

Executive Summary

This is the first report of a Keystone Research Center project on the “Future of Work.” The aim is to identify public policies that could help ensure that the application and diffusion of artificial intelligence (AI) over the next several decades fosters an economy in which Americans generally thrive. The project is motivated, in part, by concern that the opposite could occur: that AI will exacerbate the already high levels of income and wealth inequality in the United States. Our most important conclusion is that AI need not make our inequalities more severe. Creative public policies could lead to an AI economy “that works for the many, not just the few.”

The study design has been informed by the two authors’ experience at the one-time Office of Technology Assessment (OTA) of the US Congress. To guide the undertaking and provide feedback on its products, we recruited an advisory panel of nationally recognized academics and representatives of think tanks and the corporate, labor, and non-profit sectors. The project methodology combines interviews with technology experts, policy analysis, synthesis of research literature and, still to come, sectoral studies.

This first report contains three main parts. (1) Following an introduction, Sections II-IV consider AI’s likely impacts through the lens of technology. Section II reviews past impacts of innovations including robotics and information technology on the economy and jobs. Section III looks at AI itself, how it does and does not go beyond earlier IT in substituting for human capacities and intelligence. Section IV explores the difficulties of predicting AI’s job impacts. (2) Section V, “The Plight of the American Worker,” examines the labor market context in which AI systems will spread and the roots of the economic inequality from which the nation suffers. (3) Section VI surveys policies to influence inequality and the distribution of the benefits of productivity growth as AI spreads.

(1) The technology sections of this report conclude the following.

- Fears of massive job displacement as a result of AI and continuing advances in robotics cannot be justified in the short to medium term. System-level innovations, those drawing on multiple technologies—which for AI means not just software but a great many hardware technologies (e.g., sensors for autonomous vehicles)—almost invariably perform poorly at first and evolve more slowly than anticipated.

- Digital disruption of the US labor market, on the other hand, has been underway since the 1960s, in factories with increasing levels of automation making products designed and indeed reconceived for lower labor content, and in offices everywhere because of computerization and IT. In this light, the maturation of AI represents less a disjuncture than the most recent episode in a long-running sequence that has already disrupted millions of lives and altered in fundamental ways many tens of millions of jobs.
- AI will penetrate more broadly than previous IT systems, in part because of machine learning, processes in which computers incrementally improve their performance in specific, narrow domains by absorbing massive amounts of data. (Computers that “learn” from viewing over 100,000 X-rays, for example, already outperform most radiologists.) Even so, AI-enabled automation will remain behind human capabilities for the foreseeable future in work requiring judgment, tacit skills, and common sense—tasks that infuse many parts of most jobs.
- While AI will ultimately have widespread impacts, predictive methods are inadequate for detailed forecasts. We can only be sure that AI will cause significant disruptions—and as a society we should prepare for that.

(2) These disruptions will occur in an economy with levels of inequality as great as at any time in our nation’s history. Some economists attribute today’s inequality to previous generations of technology that favored more highly educated over less educated workers—to “skill-biased technological change” (with education levels assumed, crudely, to measure skill). We conclude that a far stronger case can be made that public policy (deregulation, including of labor markets) and institutions (e.g., the decline of collective bargaining) explain more of the increase in inequality. There is good news in that finding: AI offers an opportunity to reimagine the nation’s approach and to tip the scales back toward the interests of the 99% rather than the 1%. This conclusion also means that, as desirable as more and better education may be, additional years of schooling will not, alone, suffice to narrow income inequality. Education should be viewed as good in itself, not as a cure for labor market ills.

(3) The last section of the report aims to spur richer debate about policies to ensure that AI generates broader benefits than previous episodes of major technological change. Such debates have so far been bracketed by the belief that we shouldn’t or couldn’t do anything (a view favored by proponents of deregulation and “free” markets); and by recent enthusiasm for

a guaranteed or universal basic income (UBI) premised on ideas that machines will take over so many tasks that Americans will need means to support themselves divorced from work. The table on the next page (a longer version can be found in Section VI) demonstrates that policymakers have a great many tools between doing nothing and implementing a guaranteed income.

