CED

THE CONFERENCE BOARD

Growing the American Workforce

Bolstering Participation Is Critical for US Competitiveness and Economic Strength

OCTOBER 2019

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LETTER FROM THE CED WORKFORCE SUBCOMMITTEE

Since 1942, the Committee for Economic Development of The Conference Board (CED) has provided reasoned solutions in the national interest. As a nonprofit, nonpartisan, business-led public policy organization, CED has long recognized the importance of a large and skilled American workforce in achieving our country's prosperity and growth, and has consistently advocated for policies and practices to ensure that Americans of all backgrounds are able to more fully develop and profit by their talents. We continue to believe that human investments, starting at the earliest ages, are among the most important that our nation can make, and that the business community should be among the leaders in making this argument to policy makers and the public at large.

In a rapidly changing 21st-century economy with growing competition from abroad, continuing to field a world-leading, skilled workforce is both more essential and more challenging than ever to the mission of delivering increasing prosperity for American families and preserving our nation's economic leadership. The US must therefore confront its demographic challenges, as an aging population and slowing labor force growth pose risks to the economic strength and fiscal health of the country.

To help confront these challenges and offer policy makers and business leaders balanced, reasoned solutions in the public interest, CED has formed a new subcommittee focused on growing and strengthening the American workforce. We recognize that no one approach to improving the workforce will be sufficient, and that business and the public sector each have critical roles to play. If the US hopes to remain the world's economic leader in the face of its global and domestic challenges, it will need to maximize the potential of all its citizens *and* attract skilled workers from outside its borders. The US needs more workers *and* needs to do a better job of educating, preparing, and retraining the potential workers it already has to ensure that all Americans are positioned to prosper in the face of future economic competition. Critically, workforce advantages the US once enjoyed can only be rebuilt by better accessing the full diversity of our available talent—including from groups whose potential contributions the US has failed to fully support and cultivate in the past.

Growing the American Workforce, focused on increasing labor force participation and attachment in the near term, is the first in a series of policy briefs that, together, will help chart a path toward meeting these goals.

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Trusted Insights for What's Ahead

The strength of the US economy is built on the contributions of American businesses and workers, supported by public and private investments in innovation and capital. But at a time of increasing competition from abroad, an aging population and the slowing growth of the American workforce could have potentially profound consequences for US economic strength and global leadership.

A growing labor force has been a significant contributor to past US economic growth. More workers can lead to more production, more wages, and more consumption. By contrast, slower labor force growth will pose a challenge for American businesses dependent on the talent available to them when they compete in the global marketplace. And, with fewer workers to support a growing number of retirees, an aging population and slowing labor force growth will also place more strain on the nation's ability to meet its commitments to seniors while also supporting younger families and funding investments that bolster future economic growth.

As a result, helping Americans who would like to work more to do so is critical for delivering more widely shared prosperity for families; a deeper, more-skilled pool of talent for American businesses; and economic growth and fiscal stability for all. The current labor force picture and comparisons with other advanced economies suggest that more can be done to incentivize work and reduce barriers to entry and fuller participation. Potential workers with the lowest-income job prospects, unemployed workers at risk of falling out of the labor force, parents, and aging workers who wish to keep working are potentially underutilized contributors to American economic strength.

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The Committee for Economic Development of The Conference Board (CED) believes that it is essential for US competitiveness and global leadership in a rapidly changing 21st-century economy that business leaders and policy makers work together, in alignment, to implement policies that make it easier and more attractive to find work and remain working. Business leaders have a critical responsibility, and a civic obligation, to create the kinds of welcoming work environments—flexible and free of discrimination or unnecessary hurdles to participation and advancement—where all Americans, regardless of background or identity, can make contributions in line with their full talent and potential for the benefit of their companies and the nation as a whole. If the US is going to draw on the full strength of the American workforce, the private sector must take the lead in establishing the conditions necessary so all potential employees can succeed, reducing the barriers that exist in their own institutions to workers entering or remaining in the workforce. But public policy will also be critical to their success. Business leaders and policy makers must be united in advancing concrete solutions in the national interest.

To further that aim, CED suggests that business leaders and policy makers champion four specific ways to increase labor force participation and attachment in the future.

Four Ways Business Leaders and Policy Makers Can Improve Future Labor Force Participation and Attachment

1. **Strengthen the Earned Income Tax Credit (EITC) for adults without qualifying children** Incentivize more people with initially low-income job prospects to enter the labor force and remain working by increasing EITC benefits and expanding eligibility to reach more potential workers who do not have qualifying custodial responsibility for a child.

