. Without GPS, radar, and radio, an air traffic controller is basically a person in a field staring at the sky. Crossing guards provide a similar socially valuable service. But most able-bodied adults can serve as crossing guards without formal training. This virtually guarantees low wages.

While technology makes air traffic controllers' expertise valuable, it can also make human expertise redundant. London cab drivers used to train for years memorizing all the streets of London. GPS made this expertise economically irrelevant. So, why isn't all expertise eventually made superfluous by automation? Human expertise remains relevant because its domain expands with social needs. Jobs like software developers, laparoscopic surgeons, and hospice care workers emerged only when technological or social innovations made them necessary. In fact, my coauthors and I estimate that around 60% of all jobs that people do in the US today didn't exist in 1940. Technology can just as readily *create* opportunities for high-quality work as it can automate it.

I believe AI can create novel opportunities for low and middle skilled workers. With the support of AI tools, these workers could perform tasks that had previously required costly training and highly specific knowledge. For example, medical professionals with less training than doctors could tackle more complicated tasks with the assistance of AI. In part due to technological innovations, such as software that prevents the dispensing of drugs with harmful interactions, nurse practitioners have proven effective at tasks formerly reserved for doctors. AI could push this further, helping workers with less training deliver high quality care. This is not to say that AI makes expertise irrelevant. Just the opposite: *AI can enable valuable expertise to go further*. AI tools enable novice programmers to write better code faster; they help awkward writers to produce more fluid prose.

This positive future is however not guaranteed: we must make collective decisions to build it. China has made substantial investments in AI technology, in part to create the most effective surveillance and censorship systems in history. This is not a preordained consequence of AI development, but a result of a particular vision of how to use this new tool. Similarly, it is far from inevitable that AI will automate all of our jobs. But that is a vision that many AI pioneers are pursuing. I think that would be a mistake. To shape this protean technology, AI, to constructive ends, political leaders must work with industry, NGOs, laborers, and universities to build a future where *machines work in service of minds*.

What can the government do? I don't claim to have complete answers but I have some ideas.

First, governments should germinate and fund human-complementary AI research. The current path of private sector development has a bias towards automation. Governments can correct this by supporting the development of worker-augmenting AI in industries like healthcare, education, and skilled technical work.

Second, I would prioritize protections for workers. Using AI for undue surveillance, for high stakes decisions like hiring and firing, and for appropriating worker's creative works without compensation should be disallowed. Empowering workers to collectively bargain and including them in the rule-making processes is a critical step.

I am also concerned about AI safety, but I think that governments are comparatively well equipped to regulate safety.

Rather than asking "What will AI do *to* us?" we should ask "What do we want AI to do *for* us?" Answering that question thoughtfully, *and acting decisively*, will help us build a future that we will want to inhabit – and for our children to inherit.

Thank you and I welcome your questions.