

U.S. House of Representatives
Select Committee on Economic Disparity and Fairness in Growth
Written Testimony by Zoë Baird, CEO and President, Markle Foundation

Hearing on: Our Changing Economy: The Economic Effects of
Technological Innovation, Automation and the Future of Work
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Dear Chairman Himes, Ranking Member Steil, and Members of the House Select Committee on Economic Disparity and Fairness in Growth, thank you for your invitation to provide testimony today. My name is Zoë Baird and I am the CEO and President of the Markle Foundation, which works to address previously intractable public problems for the economic security, health, and national security of all Americans.

Your committee has the opportunity to examine what is different about today's digital economy and how Congress might contribute to new solutions that drive greater equity in the economy that emerges after COVID-19. I will address how Congress might use the government's investments to generate more good jobs, and the training needed to equip workers so we can achieve the companion goals of growth and equity.

My priority at Markle is to advance solutions toward a labor market that will enable all workers to move into good jobs in the digital economy. This includes a focus on expanding new jobs in evolving sectors, such as those impacted by emerging technologies, and working to provide that as these new roles are developed, they are good jobs that allow for economic mobility and advancement for individuals of all races and ethnicity, gender, experience, and education.

Last year, Markle formed the [Rework America Alliance](#) a unique collaboration of more than 30 leading organizations—civil rights groups, nonprofits, private sector employers, labor unions, educators, and others—to pursue a shared strategy to respond to the employment crisis created by the pandemic that brought into stark relief the inequities in the labor market. The Alliance is equipping worker-serving organizations like civil rights groups and state and local governments with information and training, including data insights and digital tools, to help move millions of workers from low-wage roles into better jobs. Our focus is the almost 70 percent of workers in America without a bachelor's degree, particularly people of color and women who have been disproportionately impacted by the current economic crisis.

We have brought together partners that represent a range of perspectives and organizations, such as the National Urban League, UnidosUS, the Federal Reserve Bank of Atlanta, AFL-CIO, Google, IBM, Microsoft, Walmart, and McKinsey & Company.

This builds on nearly a decade of work focusing on efforts to expand opportunities for economic mobility. In 2013, I launched Markle's Rework America initiative, convening CEOs, educators, community and religious leaders, and other partners to understand the actions needed to enable all Americans to share in the benefits of the new economy. This distinguished group co-authored the 2015 book *America's Moment: Creating Opportunity in the Connected Age* (W.W. Norton & Company, 2015) which addresses how to create more good jobs and how to prepare people for these jobs. We brought those insights to communities initially through Markle's Skillful initiative and today through the expanded Rework America Alliance. In addition, we run the Rework America State Network, a collaboration with 30 of the nation's governors and the mayor of the District of Columbia, to train and move people into good digital economy jobs and deploy artificial intelligence insights into modernizing the labor market.

The need to focus on good jobs.

In the wake of the COVID-19 pandemic, disruption of jobs from automation and deployment of information technologies dramatically accelerated. This Committee's work is essential if we are to develop innovative public policy strategies to ensure that technological innovation provides for good jobs and promotes equitable economic growth.

You will hear today from economists about the displacement of jobs by automation. I will focus on the challenge of generating enough good jobs, especially for those 106 million workers without four-year degrees. And I will examine how we might create a training system for workers that enables them to use their experience and get the training they need to get into better jobs. Our lowest-wage workers have been stuck for too long in jobs that don't pay well, don't offer job security or respect their experience, and don't provide real opportunities for advancement.

Through the Rework America Alliance, the Markle Foundation has initially identified [77 occupations](#) that as Gateways would provide workers without a four-year degree the opportunity to achieve long-term economic security. Even as automation and technology disrupt our economy, there are meaningful pathways for the almost 70 percent of Americans that do not have a college degree, to secure a good job. Our research shows that, despite conventional assumptions, these workers have the experience and could acquire additional skills for success in our digital economy.

At the same time, our research has shown that, without targeted interventions that spur the growth of good jobs, there simply are not enough jobs that draw on the potential of these workers.

Creation of more good jobs.

