

The Workforce Innovation and Opportunity Act (WIOA) Research Portfolio

A Scan of Key Trends in the Labor Market and Workforce Development System

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I. Introduction

Enacted in 2014, the Workforce Innovation and Opportunity Act (WIOA) was designed to increase collaboration among workforce systems at the federal, state, and local levels to integrate the array of programs and services available to job seekers and businesses through American Job Centers (AJCs). WIOA requires the U.S. Department of Labor (DOL) to conduct periodic, independent evaluations to inform the effective operation of WIOA programs.

To support the development of DOL’s research portfolio, this scan describes recent and long-term economic and policy developments with relevance for the public workforce system.¹ The scan focuses primarily on topics and trends related to the changing world of work and their implications for the public workforce system. In consultation with DOL’s Chief Evaluation Office and Employment and Training Administration (ETA), along with other stakeholders, we selected the following topics:

1. Broad economic trends and recent changes in employment and wages;
2. Changes to industries and occupations due to technology, automation, and the rise of the gig economy;
3. Growth in remote workforce system services; and
4. Federal policy trends related to the public workforce system.

We conclude with a brief discussion of the implications of these topics for the public workforce system.

II. Economic trends and changes

This section focuses on long-term and recent trends in growth of employment by industry, unemployment rates, labor force participation, and wage and income growth.

Summary of scan findings

- **Economic trends and changes.** Unemployment rates, labor participation rates, and projections for employment by industry have recently changed due to the COVID-19 pandemic’s economic fallout, in some cases substantially. Some of these changes are an acceleration of long-term trends, while others have upended such trends.
- **Industry and occupation changes due to technological advancement.** Advancements in technology, particularly related to automation, were already inducing changes in the skills demanded in the labor market. Those changes are accelerating in the face of the pandemic and affect how every industry, as well as the workforce system, prepares workers for the jobs of the present and future. The workforce system can be responsive to these changes and ameliorate adverse effects by tracking the changes and adjusting services accordingly.
- **Remote workforce system services.** The pandemic necessitated the acceleration and expansion of remote and virtual workforce services. If proven effective, such services could be maintained after the pandemic.
- **Federal workforce policy trends.** Recent federal policy efforts have promoted more integrated service delivery and greater accountability, and supported workers and employers in their recovery from the effects of the pandemic.

¹ This research evidence scan is one of a pair of reports developed as part of DOL’s [WIOA Research Portfolio project](#). The companion report is “A Research Evidence Scan of Key Strategies Related to WIOA” (Deutsch et al. 2021).

A. Employment by industry and occupation

The U.S. Bureau of Labor Statistics (BLS) regularly develops projections for future employment growth by industry to help guide individuals and the public workforce system. Just before the COVID-19 pandemic, BLS developed industry growth projections for the decade from 2019 to 2029, many of which reflected the continuation of long-term trends (BLS 2015, 2020c).²

Pre-pandemic projections of employment trends by industry included expectations for growth in most service-providing sectors, some goods-producing sectors, and job losses in the manufacturing sector.

- Employment in leisure and hospitality, health and social assistance, information, professional and business services, transportation and warehousing, retail, and wholesale trade, among other industries, was expected to grow, continuing a long-term growth trend in the service-providing sector.
 - Five of the 20 fastest-growing industries in the service-providing sector were expected to be in health and social assistance, due to an increase in the need for services for the aging baby boomer population and longer life expectancies.
- In the goods-producing sector, both construction and mining were projected to increase by a much smaller amount than the growth in the service-providing sector.
- The manufacturing sector was projected to lose the most jobs of any sector between 2019 and 2029, continuing a decades-long decline. Factors contributing to the loss of manufacturing jobs include international competition and the adoption of new technologies, such as robotics. Nationally, manufacturing employment as a share of all employment declined to 7.9 percent in 2019 (BLS 2020d).

Pre-pandemic projections related to occupational groups included expectations for growth for multiple healthcare occupations, social service occupations, and computer occupations, and declines for office and administrative support occupations and sales occupations.

- Healthcare and healthcare-associated occupations (including mental health-related occupations), such as home health aide and personal care aid, were projected to grow largely due to the need by aging baby boomers and people with chronic conditions for more healthcare and related services. Others, such as nurse practitioners, occupational therapy assistants, and physician assistants, were projected to grow due to the increased use of team-based care models.
- Due to the increasing use of information technology, internet security, software, and products associated with the Internet, occupations associated with computers, such as software developers and information security analysts were also projected to grow.
- Office and administrative support occupations and sales-related occupations were projected to decline as a result of technological changes allowing for increased automation and expected increases in e-commerce (Dubina et al. 2020).

Adjustments to employment projections in 2020 to factor in the effects of the COVID-19 pandemic resulted in predictions of much greater growth in the information technology and professional,

² All information in this section (A. Employment by industry and occupation) is from BLS 2015, 2020c, except where otherwise noted. Also note that the BLS 2019–2029 employment projections were developed using models based on historical data and did not include impacts of the COVID-19 pandemic and response efforts. In 2020, BLS developed adjusted scenarios to address some possible impacts of the pandemic.

scientific, and technical services industries and related occupations and much lower growth in the retail, food, and hospitality industries and occupations (Ice et al. 2021; Wolf 2020). BLS based these adjustments primarily on the following five trends:

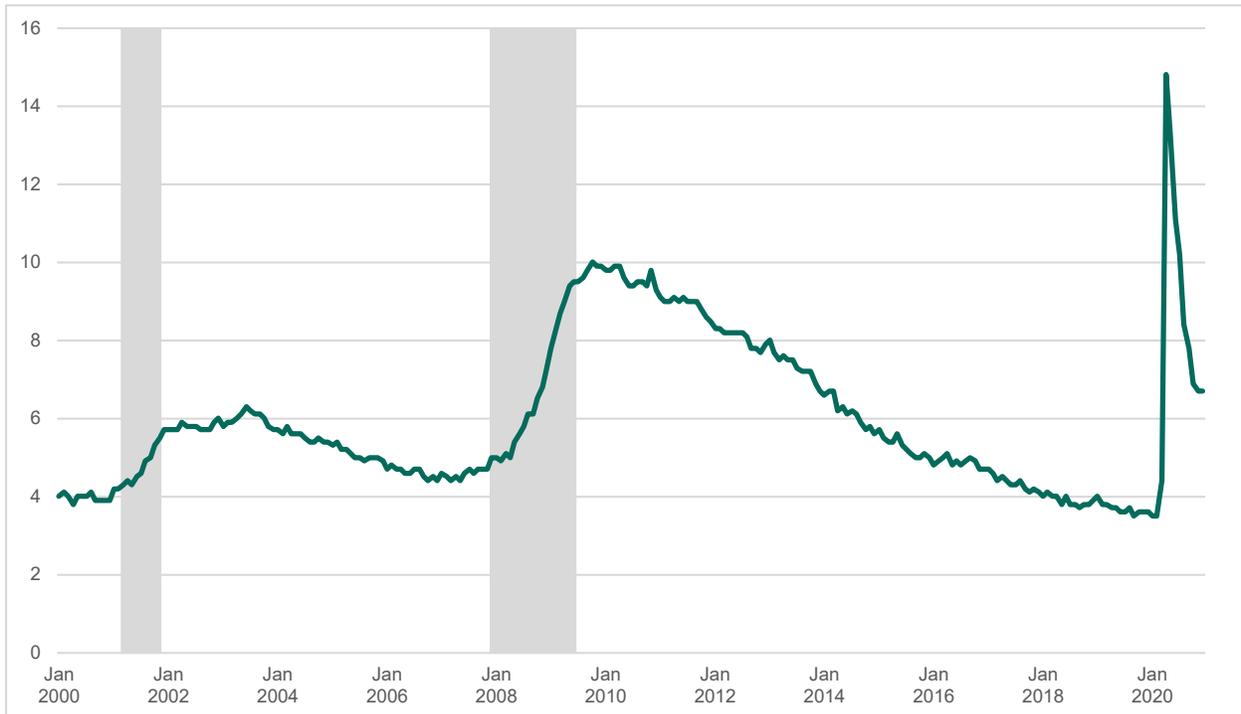
- *Increases in remote work* (discussed in greater detail in the following section).
- *Increases in e-commerce.* The pandemic intensified the e-commerce growth trend, and gains made there will possibly persist; this trend will likely decrease employment in retail trade below previous projections (Duthoit 2020).
- *Increases in medical research.* This trend is likely to continue post-pandemic as it fits in with the overall growth in health care and social services brought on by the aging of the U.S. population and older individuals' needs for more medical services. In addition, the public and private sector will likely fund more medical research to help prevent or contain future pandemics.
- *Decreases in spending on leisure and hospitality.* The return of leisure and hospitality will depend on the containment of the pandemic, and the industry might possibly see long-term reductions if portions of the population continue to curtail leisure activities that involve exposure to large numbers of people. The hospitality industry (as well as air transportation) may also continue to be negatively affected by continuing low levels of business travel for a number of years. Some analysts predict that business travel will never return to pre-pandemic levels now that companies see how much work can be done virtually at much lower cost (Cameron and Morath 2021). Thus, the hospitality industry—in which employment was expected to continue to grow over the next decade—may instead experience little to no employment growth.
- *Continued decline in manufacturing.* The manufacturing sector is likely to continue to decline, unless the United States retreats further from globalization – for example, through policies focused on re-shoring manufacturing.

B. Unemployment rates

The U.S. unemployment rate steadily declined following the end of the Great Recession (December 2007 to June 2009) up to right before the pandemic. As shown in Exhibit 1, in 2019, the unemployment rate was 3.5 percent, the lowest it had been since 1969 (BLS 2020b). BLS data also show that this tight labor market existed across most of the country; in 2019, 39 states had more jobs available than people looking for work (Lamarre 2020).

The pandemic shutdown in March 2020 and accompanying recession resulted in a dramatic increase in the U.S. unemployment rate. This rate peaked at 14.8 percent in April 2020—the highest level since the Great Depression. Although the unemployment rate dropped back down to 6.7 percent by December 2020, this was still nearly twice the pre-pandemic level in February (BLS 2021b).

Exhibit 1. U.S. civilian unemployment rate, seasonally adjusted



Source: U.S. Bureau of Labor Statistics.

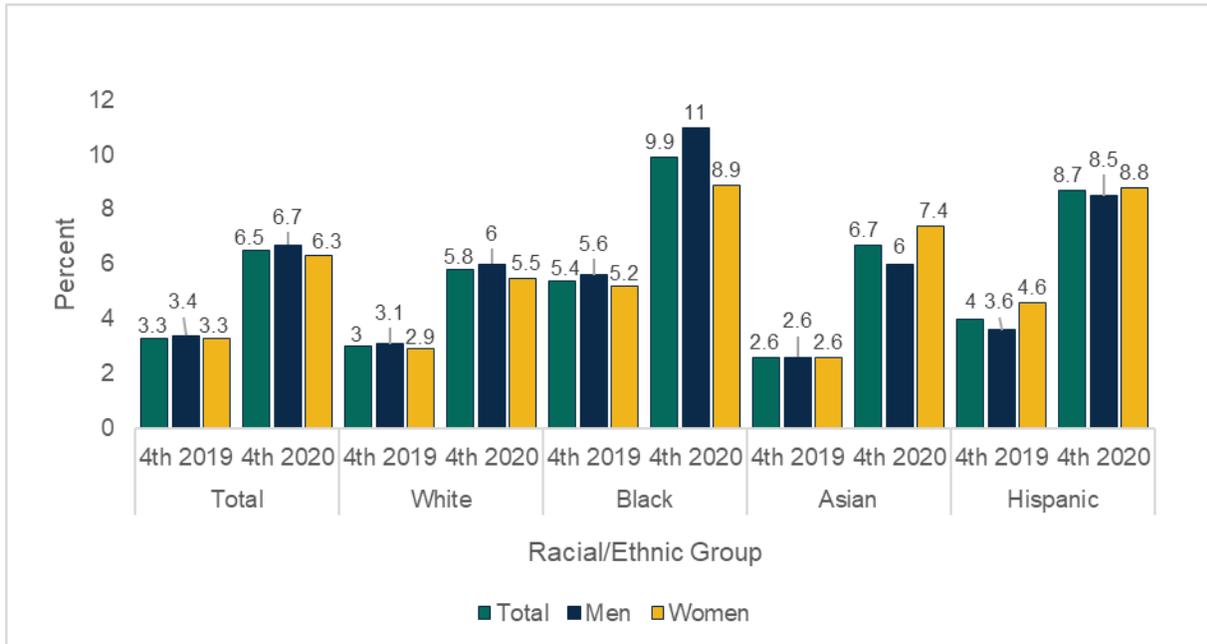
Note: Shaded area represents recession, as determined by the National Bureau of Economic Research.

The pandemic worsened racial and ethnic disparities in unemployment. Although the unemployment rate increased for all racial and ethnic groups between the fourth quarter of 2019 and the fourth quarter of 2020, it increased by 4.7 percentage points for Hispanics, 4.5 percentage points for Blacks, and 4.1 percentage points for Asians, compared with only 2.8 percentage points for Whites (Exhibit 2). The disparity was evident for both men and women (BLS 2021c).

Increases in unemployment rates for populations with challenges to employment were higher during the pandemic than for workers without those barriers. For example, the unemployment rate for people with disabilities increased from 6.3 percent in April 2019 to 18.9 percent one year later (Enayati and Switzer 2020). For people without a disability, the unemployment rate increased from 3.6 percent to 14.7 percent over the same period. Young people, immigrants, and workers without any college education are also among the other groups that have experienced higher increases in the unemployment rate during the pandemic (Bennett et al. 2020).

The number of long-term unemployed people has grown since the pandemic. By December 2020, nearly 4 million Americans had been out of work for more than six months, the standard threshold for defining long-term unemployment (BLS 2020a, 2021). This is compared with 1.1 million long-term unemployed in February 2020, just before the start of the pandemic. The long-term unemployed population represented 37 percent of all unemployed individuals in December, as compared to just 19 percent in February 2020.

