



SUSTAINING CAPITALISM

A series focused on nonpartisan reasoned solutions in the nation's interest to the central challenges we face in order to provide prosperity for all Americans.



A US Workforce Training Plan for the Postpandemic Economy

Driving recovery with a highly skilled workforce

Executive Summary

Though the US economy is expected to recover to its prepandemic level of production (gross domestic product or GDP) by the second quarter of 2021, the postpandemic economy will be different in many important ways. The pandemic's acceleration of trends toward remote work, digital transformation, and automation could permanently reduce demand for low-skill jobs. To build a large and fully competitive US workforce and reduce inequality, aggressive reskilling will be needed.

Even before the global pandemic's onslaught, preparing the future workforce to drive rapidly advancing technology in an increasingly competitive global economy—and minimize the adverse fallout from these trends—was one of the nation's greatest challenges. COVID-19 has made this challenge more urgent. Now, an estimated 40 percent of workers will need short-term training and reskilling by 2025.¹ American leadership, prosperity, and competitiveness will hinge on maximizing the skills of our nation's workers.

The pandemic has disproportionately displaced minority workers, women, youth, and workers with lower educational attainment, many of whom are among the near-record

40-plus percent of the jobless who have been unemployed more than six months. Such displaced workers, or the “long-term unemployed,” typically find it hard to get a new job the longer they are without one. For many of them, securing a new job will require training for skills that are in demand.

Today’s plethora of training efforts lacks the necessary collaboration, coordination, and future-skill focus to address the challenges facing the workforce. Together, employers and the trainees themselves fund most workforce training in the US. In 2019, consumers spent nearly \$250 billion on higher education and vocational programs; and according to one survey, training expenditures by US employers totaled \$83 billion that year.² By comparison, the federal government spends an estimated \$14 billion annually on employment and training activities, primarily in support of the unemployed and vulnerable populations, as well as an estimated \$75 billion for higher education, including federal tuition subsidies (Pell Grants) and student loans.³

Federally funded worker training outside of higher education has been on the decline for decades,⁴ though low-cost, broad-access institutions (including community colleges, which receive a combination of tuition dollars and federal, state, and local funding) are increasingly important training providers. They train more people than coding boot camps, apprenticeship programs, and government-funded programs combined.⁵ Community colleges, vocational schools, and other broad-access institutions are therefore well positioned to partner with business leaders to deliver in-demand skills through innovative degrees, licenses, certifications, and other alternative credentials. Many stakeholders—including educators, private training providers, nonprofits, and government—must coordinate to deliver training programs focused on skills and jobs. But most critically, business partners attuned to industry needs must engage in this process and help map career pathways that correspond with actual jobs needed in their industries.

The pace of change, including forced technological transformation during the pandemic, demands a workforce of life-long learners who continuously upgrade their technology skills as well as “soft” skills valued by employers, including critical thinking, communication, and creative, “out-of-the-box” thinking—skills that cannot be automated. In response, the US will need to execute a comprehensive, collaborative strategy for preparing, upskilling, and reskilling a future-ready workforce.

Insights for what's ahead

RECOMMENDATIONS FOR A COLLABORATIVE TRAINING PLAN

The rapidly changing demands of the postpandemic economy require the full participation and collaboration of the nation's employers, trainers, educators, and public policy officials to prepare new workforce entrants with in-demand skills and upskill both displaced and incumbent workers. All American workers need valued, sought-after skills that unlock well-paying career paths.

BUSINESS LEADERS must identify and fill worker skill gaps and facilitate career mobility. To achieve this, leaders should:

- Prepare strategic assessments of emerging technologies and map the skills and roles needed to apply them;
- Empower employees to control their own careers by redesigning human capital processes to show employees clear career pathways, the skills they require, and ways to attain those skills; and
- Embrace competency-based hiring and promotion models that identify skills rather than degrees, cultivate and leverage overlooked sources of talent, and encourage employees to continue to advance their careers.

A Call To Action For Business Leaders

Business leaders can take simple, concrete actions in their organizations immediately:

1. **Sponsor at least one apprenticeship or pre-apprenticeship program**, either white or blue collar. Engage with three local community colleges and/or high schools to offer work-based learning options, especially those that include a mix of classroom and on-the-job experience and culminate in an industry-recognized credential.
 2. **Ensure that for every open position, hiring managers interview at least one person who has been unemployed long term and one person with an industry-recognized or other non-degree certificate or credential.** Even if candidates come from a seemingly unrelated industry or occupational background, focus on the quality of aligned and transferable skill sets.
 3. **Reach out to a local workforce board, a nonprofit, or a consortium that is coordinating employers in your industry.** Work in collaboration with other employers and training providers to address workforce development needs in your region's economy.
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BUSINESS LEADERS, TRAINING PROVIDERS, AND EDUCATORS across the local community should partner to establish new skill-development and career pathways. In partnership, they should:

- Grow and diversify talent pipelines that include support of underrepresented or economically vulnerable groups, such as workers economically impacted by COVID-19;
- Design curricula and training for the skill sets and experience employers need from new hires;
- Determine credentials based on attainment of skills instead of degrees;
- Engage with state and local workforce boards or employer-driven regional consortiums to improve the quality of publicly supported training pathways; and
- Participate in sector-based initiatives that deliver learn-as-you-earn opportunities to draw in workers who would otherwise be excluded because of their financial circumstances.

PUBLIC POLICY LEADERS should incentivize unemployed and employed workers to prepare for the post pandemic economy, as well as incentivize high schools, community colleges, and other training providers to seek out public-private partnerships. Policy to make the workforce development system more innovative and effective would include these steps:

- Create incentives for unemployed workers to upgrade their skills:
 - Provide unemployment benefit tax relief to recipients without four-year degrees if they incur skill development expenses; or
 - Consider a more generous training subsidy in lieu of the enhanced unemployment benefit.
- Support unemployed workers in maintaining reliable broadband access so they can tap into online training options:
 - Extend the Emergency Broadband Benefit or expand the Federal Communications Commission (FCC) Lifeline program to reimburse high-speed internet providers that affordably serve furloughed or unemployed workers.
- Direct existing federal resources to support postsecondary skilling efforts:
 - Modify Pell Grant eligibility to include short-term skill development programs such as certifications; and
 - Consolidate the Workforce Innovation and Opportunity Act (WIOA) Adult and Dislocated Worker programs into a single funding stream and replace other small federal training programs aimed at adults with dedicated carve-outs of WIOA funds (to simplify administration and reporting and make it easier to combine available funding for supportive services).

- Provide more options for employees to determine and meet their skilling needs and improve accountability among providers:
 - Establish a nationally recognized system of accepted credentials to increase workforce mobility;
 - Create Lifetime Learning Accounts to help workers surmount disruption and plan for training expenses across their careers; and
 - Establish outcome-based performance standards for eligibility for the use of Lifetime Learning Account funds.
- Establish a national goal that every student have access to employer-connected education or training experiences prior to or immediately following high school graduation. For innovative, labor market-informed approaches to early student career preparation:
 - Use community colleges to provide stackable, short-term training opportunities suited to employed students;
 - Help high school students to gain workplace skills for academic credit; and
 - Reach students as early as elementary school with business-informed experiences.
- Expand learn-and-earn apprenticeships among students and workers at all stages of their careers:
 - Offer high school apprenticeships that combine career preparation and on-the-job experience;
 - Encourage more high schools and community colleges to grow and diversify the pipeline of pre-apprenticeship programs;
 - Prioritize federal apprenticeship funds toward pilots in industries and jobs in which such programs are rare;
 - Expand apprenticeships for white collar jobs in the public sector; and
 - Urge community colleges to leverage their facilities and resources to support business and labor groups organizing and sponsoring sector-based apprenticeships.