2. **Lessen barriers to participation through improved employee-employer matching and increased mobility** Reduce geographical limitations, information gaps, and unnecessary occupational barriers in order to connect potential workers, particularly those most at risk of dropping out of the labor force following a job loss, to a wider set of employment opportunities by:

   - Pushing states to deliver high-quality, effective reemployment services to help displaced workers quickly find jobs that can make use of and add to their existing skills;
   - Funding high-quality demonstrations to improve employee-employer matching, including relocation assistance and wage-insurance pilots; and
   - Reviewing and reforming occupational licensing requirements and the inappropriate use of noncompete clauses.

3. **Help parents remain connected to the workforce and meet family responsibilities** As part of a national strategy to ensure all children can engage in effective, high-quality early childhood education from birth to age five, weigh the participation benefits of family-friendly labor market policies, including funding evaluations of the labor force impacts of different high-quality preschool program designs.

4. **Support older workers who wish to remain working** Use more of the work potential of older Americans by:

   - Funding public information campaigns to counter employer misperceptions;
   - Eliminating health insurance cost disparities that may motivate discrimination through market-based health reform;
   - Piloting repeal of the Social Security retirement earnings test; and
   - Piloting initiatives to support flexible work arrangements, including by increasing access to nonwage benefits and worker protections typically only available to full-time workers.

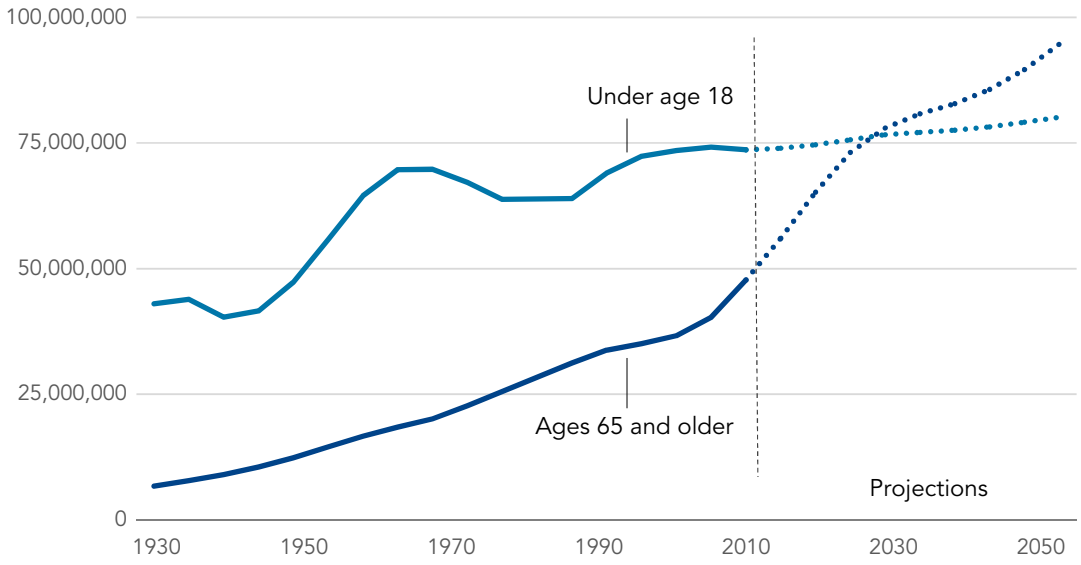
1 Boosting labor force participation and attachment will be critical to future economic growth

The US is undergoing an unprecedented shift in its demographic composition, with potentially profound consequences for its economic competitiveness and global leadership. The US Census Bureau projects that by the end of the decade, the population will have grown more slowly than in any decade since the Great Depression–affected 1930s.[1] By 2035, Americans 65 and over are expected to outnumber children under the age of 18 for the first time in the country's history, primarily because of the low rate of births since the 1970s.[2] Population growth will continue to slow for several years as the total number of Americans born each year barely increases.[3]

The growth of the labor force is also projected to slow. Between 1990 and 2007, with the youngest baby boomers in their prime working years and the trend of more women seeking employment appearing to peak, the civilian labor force grew by an average of 1.2 percent per year.[4] Following the Great Recession (December 2007–June 2009), the number of people working or looking for work has only grown by roughly 0.7 percent a year. The US Department of Labor projects that the civilian labor force will grow, on average, only 0.4 percent annually over the next several decades.[5]

