



Bipartisan Policy Center

AI and the Workforce

JULY 2020

Introduction

Artificial intelligence will transform the nature of work and affect virtually all aspects of the economy. However, artificial intelligence is not the first technology to have such wide-reaching impacts on the workforce, and the United States has gone through various technological transitions in the past.

For instance, the steam engine helped give rise to the Industrial Revolution. Initially developed in the 18th century to pump water out of mines, the technology behind the steam engine was quickly found to have other uses that spurred industry and innovation. The steam engine disrupted the jobs of many workers and made certain skillsets less in demand or even obsolete, but it also created many new manufacturing jobs.

An AI-driven economy will create the need to better prepare our workforce significantly. Failure to adapt to this technology will greatly hurt American competitiveness and also create significant economic hardship and pain for the average American worker. The disruption from globalization is a recent, but maybe imperfect, parallel. Globalization has benefited many, but it also displaced many workers. Better-managed globalization may have mitigated some of the public's current discontents.

Preparing the workforce of the future and managing the rise of AI in an inclusive manner can help us best capture the potential of the new technology while softening the problems. The American worker can thrive in

the AI-driven economy, but policymakers should help them prepare to reach their full potential.

In this spirit, the Bipartisan Policy Center, in consultation with Reps. Robin Kelly (D-IL) and Will Hurd (R-TX), has worked with government officials, industry representatives, civil society advocates, and academics to better understand the major workforce-related AI challenges the country faces. BPC's effort is primarily designed to complement the work done by the Obama and Trump administrations, including President Barack Obama's 2016 *The National Artificial Intelligence Research and Development Strategic Plan*,¹ President Donald Trump's Executive Order 13859, announcing the *American AI Initiative*,² and the Office of Management and Budget's subsequent *Guidance for Regulation of Artificial Intelligence Applications*.³ The effort is also designed to further advance work done by Kelly and Hurd in their 2018 Oversight and Government Reform Committee (Information Technology Subcommittee) white paper, *Rise of the Machines: Artificial Intelligence and its Growing Impact on U.S. Policy*.⁴ Our goal throughout this effort is to provide the legislative branch with potential actions it can take to advance AI, building on the work done by the Obama and Trump administrations.

I. Key Principles

Based on our discussions with stakeholders, we have identified the following key principles:

1. The United States should embrace and take a leadership role in the AI-driven economy by filling the AI talent gap and preparing the rest of the workforce for the jobs of the future. However, in doing so, policymakers should make inclusivity and equal opportunity a priority.
2. Closing the AI talent gap requires a targeted approach to training, recruiting, and retaining skilled workers. This AI talent should ideally have a multi-disciplinary skill set that includes ethics.
3. The AI talent gap is not the only challenge of the AI-driven economy, so the federal government should focus more broadly on the jobs of the future and skills that are complemented by AI technology. Additionally, encouraging workers to develop basic AI and technological literacy can help them better determine how to complement AI systems.
4. The educational system from kindergarten through post-college is not yet designed for the AI-driven economy and should be modernized.
5. The skills that will be in demand in the future will continuously change, so lifelong learning and ways to help displaced and mid-career workers transition into new jobs is critical for the workforce of the future.

The remainder of this whitepaper is organized as follows. Section II explains the challenges of meeting the need for AI talent. Section III explains how AI will cause disruption for the broader workforce. Section IV makes recommendations for addressing the AI talent gap and the disruption caused by AI.

II. The AI Talent Gap

The AI-driven economy has boosted the demand for AI talent, such as the data scientists and software engineers who help build AI systems. The training, recruiting, and attracting of this talent is a major imperative to tap into the full potential of AI. BPC will not formally define AI talent in this paper, but it will include jobs involving designing hardware, analyzing data, and writing algorithms used for AI products.