The starting point (first row of the table) is recognition that the impacts of AI on our labor market and society are well within the reach of public policy. Government policies shape technological innovations and applications of all sorts; the policy questions concern in whose interests government intervenes, through action or inaction. AI offers a new opportunity to reclaim public policy for the many rather than the few, so that our nation's economy evolves along a path that benefits the common good.

Many measures in the table depart from post-World War II US policies—and even more from post-Reagan-administration policies concerning regulation, trade, technology, and the labor market. With respect to category 4, for example, the United States spends remarkably little on retraining dislocated workers and helping them find new jobs (less than a quarter of the average for 29 OECD countries). The message to workers: “You’re on your own.” The United States is just as much an outlier among wealthy nations when it comes to worker rights and enforcement of these rights. Except for the brief New Deal-era interregnum from the 1930s through World War II, US laws and their interpretations by the courts have favored employers, and since the 1970s more strongly almost year by year.

The first and overriding task in addressing the implications of AI is to find responses that go beyond the marginal remedies debated over recent decades. The underlying dynamics of inequality, the imbalance in power between employers and employees, must be reversed. Rather than default deference to business, deregulation, and “the market,” policy must begin from a new starting point: that the goal is to achieve an AI economy that works for all. Markets, after all, are social constructs, tailored in large part by interested parties the ability to get their way: economics has nothing to say about distribution of the benefits of technological innovation and productivity growth. These are questions of political choice, and policy choice.

Major Policy Categories for Achieving an AI Economy That Works for All	
<i>Category</i>	<i>Goals</i>
1. Advance the narrative that we can have an economy that works for all.	Create space for policy forceful enough to achieve equitable growth and elevate an economic policy framework that supports policymakers and society in the pursuit of equitable growth.
2. Promote trust-busting 2.0.	Reassert, beginning with more aggressive enforcement of existing antitrust laws, government’s obligation to regulate business enterprises for the public good and to benefit workers and consumers.
3. Promote stakeholder over shareholder capitalism.	Give communities and workers a stronger voice in corporate decision-making as AI technologies reshape the economy and society.
4. Promote work-relevant skills and worker resilience for dislocated, young, and employed Americans.	Institutionalize with adequate funding systems that enable workers to learn, and relearn, work-relevant skills that lead to family sustaining jobs. Reduce fear of displacement and its economic and social costs; boost job satisfaction, business performance, and productivity growth.
5. Rebalance the scales between employees and employers.	Reverse the deeply rooted US elevation of employer interests over employees; make real the nearly extinguished rights of workers to act collectively to raise wages, reduce inequality, and restore mobility and indeed democracy itself.
6. Create enough paid, family-sustaining, jobs to go around.	Reduce work time and establish a right to work (in the original meaning of the phrase) backed by public job creation; avoid mass unemployment, maintain the dignity of work and the satisfaction that comes from meaningful work for a living wage.
7. Share AI productivity gains through tax policy and social policy (e.g., income guarantees).	Recognize that the collective sources of AI innovations—which don’t just spring from the heads of a few entrepreneurs—justify wide distribution of the benefits; reduce after-tax inequality; avoid the societal stagnation that accompanies intergenerational social immobility.
8. Promote responsive democracy.	Reverse slide toward oligarchy; build grassroots political power to implement policies in other categories.

The second part of this project will examine AI applications and impacts in specific sectors—possibly including transportation, retail and distribution, health care, manufacturing, and construction, among others. The analysis will explore alternative scenarios, focusing on policies and institutions that will benefit the great mass of ordinary Americans who work for a living, and their families. By being concrete about pathways to shared prosperity, in its second stage our project will seek to increase the chances that the United States will find and follow those pathways.