Figure 1

By 2035, Americans ages 65 and over are expected to outnumber those under age 18



Source: US Census Bureau

While increasing labor productivity remains the surest route to increasing living standards, a slowdown in the rate at which the labor force grows can reduce the overall growth of the nation's economy. Having more workers has typically led to more production, more wages, and more consumption. The growth of the US labor force has been a significant contributor to past US economic growth. Growth in the total number of hours worked annually by the American workforce has accounted for more than a fifth of US economic growth over the past 25 years, including between roughly a third and a half of economic growth in each of the last eight years as the labor market recovered following the Great Recession.[6] However, with the aging of the workforce, if the slower rate of new workers entering the labor market continues, The Conference Board projects that additional hours worked will only contribute an annual average of between 0.1 and 0.2 percentage points of GDP over the next decade.[7]

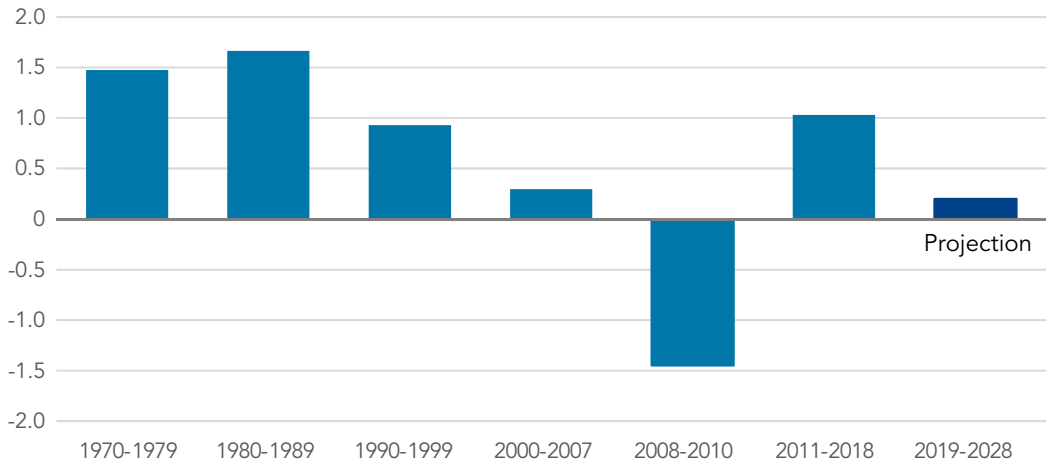
> … a slowdown in the rate at which the labor force grows can reduce the overall growth of the nation's economy.

With population and labor force growth both slowing, economic growth will become even more dependent on productivity growth.[8] Investors and entrepreneurs will need to make their plans recognizing that, in many regions, there will be fewer new customers and slower growth in the supply of young, skilled workers. Even with some positive growth in the total number of workers, a few economists have begun pointing to the overall aging of the labor force as itself potentially contributing to reduced job creation, lower labor force participation, and slower productivity growth.[9]

Figure 2

Labor force growth is expected to play a much smaller role in future economic growth

Contribution of labor quantity to average annual GDP growth

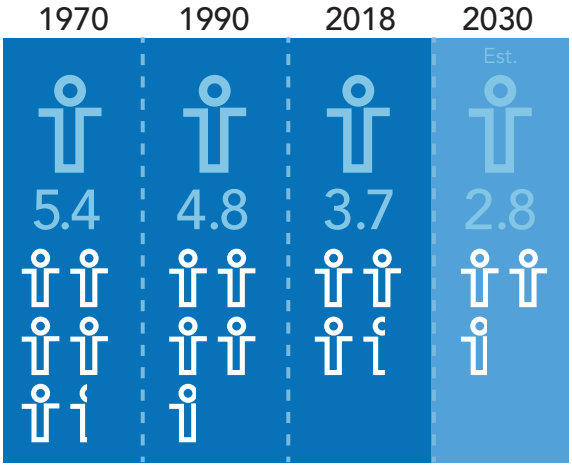


Source: The Conference Board Global Economic Outlook, November 2018

Beyond economic growth, the aging of the US population and the slowing growth of the labor force will have significant consequences for US fiscal policies. A proportionally smaller number of workers will be collectively relied upon to finance the country's old-age support programs like Social Security, Medicare, and Medicaid.[10] The "dependency ratio," reflecting the balance between the population ages 65 and over, who are the most likely to be currently receiving Social Security retirement benefits, and the population ages 20 to 64, who are the most likely to be currently paying Social Security payroll taxes, has shifted from 1:5 in 1985 to less than 1:4 in 2018. By 2030, the ratio is expected to fall below 1:3, and then continue to drop over the remainder of the century, with fewer workers supporting each retiree.[11] If a greater share of available resources is required to support older Americans, even if only to maintain current benefits, it may make it more politically difficult to finance other long-run investments, like education, research, and infrastructure.[12]

Age of US population is on the rise

Number of people ages 20 to 64 supporting one adult, age 65 and above



US population in millions

	1970	1990	2018	2030 Est.
Under 20 yrs old	81	75	85	88
65 & over	21	32	52	72

Source: 2019 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds.