Even as a long-time leader in the technology sector, the United States currently faces an AI workforce talent shortage leading private companies to take aggressive actions to recruit and retain AI professionals.⁵ The shortage is both domestic and global, but for the United States it can result in a significant amount of AI R&D moving abroad.⁶ Competition for AI professionals is not limited to just technology companies but is spanning almost all industries as businesses seek to leverage the strengths of AI.⁷ For instance, in the race to manufacture self-driving cars, the auto industry competes with Silicon Valley for the same experts. In early 2018, Ford made a public announcement of a \$1 billion investment in Argo AI, a company that is developing AI-controlled robots and vehicles.⁸

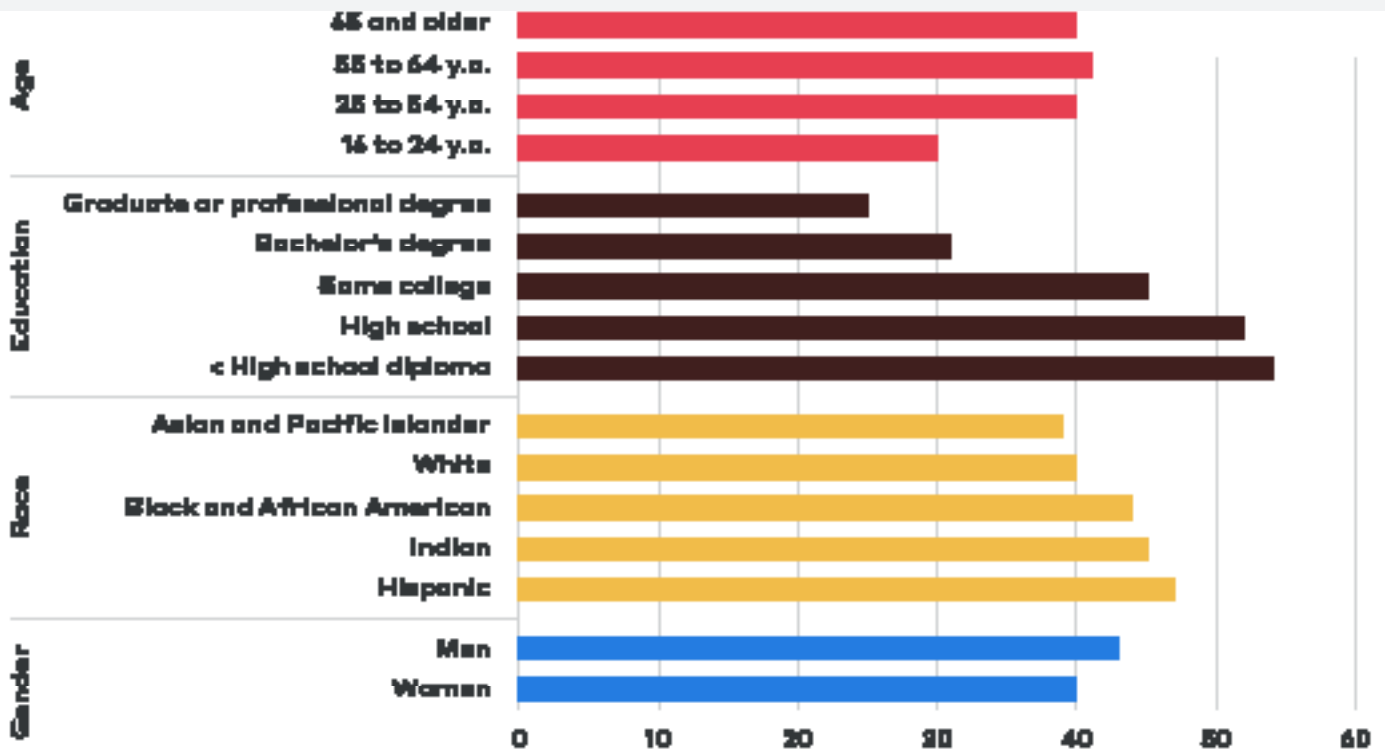
American universities are struggling to recruit and retain the AI faculty needed to train the next generation of AI talent.⁹ According to the Center for a New American Security, the share of graduating computer science PhDs who choose the private sector rather than academia rose from 38% last decade to 57% today.¹⁰ This is further backed by *Times Higher Education* and Microsoft, who reported that 89% of faculty members said that it was “difficult” or “very difficult” to hire and retain AI experts for faculty positions.¹¹ Addressing this shortage will not just involve recruiting and retaining AI faculty but also developing a robust pipeline of graduate students that can fill these roles. More than half of the AI workforce in the United States was born abroad, as were around two-thirds of current graduate students in AI-related fields,¹² so both a domestic and international strategy for training, recruiting, and retaining talent is critical.