COVID-19's Workforce Impact

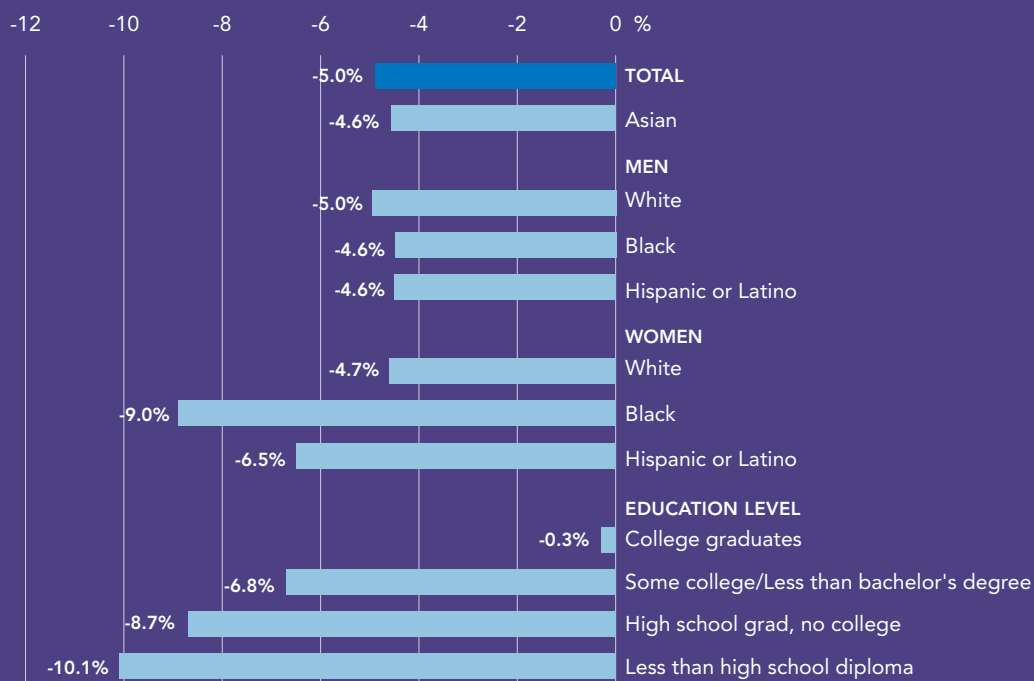
As of March 2021, there were 8.4 million fewer jobs for Americans than in February 2020, before the onset of the COVID-19 pandemic. Unemployment declined rapidly from nearly 15 percent in April 2020 to 6.0 percent in March 2021, but these numbers mask the millions of Americans who left the workforce during that time.⁶ Many were women, including mothers who left the workforce in droves due to school closures and lack of childcare. For other workers, what began as temporary furloughs turned into permanent layoffs as the pandemic wore on.

While the most visible job losses were in industries sensitive to business restrictions and social distancing measures, such as leisure and hospitality, job losses were concentrated among low-wage occupations across all sectors of the economy.⁷ The largest job losses were among workers without a high school diploma. High school graduates with some or no college saw employment declines that were almost as large. In contrast, college graduates have nearly returned to their prepandemic employment levels (Chart 1). By March 2021, over 40 percent of the unemployed had been jobless for more than six months.

Chart 1

Black and Hispanic women and those with less education have been hardest hit by pandemic job losses

Percent change in employment from February 2020 (prepandemic) to March 2021, by demographic group, seasonally adjusted



Note: National and Asian totals refer to persons ages 16 and older. Gender breakdowns are not available for Asians. Data for men and women refer to persons ages 20 and older; educational breakdowns refer to persons ages 25 and older.
Source: US Bureau of Labor Statistics

The nature of COVID-19's economic impact will be critical to understand as policy makers and business leaders consider how best to help displaced Americans return to work and determine training requirements among employed workers:

- 1 The recent fast-paced recovery will not be enough to get Americans back to work—pandemic-driven increases in technology and automation have shifted the job landscape.** The combination of an expanded vaccination campaign, historic levels of fiscal stimulus, and pent-up savings is likely to fuel strong demand growth throughout the remainder of 2021.⁸ However, the expected boost in hiring in some sectors—like retail and hospitality—will not be sufficient to return all willing Americans to work. Some of these jobs may have permanently disappeared, or at best, fewer new jobs will be added in these industries in the future due to the increased integration of technology in the workplace and structural changes in consumer demand.

COVID-19 restrictions and risk of infection, combined with an extraordinary shift to online activity (e.g., e-commerce, telehealth, online learning), accelerated the adoption of automation and technology. This trend is set to continue. According to one analysis, business adoption of e-commerce, cloud computing, encryption, and AI technologies (including machine learning and natural language processing), as well as nonhumanoid robots (e.g., industrial automation and drones), will accelerate significantly through 2025.⁹ At the same time, the sustained use of teleworking technologies and the decline in commuting and business travel may permanently decrease demand for many in-person, low-wage service occupations.¹⁰ Across all sectors, from healthcare to leisure and hospitality, occupations that were already at high risk of automation—such as medical assistants, food preparation and serving workers, receptionists and front desk clerks, housekeepers, ticket takers, and customer service agents—will become even more susceptible to job losses in a digital-forward, postpandemic economy.

- 2 The postpandemic recovery will reshape the labor market, including the occupations and skills in demand. Workers will need upskilling and reskilling to keep pace.** Getting Americans back to work will require not only a fast-paced economic recovery but also workforce training and reskilling to meet the tech-driven demands of the postpandemic economy. The acceleration in automation and AI will in turn accelerate a shift in skills. Lessons learned from past episodes of automation suggest that COVID-induced technological adoption will reallocate many jobs across industries. The real policy challenge is not mass unemployment but helping workers transition to new industries, skills, and occupations.¹¹

Jobs. While many jobs in retail and hospitality may not come back, they are likely to be replaced by emerging jobs in other industries. Using data on real-time online job ads, Burning Glass Technologies has identified five “economies” or sets of occupations positioned for future growth: 1) the Readiness Economy (e.g., jobs in biotechnology, cybersecurity, infrastructure, and public health); 2) the Logistics Economy (e.g., jobs in industrial big data analytics, internet of things (IoT) technologies, and supply chain management); 3) the Green Economy (e.g., jobs in renewable energy); 4) the Remote Economy (e.g., jobs supporting e-commerce, cloud computing, and network systems); and 5) the Automated Economy (e.g. jobs in AI and robotics, software and application development, and data science).¹²

On the other end of the spectrum, due to the rise in remote work and a sustained decline in business travel, the US Bureau of Labor Statistics projects that jobs in restaurants, hotels, and transportation, which were already on a downward trajectory before the pandemic, will fall more steeply over the next decade than previously assumed. Other jobs, like waiters and front desk receptionists, which were growing before COVID-19, will also decrease.