Increasing labor force participation and attachment—helping more Americans find work they are willing to do and remain working during periods of transition or disruption, from the birth of a child to the loss of a job—could help to partially address some of the challenges the US economy faces from slower labor force growth and an aging population.[13] In a rapidly changing 21st-century economy, with global competition increasing, furthering US economic leadership and ensuring Americans can attain and broadly share in increasing prosperity hinges on maximizing the contributions of our nation's potential workers and reducing their barriers to work.

In a rapidly changing 21st-century economy, with global competition increasing, furthering US economic leadership and ensuring Americans can attain and broadly share in increasing prosperity hinges on maximizing the contributions of our nation's potential workers and reducing their barriers to work.

On this issue, business leaders have an obligation to lead. When talented workers sit on the sidelines or are prevented from fully contributing to the workforce at the level they would prefer, it is not only the workers who are affected. The economic strength of the nation suffers, and employers miss out on an important competitive resource.[14] For instance, several studies have identified a continuing pattern of significant underrepresentation of women and black Americans in science and engineering fields—a gap that some researchers have estimated could increase US GDP per capita by as much as 2.7 percent if closed.[15] Raj Chetty and coauthors have coined the phrase "lost Einsteins" to refer to individuals, especially among women, minorities, and children from low-income families, who do not reach their innovative potential, with consequences both for those individuals' prosperity and the nation's economic growth.[16]

Business leaders, through the examples they set and policies they establish within their own companies, can have a significant impact on maximizing the economic contributions of America's existing potential workforce in the short and long run. Business leaders must take on the responsibility of creatively and aggressively building a welcoming workplace environment that draws upon the full range of available talent.

Along with leading through individual action, business leaders have an additional responsibility to educate policy makers on what public policy changes will be needed to support their efforts to grow the American workforce. To further that goal, after briefly describing the current state of participation in the US workforce and reviewing some of the potential barriers keeping Americans from working at their full potential, this report outlines several recommendations that business leaders should champion to boost the number of Americans able to find work and achieve their employment goals.

In addition to creating a welcoming work atmosphere where all Americans, regardless of background or identity, can make contributions in line with their talent and potential, business leaders and policy makers concerned about US competitiveness should pursue reasoned solutions in the nation's interest that:

1. Incentivize more people to enter the labor force and remain working by increasing the benefits of work;
2. Connect workers most at risk of falling out of the labor force to a wider set of employment opportunities by lessening geographic, informational, and licensing barriers to improve employee-employer matching and worker mobility;
3. Make the US labor market more family friendly, helping parents achieve their employment goals while meeting their family responsibilities; and
4. Remove barriers preventing older Americans who wish to continue working from continuing in the labor force.

Boosting labor force participation and attachment is a critical goal of public and private policy

On an individual level, Americans face challenging decisions about when to work, informed by their family circumstances, weighed against complicated and uncertain calculations of their own interests that may change over time.[17] These decisions are further affected by changes in the labor market or public policy that cause the supply, and relative attractiveness, of available jobs to rise and fall. For these reasons, it cannot be taken for granted that an increase in labor force participation and attachment is always a desirable outcome for any one individual.[18] But greater labor force participation and attachment is frequently in the interest of the workers who would supply the additional labor and benefit the communities in which they live.[19] On surveys, roughly one-third of adults report wanting to work more than they currently do, either because they are currently out of work or wish to work additional hours.[20] Additionally, some of the people who are not currently in the labor force may want or need to work in the future. If individuals are missing out on valuable skill-building and experience now, they may face more challenges, or receive less compensation, when securing subsequent work. There are also reasons to worry that some adults not participating in the labor force are more likely to suffer from some of the same documented negative outcomes, beyond lower income, that seem to result from long periods of unemployment.[21]

Under the existing circumstances, greater labor force participation and attachment is a laudable goal in the nation's interest, likely to lead to more economic growth, higher tax revenues, and lower spending on existing social safety net programs. As workers continue to acquire skills and experience, not only do they benefit from higher wages, but the US economy benefits from higher aggregate levels of human capital, making it richer and more globally competitive. Participation has declined among particularly vulnerable groups that might benefit in the long run from more labor force attachment, like younger adults not enrolled in school, less-educated workers, and adults who report a work-limiting disability.[22] For many adults, increased labor force participation may lead to more financial security and better health and wellness outcomes. Additionally, international comparisons with other advanced economies suggest that, even beyond what would be expected with the aging of the population, women's labor force participation rates may have peaked at lower-than-expected levels.[23]