The federal government is also having difficulty recruiting and retaining AI talent. The National Security Commission on Artificial Intelligence interim report states that the AI knowledge gap is the reason why the federal government is struggling to implement AI solutions. Ineffective talent recruitment and management, combined with outdated data management practices and a lack of processing power, creates obstacles to integrate AI systems.¹³

III. How AI will affect the broader workforce

In the AI-driven economy, policymakers will not only need to address the AI talent shortage, but they also need to address the disruptive effects AI and automation will bring to the broader workforce—jobs will both be created and destroyed. Policymakers should prepare the workers for these disruptions to help them develop new skills and transition to new careers. The best way to think about AI and automation is to focus on specific tasks, since jobs are just a series of tasks, and recognize that AI will automate specific tasks, which can lead to job loss. Tasks that are expected to be automated include routine and repetitive physical and mental activities. Tasks that are less likely to be automated are those that necessitate creative intelligence (ideation, critical

Figure 1: Projected Impact of AI and Automation on U.S. Workforce by Demographic Group (%)



Source: Muro, Mark, Robert Maxim, and Jacob Whiton. 2019. "Automation and Artificial Intelligence: How Machines Are Affecting People and Places." Washington DC: Metropolitan Policy Program, Brookings Institution. https://www.brookings.edu/wp-content/uploads/2019/01/2019.01_BrookingsMetro_Automation-AI_Report_Muro-Maxim-Whiton-FINAL-version.pdf.

thinking, and problem-solving), and social intelligence (intuition, teamwork, persuasion, situational adaptability, perceptiveness, and caring for others).

Researchers, economists, and policymakers across the political aisle agree that AI will disrupt the American workforce, but there is no agreement as to what percent of American jobs will be disrupted, and at what rate. The World Economic Forum estimates that by 2035, the manufacturing, transportation and storage, and wholesale and retail industries will face a 35-50% potential for automation due to high rates of routine tasks.¹⁴ The McKinsey Global Institute estimates between 30% and 40% exposure for jobs with high rates of repetitive tasks.¹⁵ (That study did not specify which industries.) According to a study by the Brookings Institution, approximately 25% of U.S. employment, the equivalent of 36 million jobs, will have experienced high exposure to automation of 70% or higher by 2030.¹⁶ About 36% of employment, or 52 million jobs, will have medium exposure between 30% and 70%. Lastly, 39% of employment, or 57 million jobs with largely non-routine skills, will face up to 30% exposure.¹⁷

IV. Key Takeaways

- 1. The United States should embrace and take a leadership role in the AI-driven economy by filling the AI talent gap and preparing the rest of the workforce for the jobs of the future. However, in doing so, policymakers should make inclusivity and equal opportunity a priority.**

The United States should seek to maintain its history of being a global leader in technology. Like many past innovations, AI has challenges, but it has vast potential to improve quality of life and boost economic growth. The fears of disruption from AI cannot simply be dealt with by resisting the adoption of these new technologies. If American workers and companies cannot leverage new AI technologies, then it could result in many of the jobs and industries of the future moving abroad.

Embracing the AI-driven economy will require making inclusivity and equal opportunity a priority. Promoting social mobility and fairness becomes more critical, given the potential of AI and automation to further sharpen inequality. If traditionally under-represented communities and marginalized groups do not have a chance to share in the gains from AI technologies, this would be contrary to American values of equal opportunity. Failure to meaningfully include under-represented communities and marginalized groups may also hurt U.S. competitiveness by depriving the economy of a source of untapped talent.¹⁸ Under-represented communities need better access to education, broadband, and technology if they are to reach their full potential to become entrepreneurs and innovators in the AI-driven economy. Failure to fully tap into their talent will deprive all of the innovations, services, and jobs they could create.

Further, innovation is a creative and dynamic process whereby old jobs are phased out and new jobs are created. Automation will cause many to lose their jobs for reasons beyond their control. For instance, a cashier that has spent their whole life working at a grocery store and receiving outstanding performance reviews may find themselves replaced by an automated system through no fault of their own. However, in many cases, automating menial and repetitive tasks may give workers more time to focus on other tasks involving social and creative intelligence. For example, people feared the ATM would eliminate the need for bank tellers, given the automation of many cash-handling tasks, but it actually caused an increase in the number of tellers as they now had more time to provide customer service.¹⁹ Yet peoples' fears are not without merit, given the disruption and inequalities often associated with technological advancements. Workforce training programs should help individuals develop the skills necessary to transition into new jobs. Public policy should aim to create high-paying middle-class jobs and programs to train workers for those jobs.