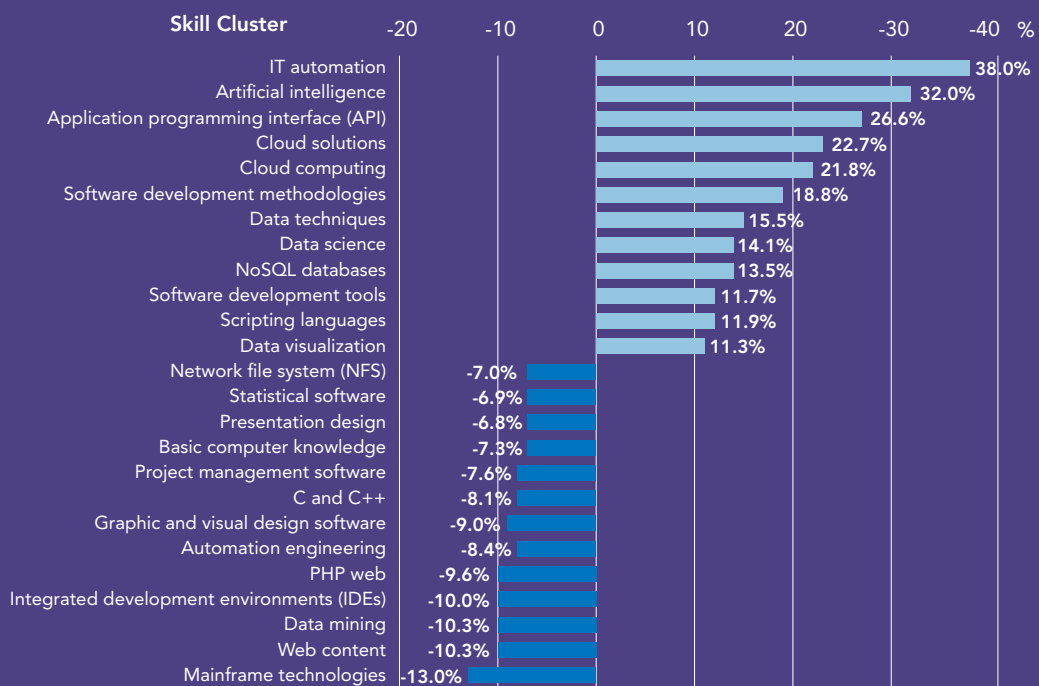
Skills. The growing shift to online activity, pandemic-inspired innovations, and greater reliance on advanced technologies have increased the need for highly skilled workers. All technology skills, both advanced and basic and in all sectors, will see a substantial growth in demand. In many industries, including healthcare, supply chain management, energy, sales, and marketing, innovations and technology in the workplace will drive a shift in skills demanded by employers.

Digital transformation spurred by the pandemic, and which otherwise may have taken years, is leading to faster growth in demand for technology services. Based on real-time online job ad data from [The Conference Board®-Burning Glass® Help Wanted OnLine®](#) database, employer demand for skills related to automation, AI, data connectivity, and cloud storage/computing accelerated the fastest among IT roles during the pandemic (Chart 2).

Chart 2

Across all IT roles, employer demand for skills related to automation, AI, data connectivity, and cloud storage/computing grew fastest during the pandemic while skills related to mainstream or older technologies declined

Percent change in the share of selected skill cluster mentions in job ads for tech occupations from 2019 (prepandemic) to the last 12 months ending in March 2021



Note: The HWOL dataset, provided by Burning Glass Technologies, identifies individual skills mentioned in online job ads and groups them into skill clusters. These skills and skill clusters are then calculated as a share for select occupations to determine which skills are mentioned more in online job ads relative to others in those same occupations.

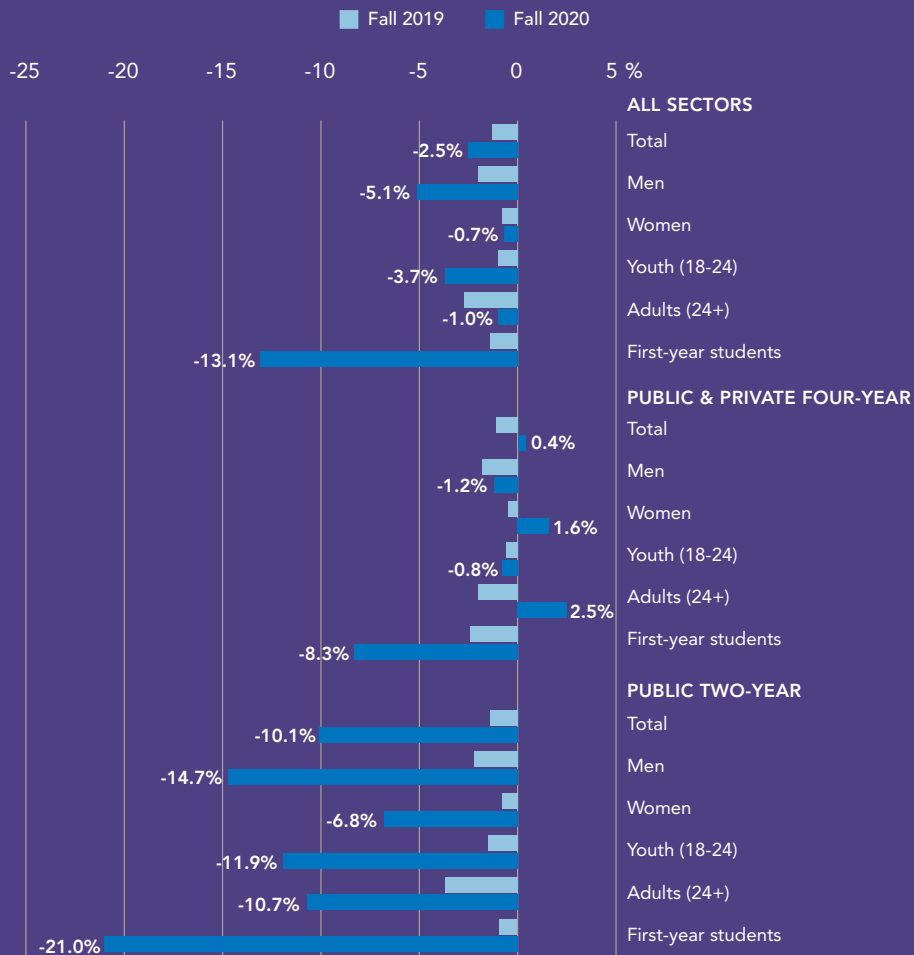
Source: The Conference Board®-Burning Glass® Help Wanted OnLine® (HWOL) data series

The prominence of tech-related skills, however, has led to growing employer demand for complementary “human” or “soft” skills that cannot be automated. One analysis found that the top nine future emerging skills identified by US executives are soft skills, led by analytical thinking and innovation, active learning, and complex problem solving.¹³

The impact of automation. While few jobs are fully automatable, about a third of tasks performed in most jobs, whether high skill or low skill, are thought to be automatable activities.¹⁴ Yet firm-level evidence suggests that use of advanced technologies, such as AI, changes both the task structure of jobs and the skill sets demanded by employers.¹⁵ Public policy and the private sector must focus on upskilling and reskilling American workers to spread the benefits of greater productivity and higher wages across the workforce.

Chart 3
In fall 2020, the largest pandemic-related declines in college enrollment were in public two-year colleges and among men and first-year students

Percent change in enrollment from previous year by institutional sector and demographic group



Source: National Student Clearinghouse Research Center Current Term Enrollment Estimates Fall 2020 and calculations by The Conference Board

- 3 Falling college enrollment during the pandemic, especially in community colleges, is making it harder for at-risk workers to learn new skills.** Community colleges, which historically see enrollments rise during economic downturns, were hit harder during the COVID-19 recession than their four-year counterparts and suffered the majority of the decline in overall postsecondary enrollment in 2020 (Chart 3).