2 Who participates in the American labor force?

Snapshot of the US Labor Force, 2018 (change since 2000)

Labor force participation rate	63 percent	↓ *(-1.5 percentage points)*
Share of the labor force:		
Male	53 percent	↓ *(-0.3 percentage points)*
Over age 25 with at least a bachelor's degree	41 percent	↑ *(+10 percentage points)*
Age 55 and older	23 percent	↑ *(+10 percentage points)*
Foreign born	17 percent	↑ *(+5 percentage points)*

Sources: Bureau of Labor Statistics, Current Population Survey; US Census Bureau

… labor force participation in America remains relatively high by historical standards.

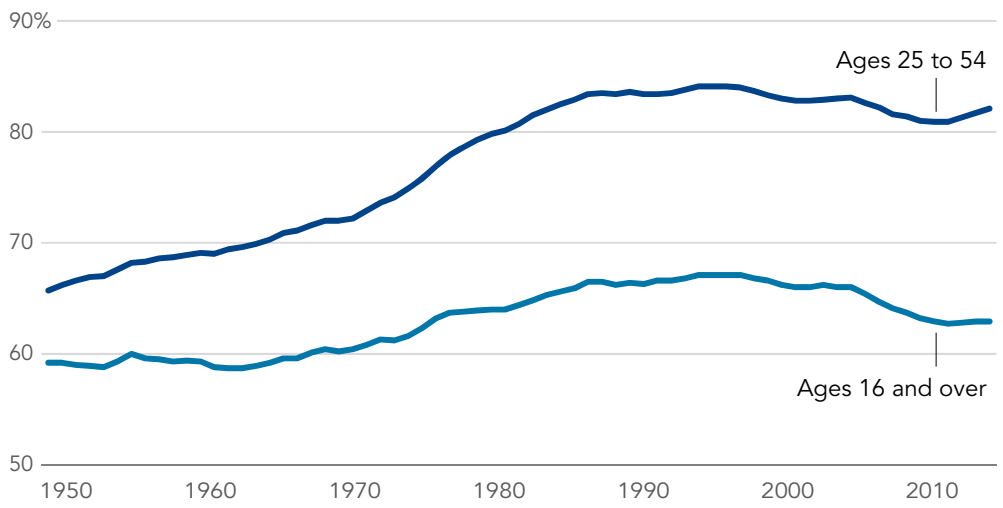
Though it has declined since 2000, labor force participation in America remains relatively high by historical standards. Roughly 63 out of every 100 Americans ages 16 and older are either working or actively looking for work.[24] By comparison, the labor force participation rate averaged 59 percent in the 1950s and 1960s.[25] Men and women ages 25 to 54 are sometimes referred to as "prime-age" adults since those ages reflect the period in which adults are most likely to be working. Figure 3 compares the trajectory of participation over the years for all workers and prime-age workers.

American labor force participation can also be measured in terms of how much people are working. In 2017, American workers worked an average of 34 hours per week, reflecting a roughly 10 percent decline since the early 1950s, but still slightly above the average across most advanced economies.[26] About 86 percent of US labor force participants either work full time or would like to.[27] The share of employed workers who report being unavailable or uninterested in working full-time hours has remained relatively consistent for more than two decades.[28]

Figure 3

The share of Americans working or looking for work has declined since 2000

Labor force participation rate, by age



Source: Bureau of Labor Statistics

Participation has undergone significant changes throughout the working life cycle