Recommendation #1: The federal government should expand funding to existing technology education programs and, where gaps exist, create new programs, particularly within under-represented communities and marginalized groups.

Recommendation #2: Congress should authorize additional grants for programs designed to experiment on ways to increase workforce diversity and retain diverse talent at all levels of an organization.

Recommendation #3: Federal agencies should review their current policies for recruiting and retaining talent from under-represented communities and marginalized groups at all levels of the organization to determine whether these policies need specific modifications for technology workers.

Recommendation #4: Federal policymakers should regularly assess any job disruptions or new roles created by AI and assess the adequacies of job training and safety net programs.

2. Closing the AI talent gap requires a targeted approach to training, recruiting, and retaining skilled workers. This AI talent should ideally have a multi-disciplinary skillset that includes ethics.

The AI talent gap is a major concern in the short and medium-term. The United States needs a targeted approach to identifying and filling these roles. The fluidity of the technology and jobs market makes it difficult to predict what AI skills will be most necessary over the coming years. To address this challenge, the Department of Labor should work with the private sector to routinely provide data to update and expand the Occupation Information Network (O*NET), the nation's largest open occupation information database. O*NET describes occupations in terms of the skills and knowledge required, how the work is performed, and typical work settings.²⁰ O*NET can provide meaningful insights into emerging roles of the AI-economy and re-skilling efforts to the benefit of employees economy-wide. With a data-sharing partnership with the private sector, O*NET can become the federal government's standard data collection platform. However, data-sharing will not be enough; the federal government must work with the private sector to analyze this data to define AI-talent needs for industry and government better.

Recommendation #5: The Department of Labor should work with the private sector to collaborate and promote data-sharing to develop a framework for identifying AI talent needs and use this information to update and expand the O*NET database to include AI jobs and necessary skills.

The rise of coding academies and other sources for training suggests that more individuals are interested in pursuing self-learning or non-traditional learning by seeking out ways to pick-up computer science skills. This suggests that if an individual possesses some sort of relevant soft or hard skills, he or she can be more quickly trained to have the relevant skills for AI jobs without getting

a graduate degree. The concept of Last Mile Training (LMT) and education has gained traction across the world. Predominately provided by for-profit companies or academies, LMT provides training that focuses on technical and soft skills an employer may need for less time than it takes to get a degree.²¹ However, there are not enough of these programs to meet the needs of the market. Many of the programs are provided by either a nonprofit tailored to specific populations or through costly private programs which can exclude low-income people and are not accredited by the Department of Education. With the right policies such as accreditation and funding opportunities like expanded Pell grants, LMT can provide an opportunity for workers of all skill levels and affiliations, including mid-career older workers, formerly incarcerated individuals, people of color, and young people to increase their career trajectories, ultimately growing diversity in the tech world.²²

Recommendation #6: Government agencies should review their hiring practices to ensure they are not inadvertently disqualifying people with AI skills that have a less traditional background.

Recommendation #7: The federal government should encourage the departments of Education and Labor to recognize LMT programs and authorize a formal study to understand how to best promote these programs and a means to ensure successful programs are accredited.

Recommendation #8: The federal government should increase the number of funding opportunities that explicitly include the use of work-based learning, including apprenticeships and internships, and last-mile training partnerships as an award selection criterion.

Recommendation #9: Congress should create a pilot program to expand Pell Grant eligibility to cover a broad range of high-quality job training programs so workers can afford the skills training and credentials that are in high demand in today's job market.

AI talent should also have other skills beyond a technical understanding of how to build AI tools and systems. The combination of AI with other disciplines can help further spur creativity and innovation.²³ As Apple co-founder Steve Jobs stated, “technology alone is not enough – it’s technology with liberal arts, married with humanities, that yields us the result that make our heart sing.” Further, an ideal AI professional needs to be well-versed in ethical design, critical thinking, introspection, and empathy. For example, an AI-driven car may have to respond to an unforeseen hazard, such as a pedestrian jumping on the road. The calculus over whether to swerve and potentially hit another car at the risk of the passengers, or save the lives of the passengers, is an ethical question that needs to be considered in the algorithmic design. As such, the teams working on AI systems need to have an understanding of ethics. For more information on AI and ethics, see BPC’s paper *AI and Ethics*.