Exhibit 2. U.S. civilian unemployment rate by race, ethnicity, and gender, not seasonally adjusted



Source: BLS (https://www.bls.gov/web/empsit/cpsee_e16.htm). Persons whose ethnicity is identified as Hispanic or Latino may be of any race.

C. Labor force participation

After increasing for more than 60 years and peaking at 67.3 percent in April 2000, the percentage of the population that is either working or actively looking for work has been trending downward. Civilian labor force participation fell steeply after the Great Recession of 2007–2009, before stabilizing at about 63 percent before the pandemic. The long-term decline in labor force participation is due in large part to an aging workforce and increasing enrollment in higher education (Kreuger 2017). Some sources also suggest that the long-term decline in real wages is another major contributor to the long-term decline in labor force participation rates, especially for less-skilled and low-paid workers (Kreuger 2017; Abraham and Kearny 2018).

The long-term factors affecting the decline in labor market participation have been exacerbated in the short-term by the pandemic recession. Labor market participation declined from 63.3 percent in February 2020, to 61.5 percent by December 2020, representing a decline of 3.9 million workers (BLS 2021).

The rate of participation in the labor force among women—already much lower than for men—has declined more than it has for men during the pandemic (Edwards 2020b; Ewing-Nelson 2021; Gupta 2020, BLS 2020c, BLS 2020d). This greater decline stems from the ways in which the pandemic has exacerbated long-running challenges for women to participate in the workforce, such as finding and paying for child care and facing disparities in pay compared to their male counterparts. School and day care closures have put a further burden on women with children. As occupations and industries with higher shares of women workers have lost more jobs during the pandemic, over 800,000 women have stopped looking for new employment and dropped out of the labor force (Edwards 2020a). In a survey of 40,000 working-age women, one in four reported considering downshifting their careers or leaving the

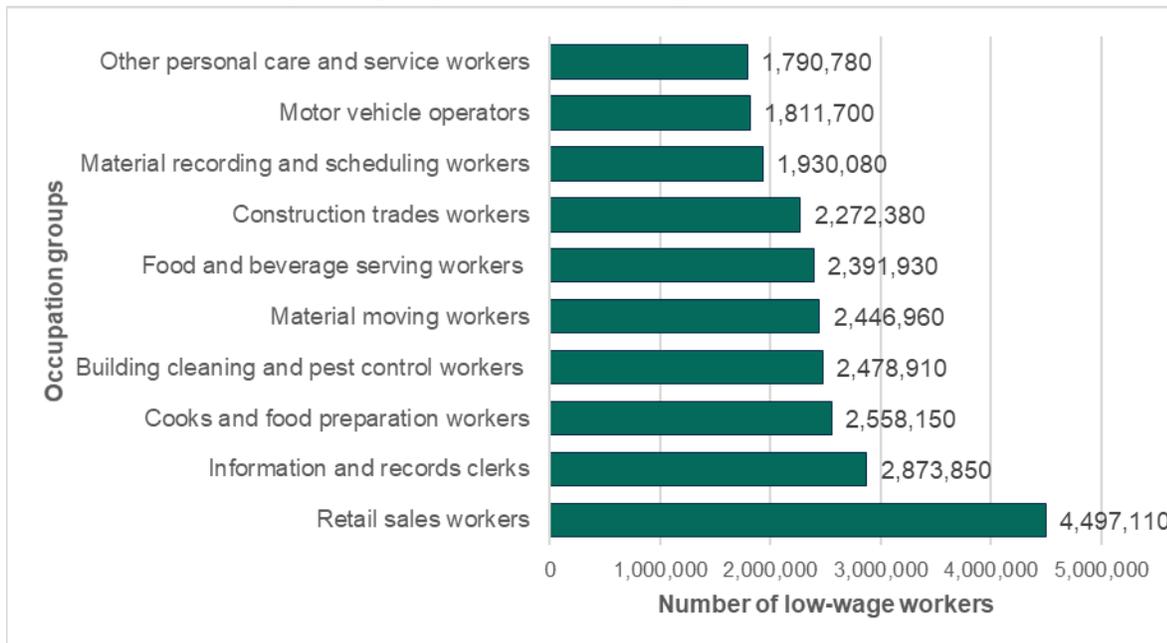
workforce entirely due to the impact of the pandemic (Thomas et al. 2020). The respondents specifically cited challenges of working from home while also being disproportionately responsible (compared to male partners) for housework and caring for very young or school-age children during day care and school closures. However, because labor force participation typically drops during recessions and rebounds after the recession, it is unclear whether these pandemic-related labor force declines will last into and beyond the pandemic recession (Guilford and Chaney 2020).

D. Wage and income growth

Wage and income growth since the 1970s have been generally slow. After adjusting for inflation, overall wages for U.S. workers were only 10 percent higher in 2017 than in 1973, with annual real wage growth just below 0.2 percent. This slow growth in wages over nearly the past five decades occurred despite fairly steady increases in U.S. worker productivity over that same period (Shambaugh et al. 2017). Similarly, according to census data, from 2000 to 2018, household incomes in the United States grew only at an average annual rate of 0.03 percent, although the rate of increase began to pick up in 2015, increasing by an average annual rate of 2.1 percent from 2015 to 2018 (Horowitz et al. 2020).

The overall slow growth in wages masks large variations in wages and income across occupations and industries as well as by race, ethnicity, and gender. Of the 53 million people ages 18 to 64 whom researchers at the Brookings Institution consider to be low-wage workers, 47 percent were employed in just 10 occupation groups. Retail sales was the occupation with the largest number of low-wage workers (Exhibit 3) (Ross and Bateman 2019).

Exhibit 3. Top 10 occupation groups in which low-wage workers are concentrated



Source: Brookings Institution analysis of 2012–2016 American Community Survey 5-year Public Use Microdata Samples, as cited in Ross and Bateman 2019.

Black, Hispanic, and women workers are disproportionately represented in these low-wage occupations, and many of these jobs—even post-pandemic—are expected to grow. In fact, two-thirds

of the 6 million jobs that BLS forecasted to be added between 2019 and 2029 were projected to occur in occupations that pay below the median wage (BLS 2020c, cited in Autor et al. 2020). Further, even though it is no longer clear whether all of these low-wage jobs (especially those in retail sales and food- and beverage-serving occupations) will materialize due to the pandemic-related recession, Black, Hispanic, and women workers continue to be disproportionately represented in other low-wage occupations (Ross and Bateman 2019).

III. Industry and occupation changes due to technological advancement

This section describes trends in technological advancement, especially those related to automation and remote work, and the effects of these trends on industries and occupations. We also discuss the rise of the gig economy.

A. Growth of automation and other new technologies

Most jobs today came into existence within the past 80 years, largely due to advances in technology. Technological change and automation contribute to both creating and eliminating jobs (Autor et al. 2020). Because automation occurs at the task level, it often changes jobs rather than eliminating them (McKay et al. 2019). For example, as retail stores increase self-checkout, cashier positions shift toward customer service and support. A recent report from the National Governors Association (NGA 2020a) found that more than one-third of skills required for most jobs in 2016 had, by 2020, been replaced by new technologies, particularly by automation. It is unclear how emerging technologies such as artificial intelligence, advanced robotics, and machine learning will affect employment – for example, it may create jobs in some sectors while eliminating jobs in others (Casey 2020).