The rise and fall of prime-age participation

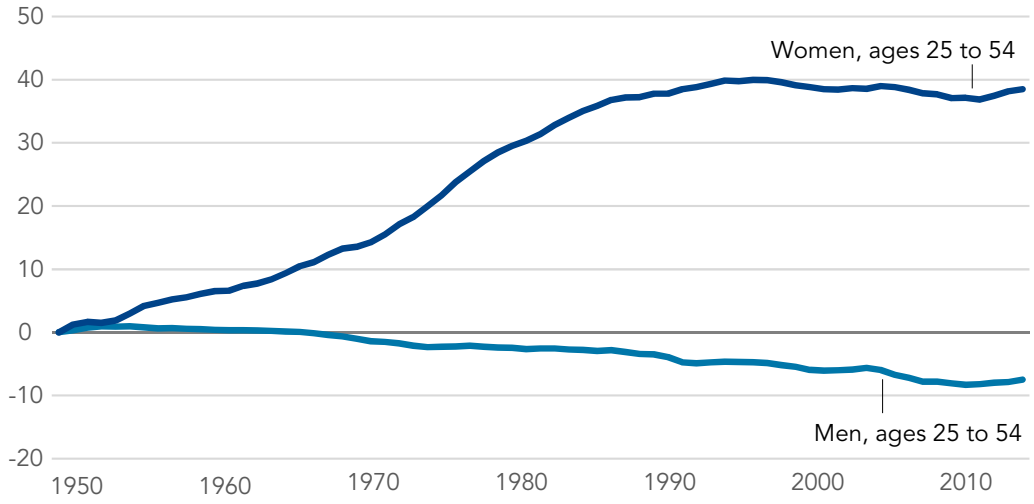
The labor force participation rate of prime-age adults, ages 25 to 54, increased nearly 20 percentage points between 1950 and 1990, as increases in women working rapidly outpaced the gradual decline in the labor force participation of men.[29] However, after the start of the 21st century, the share of prime-age adults in the labor force declined for both men and women, reducing the overall participation rate from 84 percent in 2000 to 82 percent in 2018.

Looking at prime-age participation by gender helps illustrate the post-World War II trend. While prime-age participation by women grew considerably, especially in the 1970s and 1980s, prime-age men's labor participation steadily declined from a peak of nearly 98 percent in 1954 to roughly 89 percent in 2000.[30] Prime-age participation declined sharply after each of the last two recessions, but women's participation has been quicker to rebound in recent years, accounting for most of the recovery in overall prime-age participation since 2015.

Figure 4

Increased labor force participation since 1950 driven by gains among prime-age women

Net percentage point change in labor force participation rate since 1950



Source: Bureau of Labor Statistics

One potentially significant trend that has led to lower rates of participation for prime-age men is a change in the *pattern* of nonparticipation. Not only has the share of potential workers who have seemingly permanently stopped working or looking for work increased, but the share of workers who decide to stop looking for work for at least a short spell has also increased.[31] One estimate found that a rise in the number of prime-age men briefly exiting the labor force accounted for roughly a third of the participation decline that occurred between 1984 and 2011.[32] The increase in short-term exits appears to primarily be the result of more prime-age men choosing to temporarily leave the labor force immediately following a job separation and is concentrated among married or cohabiting men, or prime-age men who live with their parents.

Young adults working less

In general, lower labor force participation by 16- to 24-year-olds reflects two trends: an increase in the share of young adults enrolled in school and a decline in the number of school-enrolled young adults who work, including a steep decline in teenagers working summer jobs.[33] At 57 percent, the share of all 16- to 24-year-olds enrolled in school in October 2018 was 12 percentage points higher than it had been in 1985.[34] However, in October of any given year between 1985 and 2002, between 47 and 50 percent of school-enrolled 16- to 24-year-olds were also working or looking for work. In October 2018, only 36 percent of such students were in the labor force.[35]

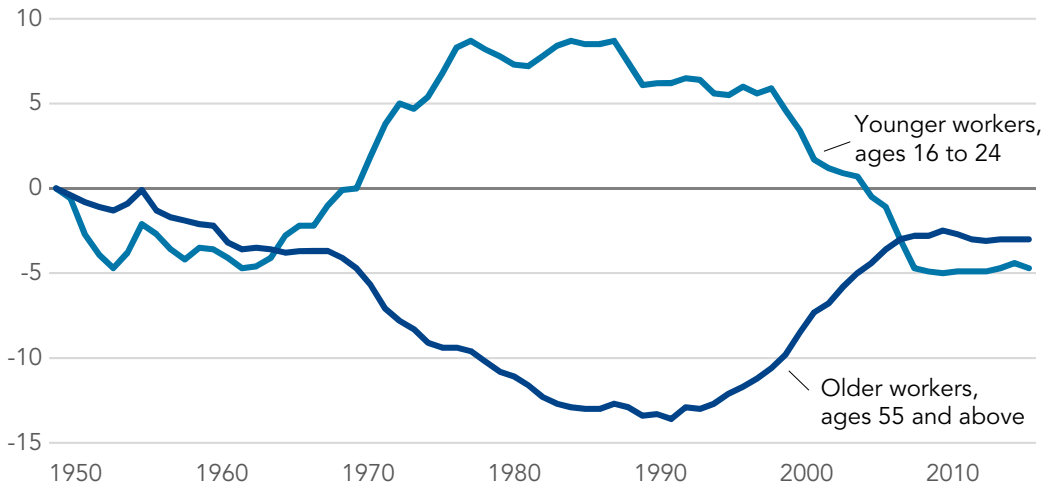
While higher rates of education among teens is probably an overall positive trend that will lead to higher lifetime earnings, the accompanying reduction in high school work experiences may still be concerning—except to the extent that it is contributing to school performance—since early work experiences have been associated with better long-run earnings and employment outcomes in the past.[36] What is more clearly concerning is the decline in labor force participation among 16- to 19-year-olds *not* enrolled in school. Between 2000 and 2017, their labor force participation rate dropped 10 percentage points. Involuntary youth unemployment may have long-lasting effects, particularly for men.[37] Even though roughly 4 out of 5 nonparticipants ages 16 to 24 are enrolled in school, there are still nearly 3.4 million young adults who are neither in the labor force nor pursuing education.[38] The poor average labor market outcomes for some recently out-of-school young adults, particularly those transitioning to work directly from high school, was a motivation for CED's May 2019 report, "Improving Noncollege Pathways to Skills and Successful Careers," which put forward recommendations for improving counseling related to education and training decisions and smartly expanding apprenticeship programs as two concrete steps that could help address this challenge.[39]