Recommendation #10: Federal agencies should recruit for and train their AI workers on a multi-disciplinary set of skills, including ethics.

Recommendation #11: The Department of Education should develop guidelines for universities on how to best incorporate liberal arts curriculum and ethical course requirements into STEM and computer science majors.

Immigrants founded one-quarter of the technology start-ups in the United States, and immigrants and their children founded nearly half of U.S. Fortune 500 companies, including Apple, Google, General Electric, and IBM.²⁴ It is essential to have policies in place that promote U.S. economic competitiveness and national security while not pushing international talent away from learning and working in the United States. The number of Indian and Chinese graduates staying in the United States drops by several percentage points for each year of extra delay due to green card waitlists.²⁵ The difficulty and uncertainty of immigrating to the United States appears to be driving researchers away and pushing them to more welcoming countries or to return to their home countries. Federal decision-makers must develop a bipartisan approach to recruiting and retaining AI talent, both domestic and international, while maintaining proper controls to protect national and economic security.

3. The AI talent gap is not the only challenge of the AI-driven economy, so the federal government should focus more broadly on the jobs of the future and skills that are complemented by AI technology. Additionally, encouraging workers to develop basic AI and technological literacy can help them better determine how to complement AI systems.

AI is transforming the nature of work. Programming AI systems will only be a subset of the new jobs created. Many skills that will be in demand in the future will have little or nothing to do with computer science, but instead focus on the distinct human skills such as creative and social intelligence that often complement AI systems. For example, in health care, AI can greatly improve the speed and accuracy of mammograms,²⁶ but it cannot empathetically tell a patient that she has cancer and recognize her emotions to react appropriately. As a result, hospitals may focus more on patient empathy by hiring people with better social skills. Finding ways to best develop and deploy AI systems will continue to be important for organizations, but so will leveraging human creativity, social skills, and other skills that AI cannot automate. Therefore, policymakers should not think too narrowly about the jobs of the future, but should also consider the varying skills and degrees that will complement the growing presence of AI.

However, encouraging basic AI and technological literacy can help workers figure out how to best complement and use AI systems. For instance, many modern factories use smaller and more flexible robots that utilize AI-algorithms and can work alongside humans.²⁷ Factory workers that can best use and complement these robots can boost their productivity and increase their value to the firm.

Recommendation #12: Policymakers should take a holistic approach to allocate funds for workforce training and education that recognizes not all jobs will involve programming, and many will instead involve social and creative intelligence.

4. The educational system from kindergarten through post-college is not yet designed for the AI-driven economy and should be modernized.

The transition from an agricultural to a manufacturing economy showed how education can better prepare the workforce for the jobs of the future. Many manufacturing jobs required people with many of the skills taught in high school. For instance, an account on the role of education in the early 1900s stated how “The boy who goes into the shop in his early youth... should understand... mechanical drawing, algebra, and geometry, and have a fair command of the English language.”²⁸ The dramatic expansion of education in the United States during the 20th century relative to other countries has been credited for a significant amount of America’s economic success during this period.²⁹ The AI-driven economy will require a similar effort from the government to transform education.

The role of education should evolve to meet these needs. An educational system that is well-tailored, affordable, and inclusive can help better prepare the workforce for the opportunities and disruption of the future. K-12 education needs to better prepare students for the AI-driven economy. A college education will continue to be important to help create well-rounded students, but economically, community colleges and apprenticeships are a better fit for many students and can still prepare students in an AI-driven economy.

Many tech companies are calling for computer science to become an integral part of the U.S. public education curriculum. They are going beyond just funding local school districts by sending employees to teach courses and train teachers.³⁰ Numerous studies show that students who are engaged in STEM by the time they are adolescents are more likely to pursue the field as adults.³¹ President Donald Trump’s Executive Order on *Maintaining American Leadership in Artificial Intelligence* has recognized that enhancing STEM education also enhances the country’s AI talent.³²

Recommendation #13: The House Education and Labor Committee and the Senate Health, Education, Labor and Pensions Committee should study how to best adapt the educational system for the AI-driven economy. The committees’ work should include how states, universities, and school districts can update their curriculum, make education more affordable, and better promote inclusivity for under-represented communities and marginalized groups. The committees should also explore whether computer science and data science should be taught at a much earlier age.