Lower college enrollment overall during the pandemic, especially among first-year students, means that we will potentially see a cohort that will enter the workforce with lower education, lower skills, less employability, and lower productivity and earnings. But the pandemic-induced decline in two-year, postsecondary school enrollment is especially alarming. These are schools that tend to service more low-income and minority students, students raising children, and people who are working.¹⁶ Research shows that once there is an interruption in postsecondary schooling, especially during the early stages of an academic program and among Black and Hispanic populations, it is less likely that students will re-enroll and graduate.¹⁷ To the extent that the pandemic has had a greater impact on two-year institutions than four-year ones, the first rung of the career ladder is now even further out of reach for the most vulnerable populations. Two-year colleges serve as an alternative gateway into the workforce, offering short-term credentialing programs and facilitating job placement through vocational and apprenticeship programs—growth opportunities that are now being left fallow.

Business Leaders Must Form Innovative Partnerships to Reignite the Workforce through Skill Building

Preparing America's workforce for tomorrow's jobs will require business-led partnerships that tightly connect industry, educators, workers, state and local governments, and nonprofits to meet the skill demands of the postpandemic economy. Business leaders must champion these partnerships because they are in a unique position to connect real demand in their industries to future skills needed by employees. Business should assess their skill gaps and requirements; signal their needs and viable career paths to employees and would-be employees; open gateways through hiring reforms focused on skill needs; and provide effective mentoring, guidance, and opportunities to help entry-level workers of all backgrounds develop their careers.

Business leaders will be critical to reforming career development. Together, employers and the trainees themselves fund most workforce training in the US. In 2019, consumers spent nearly \$250 billion on higher education and vocational programs, and according to one survey, training expenditures by US employers totaled \$83 billion that year.¹⁸ Through innovative partnerships, they can help create alternative pathways that enable all workers to bridge the skills gap, find a better-paying job, and grow their careers.

A focus on skills rather than jobs

In the era of automation and digitization, the speed of change in business is accelerating, changing the skills businesses need and hire for. Static job definitions and management within organizations can no longer keep pace with how fast jobs are evolving. The pace of change demands a workforce of life-long learners who can continually learn and develop new and needed skills. The business practices outlined below will be critical to these efforts.

Prepare strategic assessments that include emerging technologies and map future skills and roles needed

The in-demand skills that emerged from business transformations and innovations during the pandemic will drive employers' future workforce development initiatives. The ability to define skills—not jobs—required to complete tasks and projects is at the forefront of how work is changing today.

Yet each organization's particular set of emerging skills will also depend on its strategic technological outlook. That is, the specific tools, platforms, and cutting-edge technologies required in the short and long term. Employers must plan to determine how they will integrate those technologies into their businesses and what specific skills will be needed, so they can provide clear guidelines to their employees about opportunities and offer support and skill development.

Redesign human capital processes and employee experiences to support new pathways

A focus on skills will require changes in the talent and human capital strategies used by many organizations today. The ability to hire, promote, and move talent within the organization based on skills, not jobs or hierarchy, is a concept that is new to most HR practitioners and will require that they recalibrate those processes. With a skills-oriented approach, everything from recruiting to learning and development, to performance management and assessment, to promotions and talent mobility must change.

For example, employees with specific skill sets can move from project to project (not job to job), and projects can be shorter or longer in duration. How employees think about work and navigate through projects to acquire skills will require a different mindset. This is dramatically different from how we think of work today. Even systems in place (i.e., HR information systems) are aligned to jobs and how we manage headcount and staff. Human capital functions will need to take an agile and transformational view of how work is done, identify skills and skill gaps, and implement new processes and pathways that facilitate the movement of talent and skills.

Make potential needs and pathways clear to current and would-be employees to empower individual initiative

Business leaders must strategically guide and empower their human capital teams to design new and different pathways for employee careers and experiences based on skills. Understanding what skill sets overlap across jobs—or “skill adjacencies”¹⁹—is core to helping move talent from one area of the organization to another. Employers can find promising employees by seeking out skill adjacencies that enable workers, with short-term training, to upgrade transferable skills and take on higher-paying roles. With information about skills in demand, employers can empower employees to take control of their own careers via individual courses and nanodegree programs.

By forcing many companies into new business models and faster adoption of technology, COVID-19 has increased the urgency to improve employees’ technical literacy—for example, by increasing basic understanding of AI, cloud, and blockchain technologies. Companies should demonstrate commitment to technical literacy that enables employees to easily upgrade their skills and adapt to ever-evolving roles.²⁰

Some companies have taken this a step further, implementing tech-based assessments of future skills and job needs. AT&T embraced this approach even prior to the pandemic. Based on planned technology integration, the company identified its future skill, job, and training needs, made these needs visible so that workers were informed about the skills required to advance, and supported employees to take a more active role in managing and navigating their own learning journeys and career opportunities (see box on page 13).

In the broader job market, transferable skills are the building blocks that can define new career paths for workforce entrants or displaced workers. Skill adjacencies can match similar skill sets across seemingly unrelated occupations to unlock new career pathways in emerging jobs and industries. For example, by leveraging transferable skills (e.g.,

customer service, staff management, stock control, and cleaning) and accessible training, a displaced barista may “step into” a career as a pharmacy technician, or a bartender can pivot to the role of housing officer.²¹ Such “step into” jobs serve as progression routes into new careers and fields where workers can continue to build skills and advance to higher-paying roles. Within a company, with a greater understanding and acceptance of skill adjacencies, employers can take a more flexible approach to recruitment that focuses on competency-based hiring and recognizes the validity of alternate pathways.

AT&T: Using technology platforms to connect employees to their future pathways through skill development

In 2013, AT&T began a massive reskilling effort. As part of its “Future Ready” initiative, AT&T assessed the skills it needed for the future and shared this information with employees. It offered a wide variety of opportunities for employees to develop and align new skills with emerging roles to remain relevant to the company’s businesses. AT&T aimed to be transparent about future business demands and empowered employees to take control of their own careers via individual courses, nanodegree programs, and degrees with universities. For AT&T, its employees’ careers are dynamic journeys that can be customized toward their own needs and evolve across the employee life cycle, requiring a life-long learning approach.

Not only did AT&T provide the funding to support employee development opportunities, but it also created platforms to facilitate this workforce skilling effort. For example, the Personal Learning Experience platform is a portal where employees can search jobs based on their competencies and manage and measure their learning against their development plans. In addition, a Career Intelligence tool was implemented to show employees what future jobs will be at AT&T, the skills for those jobs, hiring trends, and how to identify specific skills gaps and align development opportunities to close the gaps.

Source: “DNA of engagement 2018 Case Studies: AT&T,” The Conference Board, February 2018.

Pursue competency-based hiring

With a greater emphasis on the skill attainment of workers, companies can reorient hiring practices away from static and often incomplete job descriptions toward skills and competencies. Job descriptions focus heavily on basic degree requirements, even when the role may not require it for productivity. Educational attainment has not been a particularly effective filter or measure of job-relevant skills. In one survey of employers, 68 percent reported that nondegree workers with experience were either more or equally likely to have high levels of productivity compared to recent college graduates, and 63 percent expected nondegree workers with experience to reach full productivity as fast as or faster than college graduates.²²

As before the pandemic, when labor markets were very tight, hiring managers can expand the pool of available candidates by:²³

- Reworking job descriptions to better reflect the qualifications and competencies actually needed to perform roles;
- Relaxing certain hiring requirements like educational attainment or work experience in favor of demonstrated competencies paired with increased entry-level training to fill potential knowledge gaps; and
- Accepting alternative credentials and certifications.