The pandemic and accompanying recession have speeded the adoption of new technologies and automation. Technological advances, particularly those related to automation, are adopted more frequently during recessions, as companies seek ways to cut labor costs (McKay et al. 2019; NGA 2020a). During the current pandemic recession, the need to minimize human contact both between customers and workers, as well as among company employees, has generated an additional motivation for companies to automate. Companies have responded by adopting technologically enabled innovations such as contactless customer service and delivery, robotic warehouse management and order fulfillment, and automated food service (Casey 2020).

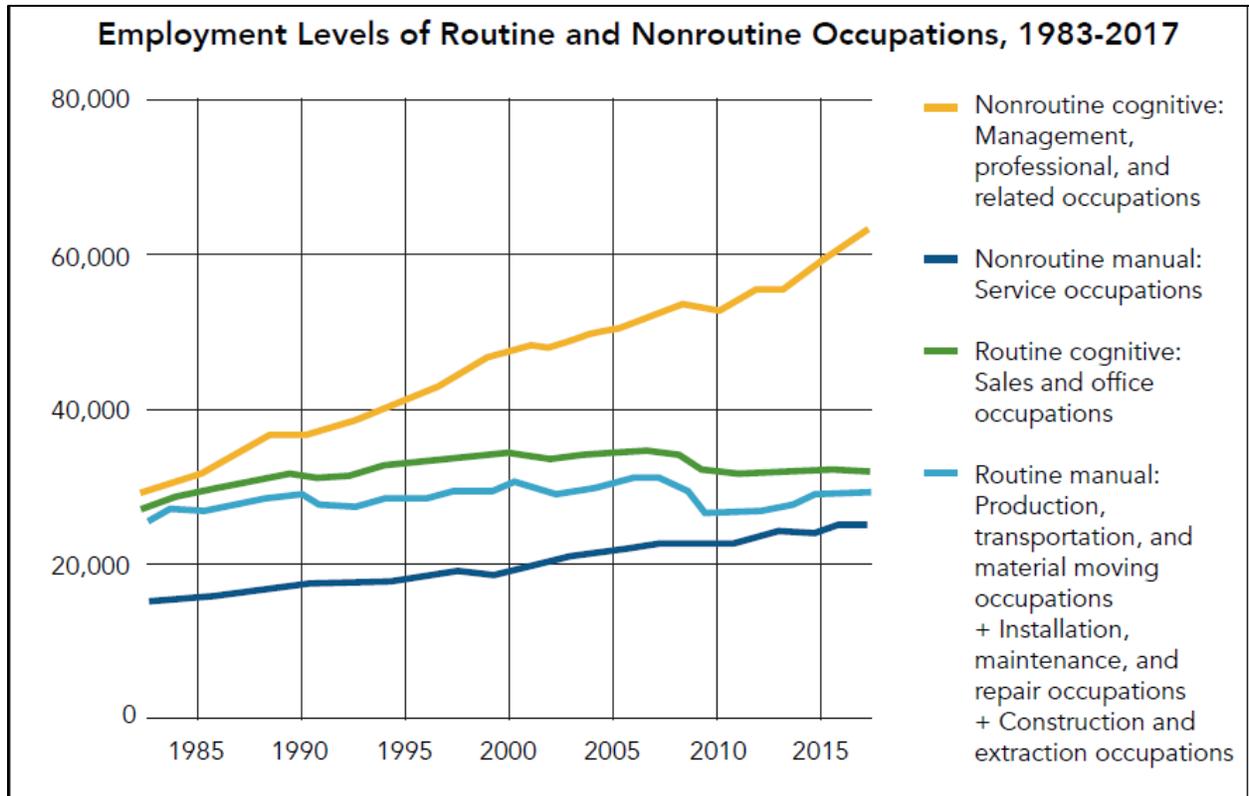
Some occupations and industries are more affected by automation. Automation-driven job loss is more common in occupations that involve routine tasks, which are most common in the production, food service, and transportation-related occupations and industries (see Exhibit 4). More workers in those industries and occupations are young, have low levels of education, earn low wages, and are from racial minority groups (McKay et al. 2019).

B. Growth of remote work

The number of employees working remotely has increased significantly. Related to technological change, more employees use technology (laptops and the Internet) to carry out their work tasks from home rather than working from an office. The number of these remote workers (also commonly called telecommuters) has increased steadily since the late 1990s, with a dip during the Great Recession (December 2007–June 2009). From 2005 to 2015, the number of U.S. employees who worked remotely

increased by 115 percent (Abrams 2019). These workers tend to be older, more educated, full-time status, and nonunion (Abrams 2019).

Exhibit 4. Nonroutine jobs growing while routine (both cognitive and manual) jobs remain flat

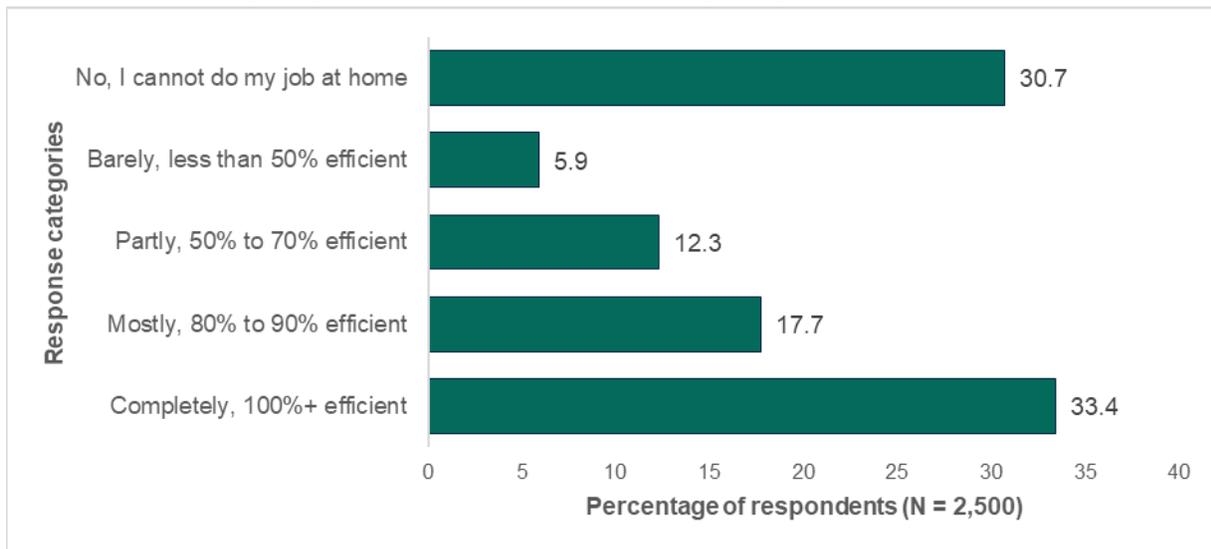


Source: McKay et al. (2019), based on their analysis of Employment Level data, U.S. Bureau of Labor Statistics, retrieved from Federal Reserve Bank of St. Louis.