Whether in response to economic conditions or reflecting a cultural change that itself might be contributing to different labor force participation patterns, there have been sizable shifts in the share of young adults who live with their parents. Compared with 2000, men and women ages 21 to 30 were roughly 10 percentage points more likely to be living with their parents in 2016, and significantly less likely to be married.[40]

Figure 5

Reversing previous trends, since the 1990s, young adults are less and older adults are more likely to be in the workforce

Net percentage point change in labor force participation rate since 1950



Source: Bureau of Labor Statistics

Older adults working more

Reflecting cultural and policy changes, the labor force participation of older workers went through significant changes after World War II, including a notable stratification in the likelihood of retirement at certain ages based on lifetime earnings.[41] However, by the mid-1990s, labor force participation rates among workers ages 55 and over had begun to steadily increase.

Though the effect of baby boom generation women reaching older ages was the most pronounced contributor, the increase in older workers' labor force participation coincided with social, policy, and economic changes that have likely affected decisions to remain in the workforce. For instance, according to the period life tables published by the Social Security Actuaries, life expectancy at age 55 has improved by more than four years for men and more than two years for women since 1980.[42] In terms of public policy, increases in the "normal" retirement age for Social Security have been phasing into place since 2000 and will continue until 2022, reducing benefit generosity, while disincentives for working at older ages have been relaxed.[43] Rising health care costs, combined with less generous or less available employer-provided retiree health insurance, may also be motivating more workers to remain employed until they reach Medicare eligibility at age 65.

There has also been an increase in the share of older workers who engage in partial retirement in their early 60s, remaining in the labor force but shifting from full-time work to part-time work before fully retiring. The share of adults who are partially retired in their early 60s has more than doubled since 1980.[44]

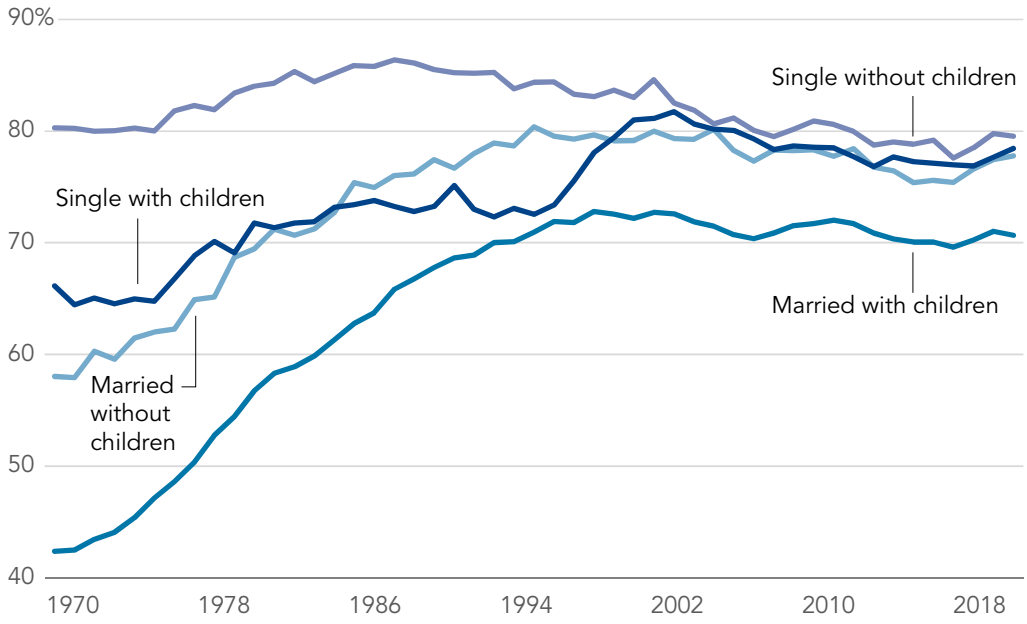
Despite significant changes over the past 70 years, men remain roughly 12 percentage points more likely than women to be working or looking for work, and they still make up a somewhat larger share of the labor force—an estimated 53 percent as of July 2019.[45] An increase in women working was a defining change in American labor force participation in the second half of the 20th century, with successive cohorts of women participating at higher rates, particularly earlier in their careers.[46] While only about 1 in 3 women were participating in the labor force in 1948, women's labor force participation peaked at roughly 60 percent in the early 2000s.[47] Significantly, the increase in women working or actively looking for work was driven by increases among married women, especially married women with children.[48]