A recent report from The Conference Board, *Different in Degree: Closing the Talent Gap with Alternative Credentials*, lays out both the benefits and challenges of moving to acceptance of alternative credentials from an employer perspective. Utilizing alternative credentials can expand talent pools, create a more diverse workforce, help incumbent employees to advance, and help focus an organization's training efforts on entry-level workers to ensure they have the mentoring and training necessary to be successful after entry.

For example, in July 2020, Google launched a new array of Google Career Certificates in the fields of IT, data analytics, project management, and user experience design to facilitate skills development and unlock sustainable career paths for those without a college degree.²⁴ Google collaborated with other employers to develop the curriculum and ensure it provided job-ready skills for graduates to be prepared for new tech-forward roles. In addition, Google partnered with the online course platform Coursera to make the certificates widely accessible and collaborated with more than 130 employers, including Verizon, Intel, and Bank of America, to create the Google Career Certificates Hiring Consortium.²⁵ In committing to hire graduates from the Google certificate program, the consortium recognized the validity of the alternative credential and created a pipeline for nontraditional talent, not only among participating employers but in the broader job market. Google itself now treats these certificates as equivalent to a four-year degree.²⁶

Business leader engagement in innovative partnerships with key stakeholders will make or break the nation's efforts to reskill the workforce

Improvements in the nation's workforce development system will require the participation and efforts of business leaders to succeed. Employer partnerships with key stakeholders are critical to workforce reskilling efforts. In a time of potentially rapid change in skill demands in the wake of COVID-19, employers will have the best lens into how those demands may be shifting—and how to improve the quality and outcomes of available training pathways. Partnerships can be diverse and creative, ranging from collaborations with academic institutions, associations, or consortiums of employers to local community-based organizations. Business leaders can pursue partnerships and position their organizations for success by taking the steps outlined in this section.

Partner with other employers and nonprofits to target undertapped sources of talent

Different partnerships target different audiences in need of skill development, including new workforce entrants who are behind the skills curve, workers who have been displaced or are at risk of displacement by the COVID-19 pandemic, or incumbent workers whose current skills may soon become obsolete as a result of fast-paced adoption of technology. The needs of each of these populations and the ways to address their skill challenges vary. But companies do not need to develop solutions alone; those who find partners and collaborate to support different worker needs will be able to connect with and build a wider talent pool.

For example, recognizing the COVID-19 crisis' disproportionate impact on Black women, Google launched the Grow with Google: Black Women Lead initiative to train 100,000 Black women in digital skills and advance their career development by 2022.²⁷ The Grow with Google partnership works with Black women-led organizations (i.e., Dress For Success, The Links, and four National Panhellenic Sororities) to provide participants with trainings, workshops, and other support, including interview preparation, mentorship, and networking assistance.

Companies can also band together to target underserved populations. CEOs from 27 New York City employers, including Accenture, JPMorgan Chase, and the Mount Sinai Health System, created the New York Jobs CEO Council and pledged to hire 100,000 New York residents from low-income Black, Latino, and Asian communities by 2030.²⁸

Partner with academic institutions to improve the design and content of training programs and establish a protocol of transferable credentials

Business leaders have an interest in ensuring that high schools, community colleges, and other training programs provide learners with skills the job market values. Indeed, many employers often lament that new graduates lack the skills that would help them be more productive employees. While companies partnering with colleges and universities to steer local programs is not a new approach,²⁹ some employers have recently enhanced the arrangements to benefit students and employers.

To develop sustainable career pathways for recent graduates, 25,000 of the jobs created by the New York Jobs CEO Council mentioned above were earmarked for students from the City University of New York (CUNY). In partnership with the school, and with a focus on training for the technology jobs of tomorrow, Council employers will help develop new tech-forward classes, provide input to update other parts of the CUNY curriculum, and offer paid internships and apprenticeships. Some participating companies will also relax hiring standards to no longer require four-year degrees.

FedEx also launched an initiative by partnering with a local university to support their employee population, many of whom may not have started or completed a degree or need new skills. Along with university course work, FedEx recognized the need to support employees through the experience with services, such as academic coaching and 24/7 tutoring, programs for high school equivalent attainment, and a learning center with computers and internet to access online learning modules.³⁰ These creative "wrap

around” support solutions are critical to employees who need help to complete their learning journeys.

Even employers seeking advanced degrees, including PwC, KPMG, and EY, have recently collaborated with universities to customize graduate programs with real-world internships, apprenticeships, and project work as part of the degree curriculum.³¹ For students, these programs often offer tuition support and guaranteed job placement after graduation. Time spent working on company projects is also compensated. The companies have focused these programs on Black and Latino students to access diverse talent. EY has also created a customized, tech-focused degree to support rapidly changing skill needs.

Without employer input and an infusion of work-based learning, traditional college degrees may primarily signal intelligence and potential rather than applicable skills. For some roles, especially in IT, alternative credentials may be a better indicator of workforce readiness. In recent years, the number of boot camps and other training offerings (both online and offline) has exploded. During the COVID-19 pandemic alone, enrollment in short-term credential classes increased by 70 percent.³² But the content and quality of these programs—with more than 700,000 distinct credentials on offer³³—can be variable, making them less useful as an indicator of job-related skills.³⁴

Moreover, for credentials to serve as sufficient pathways to sustainable careers, business leaders must coordinate with both educators and other employers to establish a concentrated set of widely recognized and transferable, market-relevant credentials. In addition to identifying the skill sets and competencies needed and advising on curriculum, employers must help design relevant assessments and sector-based outreach strategies that garner widespread acceptance of the credential. Such efforts can also seek company commitments to hire candidates who have earned the credentials, as Google did with the certification program mentioned above.

Partner with public workforce boards and employer consortiums

Workforce Development Boards are likely the fastest and most effective path to advancing the skills of workers displaced as a result of the COVID-19 pandemic. Business leader engagement with workforce boards—as members or partners—is a critical component of the goal of ensuring that local talent learns the right skills and is prepared for emerging roles. Local and regional Workforce Development Boards are part of the public workforce system and serve to facilitate partnerships between businesses, educators, and trainers to make federally supported training programs more responsive to employer needs.

These boards—half of whose membership must come from the local business community—serve as important decision makers for directing resources to ensure trainees receive effective programs and services. These boards allow employers to have direct involvement in improving training by articulating the skills in demand in their industries. Not every employer can serve as a member, but by partnering with workforce boards, employers can actively improve the quality of local talent by providing input on the updated job skills businesses are seeking, thereby expanding their own pool of recruits.

Consortiums or associations of employers are another important way for businesses to be involved. They can take the form of broad scale or regional partnerships between employers and community or technical colleges and aim to align curricula and training programs to in-demand skills and jobs. They have the additional advantage of addressing the needs of many employers simultaneously. For example, the employer-led Capital CoLab initiative in Washington, DC, aims to strengthen STEM talent pipelines in the region by enhancing collaboration between the business and education sectors.³⁵ The goal is to develop a highly skilled technology workforce locally as a means to generate high value employment.

Participate in sector-based initiatives that deliver on-the-job learning experiences

Business leaders can also take steps to improve their pipelines of available talent more directly by participating in sector-based workforce development initiatives that shape training programs to the collective needs of their industry. In industry-based models, training is typically provided by education and training partners but can also be coordinated by an industry association or union that can ensure that credentials are widely recognized across employers. With employer participation, the most effective industry-based training programs help direct trainees toward roles that have potential for advancement and guide them on how to grow their future careers.

Employers can become involved in industry-wide workforce development strategies by hosting trainees for apprenticeships and other on-the-job experiences, donating expertise or equipment, or committing to hiring certain numbers of graduates of a given program.