Remote work is only possible in some occupations. Many occupations require employees’ physical presence to interact with customers, products, equipment, or co-workers. In a survey conducted in May 2020 by researchers at Stanford University’s Institute for Economic Policy Research (SIEPR), about 30 percent of 2,500 workers (weighted to match the Current Population Survey) indicated they could not do their job remotely at all (see Exhibit 5). These included workers in the retail, health care, and transportation sectors (Bloom 2020).

Some workers need supports to work remotely successfully. In occupations where the possibility for remote work exists, accompanying hardware, software, sufficiently fast Internet access, and digital skills are also necessary to telework successfully. As a result, many workers—even when their occupations allow it—are not able to work remotely because they lack one or more of these requirements (Taylor 2020). In a 2019 survey, only 65 percent of Americans surveyed said they had Internet service fast enough to support viable video calls, which are often a requirement for remote work (Bloom 2020). The workers who most often lack access to the required technology, materials, and skills to work remotely are disproportionately Black, Hispanic, rural, and from low-income households (Bennett et al. 2020). Other experts have reported that without adequate support for working remotely, employees may not be able to do their jobs effectively, risking their job security (Taylor 2020).

Exhibit 5. Percentage of jobs that workers can efficiently carry out at home



Source: Bloom (2020).

Remote work has increased dramatically in the short-term due to the pandemic. Stay-at-home orders and social distancing requirements caused many organizations to close their buildings beginning in March 2020, resulting in a massive increase in remote work. The SIEPR survey, conducted in May 2020, found that 42 percent of U.S. workers reported working from home full time that month, accounting for more than two-thirds of economic activity (Bloom 2020). Remote work can benefit both employers and employees. Employers can save costs on physical infrastructure and equipment, while for workers – including workers with disabilities – telecommuting can offer flexibility and cost and time savings from staying home instead of commuting. Early research on the remote work trend has highlighted the importance of company culture, leadership, and the development of supervisors of remote workers as being key to the success of telecommuting (Bell 2012; Bell and Kozlowski 2002).

Findings on how the recent increase in remote work has affected worker productivity are mixed. Some recent research has suggested that the steep increase in remote work has not affected worker productivity. For example, 94 percent of 800 surveyed employers said that productivity was the same as or higher than it was before the pandemic, even with their employees working remotely (Maurer 2020). However, the SIEPR survey of remote workers found that only 51 percent of workers reported being able to work from home at an efficiency rate of 80 percent or more, and another 18 percent rated the remote work they did as partly to barely efficient.

The continuation of large-scale remote work after the pandemic will affect the demand for goods and services. The demand for retail services, commercial building security and nonresidential construction, and hospitality and transportation-related purchases and services is likely to decrease. For example, remote workers might find it more convenient to shop online, the need for office space might not be as important, and commuting and other business-related travel could decrease. On the other hand, information technology–related services are likely to grow, as the need increases for more widespread broadband service and workers who are proficient in using and educating others about remote work-enabling technologies (Autor et al. 2020; Bloom 2020; Wolf 2020).

C. Growth of gig work

Gig work has become more visible as a category of employment since the early 2000s, but data on its growth are unclear. Here, we define gig work broadly to include platform- and non-platform-based freelance employment, such as driving for Uber or delivering food for DoorDash, as well as older forms of freelancing such as domestic housework and other freelance “gigs.” Some workers rely on this work to survive job loss while others have always relied on it as their primary source of income (Abraham and Houseman 2020, Goger et al. 2020). The percentage of workers engaged in gig work—temporary help agency workers, on-call workers, contract workers, and independent contractors or freelancers—is difficult to determine. Katz and Krueger’s 2019 analysis indicated that the percentage of workers in alternative work arrangements, or gig work, rose one to two percentage points from 2005 to 2015 (Katz and Krueger 2019). Other research, using fewer data sources, found no increase but considerable variation among sub-groups, including a significant increase since 2005 in the use of temporary help workers in manufacturing, production and transportation, and material moving occupations (Abraham and Houseman 2020). Gig work may grow in future years due to technological advances, among other factors, and experts advise ongoing improvement in data collection and analysis in order to understand the gig workforce (Gig Economy Data Hub, nd).

The quality of gig work in terms of earnings and benefits, hours and schedules, and access to worker protections is contested but dissatisfaction with gig work is high. Some argue that public investments should not be used to support workers’ access to gig jobs, because gig workers do not typically qualify for the same labor or anti-discrimination protections as traditional employees; in addition, gig workers have limited access to social insurance programs such as health insurance, retirement benefits, unemployment benefits, and other programs (Goger et al. 2020). However, Bernhardt and Thomason (2017) contend that earnings, benefits, hours, and protections are variable in the gig economy and that some gig jobs can be high quality. In addition, the flexibility afforded through gig work may make it easier for workers to access and complete training (Goger et al. 2020). However, research has shown relatively high dissatisfaction with alternative work arrangements and that subsequent employment rates are relatively low (Abraham and Houseman 2020). In addition, gig work has been shown to be done disproportionately by those with less formal education, racial/ethnic minorities, and youth – groups facing greater employment insecurity as discussed above (Abraham and Houseman 2020).

Current employment-related data collection efforts do not typically capture gig work. Gig work (and self-employment more generally) is often not captured in data sets that help the workforce system understand the labor force, as well as in the performance metrics that WIOA Title I and other workforce programs use to measure participant success. For example, BLS projections only capture gig workers if the gig work is their primary job. However, if the gig work is in addition to a primary job, data on that work are not captured (Wolf 2020). Efforts are underway to build a better picture of this group of workers, such as the [Gig Economy Data Hub](#), launched in 2018 at Cornell University’s ILR School in partnership with the Aspen Institute to help researchers, policymakers, and other stakeholders better understand the scope and nature of the gig economy and nonstandard work. States are allowed to use supplemental data sources (other than unemployment insurance [UI] wage records, because those do not capture self-employment) to demonstrate the employment of self-employed individuals, but the number of states and local areas that actually do so is unclear (Goger et al. 2020).

IV. Remote workforce system services

The public workforce system has offered online resources and tools for job search assistance since at least the 1990s. Many online tools were developed using One-Stop Implementation grants awarded by DOL before the passage of the Workforce Investment Act in 1998 (Social Policy Research Associates 2004). These resources and tools have typically been provided on websites administered by federal, state, and local workforce development boards (WDBs) where job seekers and employers could access the following (D’Amico et al. 2009):

- Portals for accessing labor market information
- Systems for submitting and updating claims for unemployment compensation
- Portals for submitting basic demographic information
- Systems for matching job seekers with available jobs, including allowing job seekers to create or upload resumes and employers to upload job orders
- Information on AJC locations and services
- Information on education and training programs and providers
- Links to interest and skill assessments, such as those offered by O*NET
- Information and other tools to assist job seekers conducting job searches, such as advice on resume development and interviewing

As we discuss in this section, the shift toward greater use of remote and virtual services for workforce service delivery is a key trend that is likely to continue.