Recommendation #14: Congress should direct the National Center for Education Statistics to conduct a follow-up study of the 2014 *Transferability of Postsecondary Credit Following Student Transfer or Coenrollment* to further evaluate, at the national level, the impact of non-transferable credits on community colleges and students.

Recommendation #15: Policymakers should encourage college and state institutions to update their credit transfer policies to make it easier for students to navigate and transfer their course credits.

Recommendation #16: Federal and state education policies and investments should ensure that new education pathways incorporate industry-sponsored, standards-based, and recognized “stackable” credentials, such as certifications or certificates, as part of degree tracks.

Recommendation #17: Congress should charge the departments of Education and Labor with developing strategic partnerships with the private sector to create a federal teaching mission program. The program should emphasize focus on upskilling current educators and bringing more teachers to disadvantaged school districts to ensure educational equity and opportunity for computer science and STEM.

As discussed earlier, AI faculty shortages at universities is a major issue. The faculty shortage is not just about the number of AI faculty, but also how much time they spend teaching (as opposed to doing research and outside consulting). The shortage negatively impacts university students who want to become AI professionals or those who want to pick up AI specific skills for their respective fields or majors, such as future K-12 teachers that will teach computer science to a younger generation.

Recommendation #18: The federal government should study how to best encourage AI faculty to teach the next generation of AI talent, by considering teaching grants for AI researchers that teach or research grants that have a teaching requirement.

Recommendation #19: The Department of Education should study how to provide flexibility and accessibility to AI talent in the private sector to enable them to teach at universities if they are qualified and willing. Teaching grants, especially those targeted at under-represented communities, should be considered in achieving this goal.

5. The skills that will be in demand in the future will continuously change, so lifelong learning and ways to help displaced and mid-career workers transition into new jobs is critical for the workforce of the future.

The United States needs a conceptual restructuring of education as a life-long process that occurs after high school graduation through mid-career. Life-long learning refers to the process of gaining knowledge and learning new skills throughout one’s life.³³ Currently, professional development is

the closest concept to life-long learning, occurring informally or voluntarily. Most often it is at the self-direction of employees with some employers providing reimbursement, and can take the form of a leadership conference or mentorship. AI exacerbates the unpredictable nature of what skills will be in demand or obsolete in the future. Life-long learning and regularly updating one's skills can elevate worker flexibility throughout their career. Policymakers must encourage a life-long learning mindset and introduce flexible and diverse policies that would economically and mentally support and protect disrupted workers and families.

Recommendation #20: The federal government should study best practices and ways to incentivize a skills-based approach to talent and hiring.

Developed by the non-profit Council for Adult and Experiential Learning in 2001, Lifelong Learning Accounts (LiLAs) are like 401(k) retirement accounts except that these accounts have not been authorized by Congress and exist at the discretion of state and local governments. Employees contribute regularly and employers match contributions (up to an established annual cap), the combined funds are then leveraged to pay for a broad range of education and skills training activities with the support of a career advisor.³⁴ If an employee withdraws money for non-educational purposes, a tax penalty could be implemented. Since 2006, LiLA program initiatives have been established or are currently taking place in states and cities like Illinois (healthcare services and restaurant industry), Northeast Indiana (public sector and manufacturing sector), Maine (non-specific sector) and San Francisco (mature workers and health services).^a

However, states and localities have reported that budget shortfalls have led to limited appropriations to develop the resources, hire and retain staff, and create marketing materials.³⁵ Ultimately, this makes it impossible for the state or locality to implement the program, so these initiatives have taken a halt although the demand is prevalent. One of the biggest challenges of worker training or re-skilling is determining who should pay for it: the employer, the worker, or government. Since 2008, concepts similar to LiLAs have been proposed in Congress and recognized as a bipartisan solution that enables all parties to share the cost. In addition to cost-sharing, other benefits include clarifying and defining employer needs, decreasing safety net reliance, and supporting all Americans regardless of their age or educational background.^b

a In 2008, CAEL completed a successful five-year, three-site, multi-sector LiLA demonstration in Chicago, Northeast Indiana and San Francisco. More information is available at: "Lifelong Learning Accounts: Helping to Build a More Competitive Workforce." Indianapolis, IN: The Council for Adult & Experiential Learning (CAEL), 2011. https://cdn2.hubspot.net/hubfs/617695/2011_LiLA%20Policy_Overview.pdf.

b In 2007, the House and Senate introduced legislation that later became established demonstration programs in 10 states and eventually adopted programs within those states due to the success of up-skilling workers. Similar legislation was again introduced in the Senate in 2018.