Walmart's sector-based Retail Opportunity Initiative aims to accelerate career growth in the retail sector. It creates pathways for frontline, incumbent retail workers and has awarded grants to various local and state workforce development boards, including in Dallas, Phoenix, Colorado, and California, to bring together local retailers and help implement service-sector upskilling programs.³⁶ For example, Walmart provided funding for the launch of Colorado's statewide "Lives Empowered" program which will develop partnerships among retailers and providers of education and training to upskill incumbent workers. The program will culminate in a scalable retail-sector-partnership playbook that other states can follow.

In other sectors with relatively high-paying, entry-level jobs—such as information technology, manufacturing, and health care—high-quality, industry-based training efforts have demonstrated promising results. In randomized evaluations, these sectoral employment programs have been shown to raise the earnings of low-wage workers without four-year degrees.³⁷ For example, across four different high-performing, industry-based training efforts, graduates typically experienced earnings increases of between 14 to 39 percent shortly after completing the programs. Where longer-run data is available, earnings gains appear to persist.

Public Policy Must Incentivize Collaboration and Reform to Prepare the US Workforce for the Postpandemic Economy

In its July 2020 Solutions Brief, *Meeting the Upskilling Challenge: Training in the Time of COVID-19*, CED laid out the need for comprehensive reform of the publicly supported US system of career preparation and training as the economy emerges from the COVID-19 crisis. For policy makers, supporting a quick rebound in demand and striving to get back to the tighter labor market conditions of the years immediately preceding the pandemic is critical. Publicly supported job training, which has disappointed in the past, will be a key component of recovery, particularly for workers displaced by COVID-19 who are looking to shift sectors and find better-paying or more stable employment. The federal government spends an estimated \$14 billion annually on employment and training activities, primarily in support of unemployed and vulnerable populations, as well as an estimated \$75 billion for higher education, including federal tuition subsidies (Pell Grants) and student loans.³⁸

Policy makers should seek changes that will not only address the current crisis but also effect lasting change. As outlined in the recommendations below, accomplishing that goal will require the US to reform the workforce development system along multiple dimensions. Such reform should include growing participation among both employers and would-be trainees and changing how the skilling efforts of low-income students and workers are financed—to ensure the workforce system supports the shifting skill needs and circumstances of workers in each stage of their career. An effective post-COVID-19 skills agenda must also drive increases in the quality of workforce development. Offerings should be future-oriented and employer-connected with heightened accountability for providers in delivering value for those who complete programs.

Public policy must move beyond income support and begin to address training needs

So far, Congress's unemployment relief efforts have focused on providing immediate income support to the millions of workers displaced by COVID-19. But more than a year into the pandemic, over four million workers have been unemployed for over six months, with decreasing prospects for returning to the jobs they lost or left. Even with a strong economic recovery, it will take time for many of these workers to find new paths to employment. It is likely that large numbers of these workers—particularly those displaced from jobs in lower-wage industries that are not expected to fully rebound in the years ahead (such as retail and food services)—would benefit from employer-connected training opportunities that could alter their earnings path and career trajectories. While many face barriers to upskilling, the public interest in helping as many displaced workers as possible to reskill is strong.

But for low-income workers without reliable earnings, undertaking the expense of training while unemployed is daunting. Especially in the current public health crisis, earnings prior to their current period of unemployment—or the enhanced unemployment benefits they have received—may reduce or limit eligibility for public tuition assistance. Other low-income workers may be concerned about extending their time out of the workforce, particularly if enhanced unemployment support is set to expire during their contemplated period of training, reducing anticipated income support. Such workers may be interested in training programs that are significantly shorter than what current public tuition assistance programs would allow.

To deal with the magnitude of the unemployment challenge currently facing the US, policy makers will need to move beyond income support and begin to address training needs to help unemployed workers transition to, or return to, promising earning trajectories. Of the roughly \$5.3 trillion in aid enacted since March 2020 in response to the COVID-19 crisis,³⁹ little of it has gone to support training activities.⁴⁰

Since April 2020, CED has called on Congress to take action to prepare the American workforce for the post-COVID-19 economy.⁴¹ Support for job training has often been bipartisan, and Congress has at least considered training initiatives in response to COVID-19 previously. For example, in May 2020, a bipartisan group of senators and house members put forward a proposal to provide a fully refundable \$4,000 skills training tax credit for workers who engage in training in high-demand sectors, but it has not been adopted.⁴²

To support large-scale upskilling, provide incentives for unemployed workers to upgrade their skills

Provide unemployment benefit tax relief to offset a portion of skill development expenses

On a time-limited basis, Congress should pass training support for unemployed workers without four-year degrees to help offset the cost of training undertaken at low-cost, broad-access institutions—including, but not limited to, community colleges—either by direct support to the recipient or to the institution or organization providing the training.

Congress has already provided significant financial relief for unemployed workers, including unprecedented weekly unemployment benefit enhancements and new pandemic unemployment programs to support workers not typically eligible for unemployment benefits. It should strive to be cost-conscious in providing additional support.

One option would be for Congress to provide tax relief on unemployment benefits if recipients incur expenses related to skill development. Unemployment benefits are typically treated as taxable income, but Congress could opt to provide a capped deduction for unemployment income—up to \$5,000—for spending on qualified training expenses in 2021. A capped, refundable tax credit approach, such as providing a credit worth 20 percent of up to \$10,000 in allowable expenses (not to exceed the value of federal unemployment benefits received), would also achieve a similar aim. Under such a proposal, an unemployed worker receiving \$5,000 in unemployment benefits in

2021 would be eligible for a refundable tax credit worth \$1,000 if their eligible skilling expenses reached or exceeded \$5,000.

Alternatively, Congress could consider taking advantage of the enhanced unemployment benefit structure—which provides an additional \$300 per week on top of other federally-supported unemployment program benefits—that is scheduled to remain in place until September 2021. For instance, Congress could offer unemployment benefit recipients the option to either receive the \$300 per week supplement or a training subsidy—which could be used on tuition, broadband access, childcare, or other allowable support expenses—worth up to the equivalent of one and a half times the enhanced unemployment benefit, forgone over a capped period. So, for example, an enhanced unemployment beneficiary willing to forgo a maximum of twelve weeks of enhanced benefits would be eligible for a training subsidy worth up to \$5,400. Converting federal income support into more generous training support among willing recipients may be an attractive way to expand training support and the long-run return on federal investment during the pandemic while constraining cost.

Support unemployed workers in maintaining reliable broadband access so they can tap into online training options

With many upskilling opportunities having migrated online in response to the pandemic, increased training options and greater scheduling flexibility may make training in 2021 and beyond more attractive than in the past. For instance, online training options—especially those with asynchronous components—may be highly attractive to would-be trainees who have struggled to find reliable childcare arrangements in order to take advantage of training opportunities outside of the home.

However, the “digital divide” has long created barriers to accessing low-cost, flexible online learning in rural areas and for low-income families. COVID-19 has made those barriers more visible and more immediate. Unemployed Americans may also struggle to maintain access to high-speed internet, especially during periods of acute financial stress when they must cut expenses.⁴³ Yet high-speed service provides greater job search, work, and training opportunities. Greater access to online learning options can also expand available career paths and reduce the cost of acquiring skills.⁴⁴

As CED recommended in its March 2021 Solutions Brief, [Broadband Access: Connecting America](#), Congress should help unemployed workers maintain access to high-speed internet service both during the COVID-19 public health crisis and on an ongoing basis. Congress should extend the Emergency Broadband Benefit enacted in December 2020 that reimburses high-speed internet access for furloughed or unemployed workers or, at minimum, expand eligibility for the Federal Communications Commission (FCC) Lifeline program, which subsidizes internet service for low-income households, to workers who have qualified for unemployment insurance benefits. These measures would support job search and retraining and help families get or maintain internet access.