A. Remote case management and job search assistance

States and local WDBs have regularly updated and enhanced online workforce tools and resources.

A recent study of WIOA implementation found that a few states were developing or had recently developed new or updated public-facing dashboards or other online data portals where customers and partner agencies could access state guidance, labor market information, and results on performance delivery and outcomes across core partner agencies (Dunham and Mack 2020; Dunham et al. 2020; Sattar and van Docto 2020). Other research has found that technology-based services are widespread, if variable, for services such as supporting digital literacy skill acquisition, accelerating learning, and ensuring access to career services and training for individuals with disabilities and those in rural areas (Cropper et al. 2018, Mathematica 2020). Similarly, many state and federally administered job search websites have enhanced their offerings by adding podcasts or videos in multiple languages such as those available on the CareerOneStop website.

Remote services to employers do not figure largely in the literature and appear to be most common via access to state labor exchange systems. However, some states have focused on enhancement of remote employer services through improvements to their labor exchange systems and some local areas have partnered with technology companies to create tools that help employers to find qualified workers as well as helping job seekers find jobs for which they are qualified (Cropper et al. 2018; NGA 2020b).

Despite the abundance of online services focused on job search assistance, the Title I core programs (the Adult, Dislocated Worker, and Youth programs) have until recently continued to require participants to visit AJCs in person for many services. Title I program participants are commonly

required to visit brick-and-mortar AJCs in person to attend job search skill-building workshops and orientations to services (Brown and Holcomb 2018; D’Amico et al. 2015; Laird and Holcomb 2011). Regular in-person meetings between career counselors and participants are also typically required, particularly at the start of individualized career services (such as when determining eligibility, developing service plans, and completing comprehensive assessments). Phone calls, emails, or texts typically supplement these in-person meetings.

Virtual and distance approaches to providing such case management services have shown some indications of success (Administration for Children and Families 2018; Djadali and Malone 2004; ERIC 1995; Haberstroh et al. 2011; Mathematica 2020). For example, evidence from a randomized control trial suggested that telephone-based case management and coaching, combined with self-guided modules and assignments, yielded positive results for new, uninsured recipients of Social Security Disability Insurance (Mathematica 2020). The San Diego Workforce Partnership in California developed a mobile application for its career counselors to communicate more frequently and efficiently with job seekers via text messages and phone so that job seekers did not have to travel to an AJC as often (California Workforce Development Board 2017). Similarly, after hearing from overburdened staff and participants who struggled to attend meetings in person, the Temporary Assistance for Needy Families (TANF) program in Larimer County, Colorado, contracted with a software provider to develop a web-based coaching platform. The use of this online coaching platform is reported to have expanded staff coaching capacity, improved and increased communication between participants and coaches, and reduced program costs (Anderson and Derr 2020; Administration for Children and Families 2018).

The pandemic and related closure orders have greatly accelerated the trend toward increased use of remote service delivery. AJCs closed their physical locations during the initial pandemic shutdowns (with some remaining closed), and nearly all state and local workforce providers shifted most of their services online, including all elements of career counseling. According to recent research by the Heldrich Center for Workforce Development presented as part of a WorkforceGPS presentation on service delivery in a virtual environment (Martin et al. 2020), most workforce providers are conducting case management by phone and text and allowing eligibility documents to be uploaded via the web and signed with e-signatures. Existing online tools such as CareerOneStop are also available to fill in for services that would otherwise occur in person. A few states and local areas have developed other more sophisticated ways of providing virtual career counseling support to job seekers, such as New Jersey’s [Career Network Job Seeker Community](#) and, for employers, its [COVID-19 Jobs and Hiring portal](#) (NGA 2020b).

The accelerated shift to remote services brought on by the pandemic has been challenging for both job seekers and workforce program staff for a variety of reasons but is likely to continue. As a result of the pandemic, many job seekers—as well as workforce practitioners—have had to rapidly improve their own digital literacy skills to be able to provide and receive virtual services. Workforce practitioners have had to develop these skills while in the midst of delivering services to large numbers of laid-off workers while their agencies are facing budget shortfalls (Bennett et al. 2020). Further, in addition to facing challenges related to limited digital literacy, many job seekers have faced other challenges with accessing remote services both during and before the pandemic, such as a lack of access to computers, high-speed Internet connections, and distraction-free spaces to participate in services (Taylor 2020). Given the greater convenience for job seekers being able to access services without traveling to an AJC, many of these services will likely continue to be offered virtually, even if they are also offered in person.

B. Online education and training

The spread of broadband technology has facilitated the growth of online education, and the pandemic has further accelerated its use. For example, massive open online courses (MOOCs) have grown enormously since they were introduced in 2012 and have enrolled 100 million people globally. Similarly, the proportion of community college students studying fully online has been increasing for the last decade, and a growing number of credits are being earned online (Autor et al. 2020, National Center for Education Statistics 2020, cited in Arum and Stevens 2020). Similar to the effect of the pandemic on AJCs, the pandemic required most higher education institutions to close their physical campuses for at least part of 2020. As a result, most of these institutions rapidly shifted as many of their programs as possible to an online format, causing a massive increase in online learning at least in the short-term that seems likely to continue into some or even all of 2021 (Burke 2020).

As many types of occupational skills training require some component of hands-on learning using specialized equipment, hybrid vocational training programs that incorporate both online and in-person lab time are more common than fully online programs. However, virtual and augmented reality provide an opportunity to introduce hands-on content into online learning, a strategy a number of community colleges use via funding from DOL's Trade Adjustment Assistance and Community College Career Training grants. For example, a number of community colleges have developed online programs that include simulations of hands-on learning experiences for many occupations such as welding and machining that typically require students to carry out that learning in a lab (Blume et al. 2019; Dunham et al. 2016; Sarma and Bonvillian 2020; Turnham et al. 2020). Similarly, entities such as Tooling U-SME and Cisco offer an array of online options that involve simulated hands-on training in fields like manufacturing and information technology (Sarma and Bonvillian 2020).

As remote education and training is still a relatively new field, evidence thus far is mixed. Some research has shown that online education and training work well; other research has found that hybrid education works better than either purely online or purely in person and that online education works less well than classroom learning for the least prepared students (Bettinger and Loeb 2017, cited in Sarma and Bonvillian 2020; U.S. Department of Education 2010). One clear advantage to online education and training cited in many reports is that it opens possibilities for job seekers to undertake training that formerly would have been inaccessible due to geographic, transit-related, or other barriers (Bettinger and Loeb 2017; Bettinger et al. 2017, cited in Sarma and Bonvillian 2020; U.S. Department of Education 2010). However, as with remote job search and career counseling services, many low-income and rural individuals face challenges accessing online training due to a lack of equipment, Internet access, and digital skills (Anderson and Kuman 2019; Perrin 2019). Similarly, in a recent poll of college students, those studying online reported challenges to doing so successfully, including the need to purchase expensive additional equipment and insufficiently fast Internet access (Burke 2021).