Deploy infrastructure investments to maximize the creation of good jobs. Federal investments in infrastructure and green technology can have a dramatic effect on the creation and acceleration of Gateway jobs and other good jobs for low and middle-wage workers, and support workers to build skills as necessary and transition to these roles. Infrastructure and green technology investments have the potential to produce a large number of good-paying jobs in the short term, while also supporting research, development, and entrepreneurial ventures that will grow these jobs in the long term.

It will be important to consider ways to maximize the creation of good jobs at the same time we improve our infrastructure, particularly union jobs that have good wages and working conditions, and jobs for women and people of color. In the past, 90 percent of infrastructure jobs have been filled by men but women have a great deal of related experience that could be deployed on these projects. Underrepresentation and workplace challenges for Black and Latinx workers have to be addressed also. This will take intention and outreach to networks of workers of color, and information on which jobs to target for those that advise workers.

In addition to expanding access, infrastructure jobs of today and tomorrow require more specialized training than in the past, in part from the accelerating pace of technology and automation across relevant industries. Where previously one might have knocked down a brick wall with a sledgehammer, today it is as likely that this is done by operating a demolition robot. Among a wide array of training models, registered apprenticeships, which allow workers to learn while they earn, could be particularly impactful towards expanding access to infrastructure jobs for people of color and women. Overall, while more than a quarter of active apprentices have not identified with a racial group in 2020, of those who have, only 20 percent identify as people of color. Women represent just 9.2 percent of all registered apprentices.

Steer the commercialization of new technologies toward the creation of more good jobs including small and medium-sized businesses. With the right structures, systems, and policies in place, we can leverage the commercialization of new technologies to create good jobs, advance equity in the labor market, and ensure shared prosperity. Many of the occupations identified in our research that would provide good-paying jobs without requiring a four-year degree are in technology-enabled sectors—sectors that will be impacted by the commercialization of new and emerging technologies. These technologies are wide-ranging from artificial intelligence to quantum computing to 3D printing, and they will impact industries ranging from aerospace to energy generation. While these new technologies commercialize, we can develop policies and interventions today that will lead to job creation and economic growth. Policy options may include, for instance: actions to prevent market consolidation and instead favor competition, investment in open standards and architectures; support to innovation in

process and product development that enables the inclusive participation of those without a college degree; tax incentives for employers who invest in adult training and have equitable employment practices; initiating new workforce education institutions; access to shared data; trade policy for emerging technologies.

3D printing is an example of a technology ready for scaled commercialization. Also referred to as additive manufacturing, 3D printing is the process of constructing a three-dimensional solid object from a digital model. As the technology uses less material and produces less waste than traditional manufacturing processes, it has a growing set of applications across sectors and fields. 3D printing enables the location of manufacturing closer to the point of use and creates the opportunity for small businesses that are not part of complicated supply chains to manufacture marketable products. Over the coming decades, 3D printing has the potential to grow exponentially and have major economic impacts.

According to a [2017 report by A.T. Kearney](#), 3D printing is “poised to disrupt and redistribute \$4 to 6 trillion of the global economy in the next five to 10 years, but where that value goes depends entirely on decisions of key leaders in both the public and private sectors.” Most notably, the report argues that the technology has the capacity to revitalize manufacturing economies in the United States. An estimated \$300 to \$500 billion in manufactured goods that are currently imported could be manufactured here in the United States using 3D printing. To put that in perspective, onshoring these manufacturing activities could bring upwards of 3 to 5 million new skilled jobs to the US.

This is a critical development given that manufacturing as a whole has been on the decline in the United States over the past several decades. Analysis by the Federal Reserve shows that over 2 million jobs were lost in advanced manufacturing from 1997 to 2009. However, these trends have started to reverse. Between 2009 and 2017, employment in advanced manufacturing has modestly increased by six percent. Leveraging 3D printing could bolster this growth. The technology is removing the barriers to entry in manufacturing and the production of goods, which will democratize manufacturing industries and create greater opportunities for small and medium-sized businesses and entrepreneurs.

Whether 3D printing will bring jobs and help revitalize our manufacturing industries will depend on the policy choices we make. Having moved out of the industrial age, our economy is squarely in the digital era. We need new policy strategies that take into account the rapidly changing nature of work and the capacities of new technologies. Innovation in technology requires innovation in technology policy.