The US must direct existing federal resources more effectively to support postsecondary efforts at skilling

Modify Pell Grant requirements to better support the skill needs of trainees

Pell Grants—subsidies awarded to postsecondary students with financial need through participating educational institutions on a semester-by-semester basis—serve as one of the most significant sources of federal support for job training and preparation among low-income trainees without bachelor’s degrees. In the 2017–2018 award year, more than a quarter of all Pell Grant funds—over \$7 billion—went to supporting over two million low-income students enrolled in two-year public colleges.⁴⁵

In contrast to vast funding for students from Pell Grants, Workforce Innovation and Opportunity Act (WIOA) programs, the main channel for public funding of workforce training, supported far fewer participants. Only 300,000 workers received job training supported by WIOA programs, even though they represent one of the largest sources of federal support for job training outside the federal postsecondary education financial aid system.⁴⁶

Restrictions in the minimum course length supported by Pell Grants make it less than ideal for supporting the full range of US training needs. Under current program rules, Pell Grants can only be used toward postsecondary programs lasting at least 600 instructional hours and 15 weeks. Students and trainees pursuing shorter, more tailored certificate programs—even within the same accredited institutions offering longer Pell-eligible programs—are ineligible for Pell Grants, potentially driving them toward longer and more expensive programs.

Ironically, because program eligibility is unrelated to labor market outcomes, Pell Grant restrictions potentially make it more difficult for students to pursue the most effective training programs available, even if a shorter-than-eligible program would advance the trainee’s earning potential or help them secure employment. Additionally, institutions offering innovative training models meant to better balance the needs of midcareer workers who can’t afford long spells out of the workforce may lose out on Pell Grants if they don’t structure offerings to be Pell-eligible under current rules. Such rules exclude making use of flexible, stackable credentials—earned in short bursts of training—or based on demonstrated competency rather than seat time.

Pilots that experimented with Pell support for students attending short-term occupational training programs lasting as short as eight weeks increased program enrollment and completion by roughly 10 percentage points.⁴⁷ In addition, a recent study of program duration did not find a clear pattern of longer programs leading to better results.⁴⁸

CED recommends that Congress relax the Pell Grant duration requirements to better tailor the program to support shorter training programs that demonstrate effectiveness. Proposals along these lines have received bipartisan support from Congress in the past.⁴⁹ Crucially, as outlined further below, the relaxation of requirements on eligible, nondegree training programs should be paired with efforts to direct training dollars to high-quality programs that demonstrate a high return on training tuition dollars invested—through higher pay and better employment outcomes—regardless of program length.

Consolidate existing sources of funding, including federal workforce development funds, so they are more flexible and easier to use

Federal job training programs and their funding are often fractured and duplicate efforts; this is a longstanding complaint among some observers.⁵⁰ Congress has made some progress in reducing the number of federally funded job training programs and has taken action to push for more rationalization and coordination of grantees at the state and local level through workforce boards. Nevertheless, a 2019 review by the Government Accountability Office (GAO) identified 43 different federal programs funding employment and training activities in Fiscal Year 2017.⁵¹

Some of the apparent overlap stems from Congressional efforts to target particular populations with separate, tailored programs rather than prioritizing populations served within broader eligibility criteria. For example, school-disconnected youth, workers displaced by the effects of increased international competition, or beneficiaries of the Supplemental Nutritional Assistance Program subject to work requirements may each be eligible for services funded by different federal programs. The resulting proliferation of programs may owe more to Congress's interest in maintaining oversight across several committees than to an effective use of dollars, particularly when states and local entities may be recipients of multiple funding streams.⁵²

Federal dollars should flow to where they can be used most productively and effectively to help struggling workers rather than focusing on the cause of a worker's vulnerability or loss of employment. Further consolidation with an aim of giving states and localities more discretion to target members of their population based on need and effectiveness would be beneficial. For example, the WIOA Adult and Dislocated Worker programs should be combined into a single stream of funding. In the wake of the pandemic, when accelerated adoption of technology, shifting skill demands, and structural adjustments could increase displacement of workers, the distinction of whether workers are displaced by trade or let go as part of a larger industry shift feels less important. Additionally, states and localities would benefit if some of the smaller federal programs were brought under a single federal source of administration, compliance, and oversight, even if those programs' relative prioritization of funds were maintained through small carve-outs of WIOA funds.

Streamlining and simplification within federal job training may also make state and local efforts to provide comprehensive supports for job trainees in need easier. For instance, the US has also been faulted for a failure to provide wrap-around supports that would help the most financially vulnerable workers to complete potentially lengthy training programs while dealing with other obstacles like care responsibilities or medical conditions.⁵³ Often the critical supports a trainee needs may be available, or even provided, through programs disconnected from the training. Rather than effectively targeting an array of supports tailored to the individual—with the potential to deliver a more successful and ultimately more cost-effective intervention—the burden is on trainees to identify and secure the additional supports they need.

Better integration between potential sources of funding for job training and supportive services also means that when beneficiaries are interested jobseekers, the connections to employers developed under the auspice of either set of programs can be leveraged. For instance, better coordination between WIOA and the Temporary Assistance for Needy

Family Programs—formally encouraged by WIOA—or other sources of childcare support, provide particularly promising models for integration.⁵⁴

Outcomes-based accountability among providers and better, more flexible financial planning tools will help Americans manage their life-long skilling needs

Having displaced millions of workers and accelerated technological transformation, the COVID-19 pandemic has made clear that learning and training will likely be lifetime endeavors for much of the current workforce. As a result, even relatively well-off workers will need help planning and financing their own education over a period of decades.

Create Lifetime Learning Accounts to help workers navigate disruption and plan for uncertain training expenses across their careers

Since 2017, CED has called for the establishment of Lifetime Learning Accounts (LLA)—tax-free accounts, similar to health savings accounts—for every American. LLAs would be portable, depository accounts that could be used to pay for courses, training, certification, and other allowable education-related expenses. The accounts would be available for the receipt of public and private support when appropriate, including personal savings applied toward education (akin to 529 account deposits), federal grants or job training support, employer tuition assistance, veterans' education benefits, and AmeriCorps Education Awards. The funds would grow at a tax-free rate and remain available for transfer to other family members to encourage cost-conscious use of available funds.

LLAs would help workers recognize the need to prepare for future education expenses and simplify federal efforts to quickly target aid to displaced workers in the event of a crisis. For instance, an LLA infrastructure would provide the administration necessary for CED's proposal to allow unemployed workers to opt for training subsidies rather than enhanced unemployment benefits. LLAs would also provide a platform for states and localities interested in incentivizing education and training savings to provide matching funds that could be deposited into individuals' accounts. Versions of individualized education savings accounts, often government-supported, have been in use in countries like Singapore and France, and some US states and cities have launched programs or run pilots along similar lines.⁵⁵

Establish outcome-based performance standards for use of Lifetime Learning Account funds

To be feasible and safeguard federal investment, LLAs must enforce a quality assurance standard to determine which education and training programs would qualify as eligible expenses. The implementation of that standard would help pull providers into a common system of reporting on program dimensions and outcomes that would improve the information available to students or trainees. Such information could enhance recent efforts by the Department of Labor to make key outcome data, such as completion rates and subsequent employment and wages associated with training programs funded through WIOA, more broadly available.⁵⁶

Enforcing reasonable levels of performance for programs receiving LLA funds—adjusted for the characteristics of students and trainees served—could be a catalyst for a broad renewal of a meaningful “gainful employment” standard. Compared to past efforts to define and enforce gainful employment standards, LLA could compel a much broader swath of both education and training program providers to voluntarily report consistent measures of near-term outcomes and return on investment following program completion as a condition of eligibility to receive funds. Such mandatory reporting would help would-be trainees or students assess their options for skilling across the full continuum of the workforce development system.