Moving forward, many experts predict that online learning—whether or not coupled with in-person learning—is likely to increase. An overview of recommendations from 1,400 experts who responded to questions about the future of workforce education and training includes “a new education and training ecosystem” that combines formal educational institutions in traditional classroom settings and a mix of public and private online education, including augmented and virtual reality elements that incorporate advances in artificial intelligence (Rainie and Anderson 2017).

V. Federal workforce policy trends

This section discusses three recent federal policy developments with relevance for the public workforce system. Two of these developments are WIOA-specific initiatives that emphasize integrated service delivery and accountability. The third category of policy development relates to policies and programs supporting recovery from the pandemic.

A. Integrated service delivery

A key focus of WIOA is integrating service delivery for both employers and job seekers. The Act operationalizes this focus via requirements for shared planning processes and governance at both state and local levels, assessment of the integration of core and required One-Stop partners as part of the certification of AJCs, aligned performance indicators across core programs, and required sharing of infrastructure costs (WIOA Joint Final Rule 2016).³

Several recent notices and guidance letters have encouraged and prioritized integrated service delivery. Training and Employment Notice (TEN) 13-20 promotes three key areas of guidance: (1) systemic collaboration of key workforce system partners to address customer needs and barriers to employment via integrated service delivery, (2) data sharing and enhanced data collection to support effective decision making around the operation of those services, and (3) leveraging resources across programs to support those integrated services. The notice reiterates WIOA’s role as a key driver of integrated services. It emphasizes that integrated service delivery will be particularly critical as the demand for workforce services increases as a result of the pandemic, while also recognizing that “the true vision of WIOA—aligned and seamless service delivery—has not yet come to fruition.”

Another recent guidance letter, issued on November 24, 2020, stressed the value of increasing service integration to further enhance services to the Title I Adult program’s priority populations, including recipients of public assistance, low-income individuals, and individuals who are basic skills deficient (Training and Employment Guidance Letter [TEGL] 7-20). In particular, the letter emphasizes the value for the Adult program in collaborating with some required One-Stop partners to better serve these priority populations. Such partners include the Title I Youth program, TANF, the Supplemental Nutrition Assistance Program, Adult Education and Family Literacy Act programs, the Vocational Rehabilitation programs, Community Service Block Grant programs, the U.S. Department of Housing and Urban Development’s (HUD) Continuum of Care program, and other programs designed to serve those facing homelessness, such as the Homeless Veterans Reintegration Program. Further, these letters underscore the cross-training of staff as a key approach to providing integrated services to priority populations

In addition, two current federal partnership efforts aim to increase the capacity of states and local governments to develop integrated service delivery approaches:

- A multi-agency partnership involving DOL’s Employment and Training Administration, the U.S. Department of Health and Human Services (HHS), and the U.S. Department of Agriculture (USDA). This partnership will partner with a small number of pilot states to develop cross-program interventions to shorten the length of unemployment for dislocated workers.
- The Council on Economic Mobility, a large federal effort established in 2019 designed to promote “family-sustaining careers and economic mobility for low-income Americans” (Administration for

³ WIOA’s six core programs are the Adult, Dislocated Worker, and Youth programs; Employment Services; the Adult Education and Family Literacy Act program; and the Vocational Rehabilitation program.

Children and Families 2020). The Council is led by HHS and includes participation from USDA, DOL, the U.S. Department of Education, HUD, the U.S. Department of the Treasury, and the Social Security Administration.

B. Accountability

Accountability has long been a key trend in federal workforce policy and is a major focus of WIOA. For example, WIOA:

- Creates six new, common performance indicators for the six core programs, including a new indicator on programs' effectiveness in serving employers;
- Requires all six core programs to collect data using a standardized set of data elements and emphasizes integrated reporting systems;
- Requires eligible training providers (ETPs)— whose training programs have met state criteria to receive funds from Title I individual training accounts—to submit performance information for all of their participants and requires states to submit annual reports (ETA 9171) on ETP program performance;
- Strengthens requirements for states to conduct evaluations of activities under Title I core programs

All of these accountability-related elements are related to WIOA's focus on ensuring "...that Federal investments in education, employment, and training are evidence-based, data-driven, and accountable to participants and taxpayers" (WIOA Joint Final Rule 2016).

ETA provided guidance to help states meet WIOA's Title I program requirements for ETPs, program eligibility, and state ETP lists. This guidance covered actions that include developing processes for establishing initial and continued eligibility for ETP programs (including for registered apprenticeship programs), establishing roles and responsibilities for state and local WDBs for maintaining ETP lists, and disseminating ETP lists (TEGL 8-19). Adherence to WIOA's ETP requirements is a critical way that the public workforce system can ensure the accountability of training providers to participants and inform participant decisions about training programs. Similarly, [TrainingProviderResults.gov](https://www.trainingproviderresults.gov) supports WIOA's focus on the accountability of ETPs by making it easier for participants to review information gleaned from state reporting about the effectiveness of ETP programs (TEGL 9-20). This website uses an interactive, web-based tool with which users can learn about the key features and results of ETP programs from across the nation, including the costs and completion rates, as well as post-program outcomes such as credential attainment, employment rates, and average earnings.

DOL's pilot of a Quarterly Report Analysis process seeks to improve data validity of Workforce Integrated Performance System (WIPS) data. This newly instituted pilot aims to improve the quality of WIPS data that states submit on the demographics, service receipt, and outcomes of WIOA Title I program participants. The accuracy of such data is critical for DOL and states to monitor the effectiveness of Title I programs as required by WIOA and ensure the programs are data driven.

C. Supporting recovery

Another more recent overarching federal policy trend is support for the nation's efforts to recover from the COVID-19 pandemic and its associated recession. New laws enacted between March 2020 and March 2021 focused on providing relief to people suffering from the economic and labor market effects of the pandemic.

The Coronavirus Aid, Relief, and Economic Security (CARES) Act, signed into law on March 27, 2020, created and extended programs that provide benefits and protections for workers during the COVID-19 crisis. This included \$600 per week of additional UI benefits and 13 extra weeks of benefits for eligible workers. Pandemic Unemployment Assistance expanded coverage to numerous additional types of workers who would not traditionally have been eligible for UI, such as gig workers, independent contractors, and those with no work history. Many state UI agencies faced significant challenges in operationalizing the CARES Act. UI agencies were further hampered in implementing the CARES Act changes due to the large numbers of traditional UI claims they were handling, as well as antiquated data systems and limited staffing (Aborn 2020). To support public workforce system programs in providing assistance to unemployed workers, DOL issued guidance regarding the integration of the Reemployment Services and Eligibility Assessment Program with the Title I Dislocated Worker program, as well as other programs, to ensure that UI claimants have access to the full range of available services and benefits (TEN 13-20).

Another key aspect of the CARES Act was the Paycheck Protection Program (PPP), which sought to help businesses weather the economic effects of the pandemic. During its initial period of operations, PPP disbursed \$523 billion in loans to approximately 5 million businesses (Cowley 2021). However, there were significant coverage gaps. PPP loans reached only 20 percent of eligible firms in states with the highest densities of Black-owned firms, and, in counties with the densest Black-owned business activity, coverage rates were typically lower than 20 percent (Mills and Battisto 2020).