Preparing people for good jobs.

Create a new adult training system: Restoring the middle class and pursuing equity requires us to create an adult learning system that affords the opportunity to all workers to get trained and retrained across their lifetime. We need to invent a training system for the digital economy, just as we invented the high school over 100 years ago when we moved from an agricultural to an industrial economy. Federal policymakers should consider how they can create a more universal adult learning system. We must provide training that is flexible to allow people to learn while working or while managing other commitments, such as child-care; it should enable people to gain skills quickly and should be closely aligned with employer needs so the skills learned are those which will make someone successful in their new role. Having a strong system of training that adult workers can turn to will create a more ready workforce, reduce labor market friction, and accelerate hiring.

Incentivize training by employers. Federal policies can incentivize businesses to invest in incumbent and entry worker training and labor training management programs alongside technology adoption. In a system of effective adult learning, employers should play an active role in helping workers succeed in the changing economy—both by recognizing skills that workers already have and by investing resources in helping workers build new capabilities.

To determine the level of federal incentives for training that could be provided to businesses, policymakers should consider three factors, employer co-investment, robustness of training, and wages. Employer co-investment in training not only offsets tuition costs for workers but could encourage employers to increase their commitment to training and lead to closer alignment between the skills taught and employer needs. Investment should be made in robust training programs and work-based learning that demonstrate required competencies. Furthermore, job quality and the wage gains expected are important in guiding funding priorities, and focus should be placed on employer-provided training for jobs with a good level of pay, benefits, and worker representation.

Other potential options to incentivize employer training include having the Securities Exchange Commission disclosures include investments in training to create more transparency around employer commitment to workforce development. A great deal of training takes place when people are hired or change jobs, and we need to showcase the experience people have developed from this training so it is respected in the workplace and enables workers to see that they have marketable skills that can lead to better jobs. Disclosing investments in worker training can cause employers to better organize those investments so they pay off for both the company and workers. And we need to have transparency into the employers who are not investing in training their workforce. Consideration should also be given to how investment in equipment versus training is taxed to ensure that the tax code is equally prioritizing human capital investments and hiring of workers relative to investments in automation and capital.

Support should not just be provided to employers but also to unions and labor management training. Many unions have excellent training programs, including apprenticeships, but they are primarily available for union members. With additional funding directly to labor-management partnerships, those programs could be expanded to more union members as infrastructure and clean energy investments bring more jobs, and to a broader audience.

Create a transparent worker portfolio. Employers need to make their employees' talents more transparent, so workers can capitalize on their value. Today, people trained on the job have no way of marketing the skills they have gained to potential new employers. An experienced auto mechanic, for instance, is viewed as just that by the labor market, even though their employer values them for their in-depth knowledge of intricate machinery, electrical systems, and computerized diagnostics. If that auto mechanic wants to get a job they are qualified for as a repair tech at an advanced manufacturing company, they have difficulty confirming the required experience. Some may point to licensing as a solution (about [30 percent](#) of U.S. workers require a license to do their job), but licenses rarely reveal the underlying skills necessary to move to a new sector. However, if employees were provided with a skills portfolio or resume, or government databases could be used easily to generate a skills portfolio—a verifiable account of all the skills in their job—they would not be constrained by their job title and could pursue any job that needed their unique collection of skills or experience. As technology transforms the workplace, such a transcript could be a passport to opportunity; individuals could market their skills portfolio, and employers would gain access to a broader pool of talent.

Conclusion

After the Great Recession of 2009, we failed to create upward mobility for workers without a bachelor's degree, particularly for women, Black, and Latinx workers. We didn't translate investments into good jobs for long-term success, and we didn't catalyze good job creation as the commercialization and application of technology grew. For far too many people, the available jobs were low-wage with few benefits or security, hurting America's competitiveness while exacerbating racial and gender inequities. We cannot afford to make that mistake again. I appreciate the committee's interest in doing better and am grateful for the invitation to share some possible steps toward that end. I look forward to answering any questions members of the committee may have.