The private sector must be included in public sector workforce development efforts

Public-private partnerships are needed to improve public workforce development efforts. At every point in the worker preparation pipeline, public institutions and policy makers must coordinate with the private sector to help America meet the challenge of upskilling its workers for promising, higher-wage jobs and career paths.

Entities who receive public support must be aggressive in pursuing public-private partnerships and collaborations. Educators and training providers who serve a broad swath of the future workforce—such as high schools and community colleges—are uniquely situated to serve as focal points for pulling together the local employers, employer associations, unions, and other community entities needed to provide learning experiences that reflect the current labor market. Schools can achieve this by participating in partnerships that allow them to provide easily accessible, business-involved learning experiences to students before and immediately following high school graduation. There is not a single model guaranteed to deliver these results, but policy makers at the federal and state level must do more to encourage adoption of promising practices and promote experimentation.

Establish a national goal that every student have access to an employer-connected education or training experience

Particularly for the many students and trainees who will seek employment upon graduation, schools and training providers have an obligation to deliver trusted, market-informed, and employer-connected experiences and skills that are in demand. A few examples of innovative labor market-informed approaches to career preparation that reach students early in their career include:

- **Utilizing community colleges to provide short-term training opportunities for students, including those who may be working.** The Virginia Community College System’s FastForward program uses existing education infrastructure to offer short-term training programs—typically six to twelve weeks—culminating in industry-recognized certificates or other credentials for jobs in high demand in local industries. The programs are intended to serve students who may be working while they train and provide stackable credentials towards a higher certification or better-paying job within a worker’s career path. The FastForward program is supported, in part, through a public-private partnership with VA Ready, a business-capitalized initiative that offers additional financial support

to FastForward participants completing certain programs and helps to connect graduates to potential employers.⁵⁷

Effective programs outside the public school system should also be encouraged and learned from. For example, the nonprofit Year Up supports apprentices with a stipend while they participate in a program split between employer-connected skill training and a six-month internship with corporate partners. Such programs with a strong sector focus can be effective: an evaluation of Year Up found that, upon completion, the earnings of program participants were 50 percent higher than that of a nonparticipant control group, and the earnings gap remained large a year later.⁵⁸

- **Providing high school students with opportunities to gain workplace skills for credit.** Efforts to help students gain knowledge of, and experiences in, different fields can be enormously beneficial. The Pathways in Technology Early College High School (P-TECH) model, originally designed in partnership between IBM, the New York City Department of Education, and City University of New York (CUNY), provides academically at-risk students entering high school with a structured path to a tuition-free associate’s degree in STEM. The P-TECH curriculum includes dual college and career readiness foci. In addition to early college elements, it offers specific labor market-aligned skills and some form of work-based opportunity, such as workplace visits, job shadowing, or internships. While the program is too new to show much by way of labor market outcomes, students participating in P-TECH earned more early credits for college and performed better academically than similar peers.⁵⁹

In other select locations, intermediaries like the XQ Institute—a nonprofit that strives to redesign high school programs to better prepare students for college and future careers—have helped to spread locally-tailored high school redesign efforts to more school districts. These efforts leverage business and community partnerships to reinvent high school with competency-based learning models, including internships and other hands-on experiences.⁶⁰

- **Where employers are willing partners, apprenticeships starting in high school can be an effective way to combine career preparation and on-the-job experience.** But scaling apprenticeships on a school-by-school basis or on a one-off basis can be difficult, leading some states to experiment with more state-level coordination. In Colorado’s CareerWise program—a statewide effort to bolster career readiness based on the Swiss youth apprenticeship model—high school juniors are hired by participating businesses, splitting their time between traditional classroom learning and employment for both class credit and wages. The experience culminates in an industry credential and options for higher education coursework after high school graduation.⁶¹
- **Reaching students as early as elementary school with business-informed experiences.** Particularly for students who may not be planning to pursue further education after high school, it is important that partnerships for workforce development begin outreach earlier. Under the innovative World of Work program in Cajon Valley, the curriculum is designed to give students exposure to different vocational interests and potential career connections starting in elementary

school.⁶² The curriculum was partly inspired by Qualcomm’s Thinkabit Lab, a local effort which provided programming centered around inventions to give young students (some in elementary school) hands-on STEM experiences and exposure to STEM careers and fields. In response to COVID-19, Qualcomm adapted the Thinkabit Lab program to be delivered through remote learning and virtual summer camps.⁶³ In another initiative centered around early exploratory STEM experiences, Amazon has partnered with BootUp PD, a professional development provider, to assist elementary schools in integrating district-wide computer science initiatives into their curriculums. Through its Future Engineer program, Amazon sponsors three years of professional development workshops, coaching, and other supports to elementary school teachers in selected schools.⁶⁴

Establish a nationally recognized system of accepted credentials

Finally, Congress could create a national consortium of business leaders, educators, and national policy makers to establish a system of uniformly recognized and accepted credentials (similar to college degrees) that would increase workforce mobility.

Expand opportunities for learn-and-earn models of training, such as apprenticeships

Many workers displaced by COVID-19 and forced to switch career paths to speed their return to work will not be able to afford extended breaks from work to pursue dedicated education or training. As evolving technology drives changes in the economy and demand for skills, many midcareer workers will find themselves more frequently in similar circumstances, struggling to adjust and find paths to better-paying jobs while meeting existing financial commitments.

Apprenticeships are one of the more promising employer-driven methods of preparing workers for higher paying careers while allowing them to earn income. But the reach of apprenticeships has remained limited. Policy makers can make apprenticeships more attractive to a wider and more diverse group of would-be trainees and employers by taking the steps outlined below.

- **Encourage more high schools and community colleges to offer pre-apprenticeships.** These programs provide academic knowledge and skills training and help serve as on-ramps for participation in apprenticeships. Pre-apprenticeships can be an effective strategy for growing and diversifying the pipeline of apprentices by reaching out to groups who might not otherwise be familiar with apprenticeship opportunities early in their careers.
- **Refocus federal funds for the development of new apprenticeships toward industries in which such programs are rare.** Driving more occupational diversity among apprenticeship programs, already the reality in places like Switzerland and the United Kingdom, will be critical to increasing the usefulness of learn-and-earn strategies and expanding them to a wider range of midcareer workers.
- **Expand the use of apprenticeships for white-collar jobs within the public sector.** The public sector—at the federal, state, and local level—should

strive to serve as a model for the expansion of apprenticeships into white collar professions.⁶⁵

- **Leverage community college facilities and resources to partner with business and labor groups interested in organizing and sponsoring apprenticeships.** A large-scale expansion of apprenticeships is likely to rely on community colleges to help design and provide classroom instruction. Having developed increased capacity for virtual instruction, community colleges and willing business partners looking to fill entry-level remote work roles should look for ways to build on the success of “virtual apprenticeships” undertaken during the pandemic. The federal government should preserve its March 2020 guidance allowing registered apprenticeship providers to continue to provide instruction flexibly, including through online learning.⁶⁶

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