The Families First Coronavirus Response Act (FFCRA) was another law to assist workers in dealing with the effects of the pandemic. FFCRA was effective from September 16 through December 31, 2020, and required certain employers to provide employees with paid sick leave or expanded family and medical leave for specified reasons related to COVID-19.

A third law to support recovery efforts, the Continued Assistance Act, was contained in the Consolidated Appropriations Act of 2021 that was signed in December 2020. This package extended UI benefits by amending the CARES Act. The new law extends the unemployment protections originally provided by the CARES Act to jobless Americans, both by creating new benefits and broadly expanding existing state-level benefits. In addition, the new law provides an extended moratorium on evictions through January 2021, authorizes stimulus checks to qualifying Americans, and reauthorizes the PPP for qualifying businesses, among a number of other provisions.

Finally, the American Rescue Plan Act, signed by the President in March 2021, has key provisions that include aid to individuals, families, businesses, and states, territories, tribes, and localities. Provisions to individuals and families include extended unemployment benefits; a new round of stimulus payments; emergency funds to help families facing hardship; expansions in the Child Tax Credit and Earned Income Tax Credit; continuation of key food assistance provisions currently in place; expansions in health coverage; increased housing assistance; paid leave provisions; and additional child care funding.

VI. Implications for the public workforce system

In this section, we discuss implications of the four trends described above for the public workforce system, especially WIOA Title I programs.

A. Economic trends and changes

A key aim of the public workforce system is to “provide increased economic opportunity and make the United States more competitive in the evolving 21st century labor market” (WIOA Joint Final Rule 2016). To achieve this goal, the system must adapt and respond to trends in the economy, such as those described previously related to employment growth by industry and occupation, unemployment rates, labor force participation, and wage and income growth. Below are some likely implications of these trends on the system.

- Workforce system staff members need access to high quality and up-to-date information about labor market shifts, such as BLS’ recent adjustments to employment growth by industry and occupation. Together with employment projections developed by states themselves, often supported by grants from ETA, this will allow staff to provide job seekers with accurate information about future employment prospects and ensure that training programs have sufficient capacity to meet the needs of these industries.
- Due to the recent huge increases in unemployment, including the prevalence of temporary layoffs combined with a rising proportion of long-term unemployed workers, the workforce system needs to develop effective strategies for serving much larger numbers of dislocated workers with particular needs than it has in recent years. To do so, effective practices on serving these types of dislocated workers need to be disseminated to the system or – if such research has not yet been conducted – research on this topic should be carried out.
- The percentage of individuals who are long-term unemployed has risen sharply during the pandemic. The workforce system needs to provide these individuals with specialized services, including support for redesigning resumes and interviewing, reskilling and entrepreneurship training, and supportive services, all of which are likely to take longer or be needed for longer periods than is typical.
- Disparities across racial and ethnic groups in unemployment, wages, and income were pronounced before the pandemic and have been further exacerbated by it. The public workforce system needs to take into consideration such disparities to foster an inclusive recovery.
- Employers will need services from the public workforce system to help them fill jobs with skilled workers, especially if the skills employers demand are not adequately supplied by the labor market.

B. Industry and occupation changes due to technological advancement

Technological change and automation can create jobs, boost economic growth, and improve standards of living. However, as they lead to growth in some industries and occupations and contractions in others, they have negative effects on groups of workers and employers who lose jobs and livelihoods. The following are implications for the public workforce system:

- The workforce system needs to create and modify training programs as industries change so that workers are trained in the skills that the labor market needs. Based on trends and projections reviewed above, this might include skills needed for growing sectors such as healthcare and social assistance.
- Ongoing technological change across industries—as well as the increases in remote work spurred by the pandemic—means that most workers and jobseekers need digital literacy skills for job searching, training, and advancing their career.
- To ensure that workers continue to be able to successfully find and secure jobs, the workforce system needs to expand the use of technology and tools for remote job search, recruitment, and hiring.

- Public workforce system policymakers and providers need to develop ways to support gig workers, such as directing them to available affordable health insurance (Autor 2020). To ensure that these strategies are data driven, the system also needs an expanded data infrastructure for collecting information about these workers, such as by taking a more deliberate approach to questions about nonstandard work activities and secondary jobs in data collection instruments.

C. Remote workforce system services

In the same way that technological advancement has affected the world of work, it has also affected workforce system services, with remote services being provided to a greater extent and enabling more convenient access across system users. The pandemic significantly accelerated this trend, but many workforce services are likely to continue remotely even after the pandemic subsides. As a result, there are several likely implications of this trend for the public workforce system:

- Due to the pandemic, public workforce system agencies have had to significantly increase their provision of remote services. Despite the ad hoc nature of many of the system's new remote service delivery strategies, some of these changes may prove to be effective enhancements.
- The public workforce system and its users can benefit from the growing availability of online education, spurred by the rapid and widespread deployment of online education during the pandemic. Use of evidence-based remote education and training models, either wholly or via hybrid approaches, will likely be critical for successfully meeting the growing need for training brought on by industry and occupational changes.
- Effective supports for less-prepared online learners, which include many individuals facing barriers to employment, will likely be necessary for this population to benefit from the increased convenience of online learning. These supports might include digital literacy training, high-speed Internet connectivity, and equipment.

D. Federal workforce policy trends

For the public workforce system to meet its goals of increasing economic opportunity and enhancing competitiveness, federal policy must respond to changes in the economy and labor market. Recent federal policy efforts have centered around integrated service delivery, accountability, and support for pandemic recovery efforts. New policy priorities are likely in 2021, as signaled by several recent Executive Orders pertaining to collective bargaining power and worker protections and advancing racial equity and support for underserved communities.⁴ The following are likely implications of these policy trends:

- To ensure that employers and job seekers—including those facing barriers to employment—are able to access the services they need for labor market and economic success, partnerships across different workforce programs and funding streams are critical. For example, different workforce system partners have different strengths in reaching and serving individuals who have dropped out of the labor market, lack basic skills, receive public assistance benefits, live in public housing, or have a disability. Different programs also have different strengths and resources for engaging with employers. For example, WIOA Title I Adult and Dislocated Worker business services staff have more experience engaging with employers regarding on-the-job training than do Vocational

⁴ <https://www.natlawreview.com/article/president-biden-issues-executive-orders-impacting-labor-employment-policies>

Rehabilitation staff members who work with employers (Dunham et al. 2020). Integrating these different programs and partners is critical so that individuals get the services they need.

- The public workforce system needs data (and data systems) to understand what works best for whom. Further development of state data systems to enable them to provide more accurate and comprehensive information – such as information on available jobs and the required credentials – would allow program staff to better serve job seekers. In addition, better data on ETPs would strengthen the accountability and transparency of WIOA’s system of vetting providers.
- The pandemic and accompanying new recovery-related laws have highlighted the importance of UI programs. They have also emphasized challenges, including the need for more investment in the state information technology systems supporting UI and understanding the needs of workers not covered by regular UI programs.

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