Recommendation #21: Congress should establish Lifelong Learning Accounts that operate by matching employee and employer funds to a determined amount. Policymakers should also broadly define education and training standards that qualify, so there is clarity for both employees and employers.

All workers, regardless of the industry, need to regularly update their skills as the constant development of new technologies and processes results in new methods of production and operation. Nevertheless, employers are not investing in training programs at the same rate as they used to, and one of the reasons for this could be attributed to a perverse effect of the U.S. tax code. The tax treatment of R&D, physical capital, and human capital investments all vary, and that plays a role in business decision-making. For instance, R&D and physical capital are immediately deductible and eligible for tax credits. For human capital, however, only certain aspects and categories can be a deductible or a credit for the employer and employees.³⁶ Republicans and Democrats have introduced legislation in the past with the same goal of better incentivizing businesses' human capital investments.

Recommendation #22: Congress should consider creating an employer-based training tax credit to incentivize business investment in human capital.

Another option is to reconsider tax incentives for higher education to encourage continued and lifelong learning. Currently, the higher education tax credits are the Lifetime Learning Tax Credit and the American Opportunity Tax Credit. Both have different eligibility requirements and cannot be simultaneously combined with other aid programs, limiting student access to other federal grant aid or deductions. The Obama and Trump administrations have both considered consolidating these tax credits into one that broadly covers higher education and skills training. Simplifying the credit would make oversight easier, eligibility wider, and allow anyone to take full advantage of the other tools they use to cover higher education expenses. For instance, a single tax credit being utilized with the tuition and fees deduction or Section 529 plan would reach a broader group of individuals who want to go into non-traditional learning or graduate programs.³⁷ While there is some [evidence to suggest](#) tax expenditures are a generally inefficient way to support students and encourage enrollment, if these credits are preserved, they could be reformed to be used more effectively.”

Recommendation #23: Congress should combine the current Lifetime Learning Tax Credit and the American Opportunity Tax Credit into a singular credit that encompasses higher education and skill training. Policymakers should also consider utilizing the combined credit into increasing Pell Grant funding and eligibility.

Recommendation #24: Policymakers should encourage the Securities and Exchange Commission and states to broaden Section 529 college savings plans' definition of "qualified tuition plans" to be more flexible in non-traditional learning and skills training.

Targeted and effective federal re-training and re-skilling programs will be crucial in limiting the impact of disruption and ensuring Americans can both continue to be productive in the labor market and provide for themselves and their families. While improvements were made in the 2014 reauthorization of the Workforce Innovation and Opportunity Act (WIOA), more is needed to reduce duplication and improve effectiveness. Some argue that the funding cuts are to blame for the programs' failures, as the federal workforce development system has been cut by over 40% since 2001, and the United States spends less on worker training than most developed nations.³⁸ However, there is also broad consensus across state workforce boards, academics, and think tanks that federal training programs have failed to produce significant positive outcomes that align training with the marketplace.

WIOA's framework and procedures can be revitalized and reformed to meet the needs of the future workforce. For example, if policymakers established LiLA, it could be integrated into the public workforce development systems. If adequately supported, career counselors at more than 2,500 American Job Centers across the country could be trained to advise workers on how best to use their LiLAs. With reauthorization coming soon, this is an ideal time for policymakers to re-invent WIOA to not only address the current challenges but re-frame programs that would benefit the foreseeable disrupted workers and potential AI professions.

Recommendation #25: Reform WIOA to match the demand of the AI-driven economy to include work-based learning, life-long learning, last mile training, and the capacity to determine the skills needed for those who will be in complementary jobs or thoroughly disrupted. A modern WIOA would reorganize and consolidate current training programs and update the definitions of credentials and skill trainings to meet current and future needs.

Conclusion

The rise of artificial intelligence poses new opportunities and challenges for the American workforce. The United States' success in the AI-driven economy will be dependent on its ability to fill the AI talent gap and ensure the broader workforce is prepared for the opportunity and disruption AI will bring. An inclusive approach that leverages the diversity of the workforce is necessary. Policymakers must act to ensure the educational system and workforce training programs are up for the task to ensure all Americans have the tools they need to succeed.

Endnotes

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