An increase in women working was a defining change in American labor force participation in the second half of the 20th century, with successive cohorts of women participating at higher rates, particularly earlier in their careers.

Figure 6

Increases in the share of prime-age women working or looking for work was driven by the increased participation of married women

Labor force participation rate of women, ages 25 to 54, by marital status and presence of children



Note: "Married" includes all women who report being married regardless of whether their spouse was present in the household; "single" includes all other women. "With children" indicates at least one child under age 18 related by birth, marriage, or adoption in the household.

Source: IPUMS-CPS, University of Minnesota

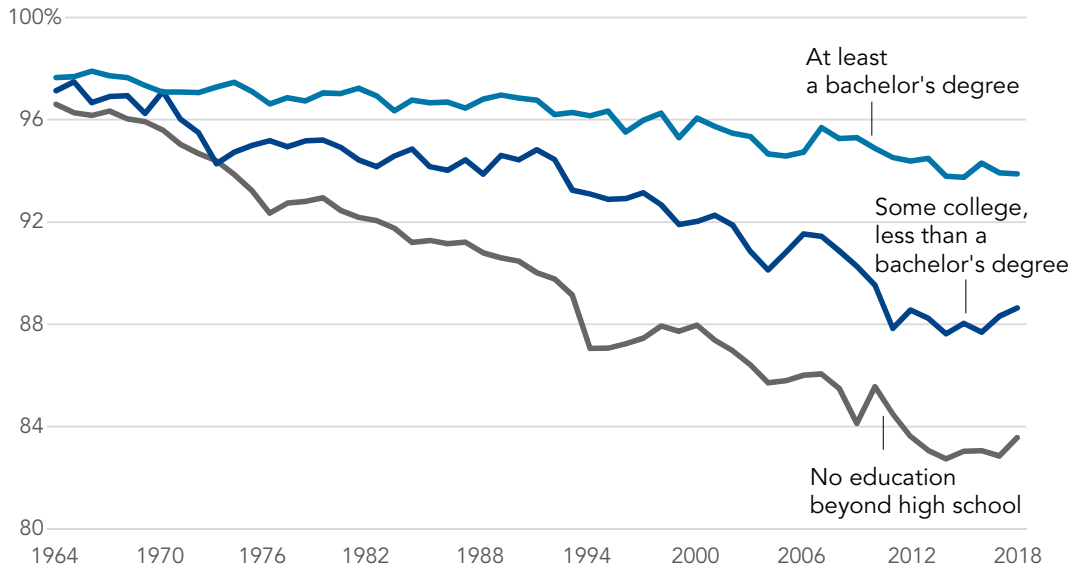
Over time, the American workforce has become significantly more educated. But despite large increases in educational attainment, in 2018, only 41 percent of the labor force over age 25 had at least a bachelor's degree, compared with 35 percent of the population. By comparison, roughly 6 percent of Americans had a bachelor's degree in 1950.[49]

Americans with more education are more likely to be in the labor force. Among adults over age 25, the participation rate for Americans with at least a bachelor's degree was 74 percent in 2018, compared with 59 percent for those with less education.[50] Achieving a four-year degree has become a stronger predictor of being in the labor force over time. For example, for men ages 25 to 54, labor force participation averaged roughly 97 percent throughout the 1950s.[51] In 2018, among that same age group, men with a bachelor's degree or higher still had a participation rate of 94 percent, while participation had declined to 86 percent for men with less education.[52]

Figure 7

Education has become a much stronger predictor of whether men are working or looking for work during prime working years

Labor force participation rate of men, ages 25 to 54, by educational attainment

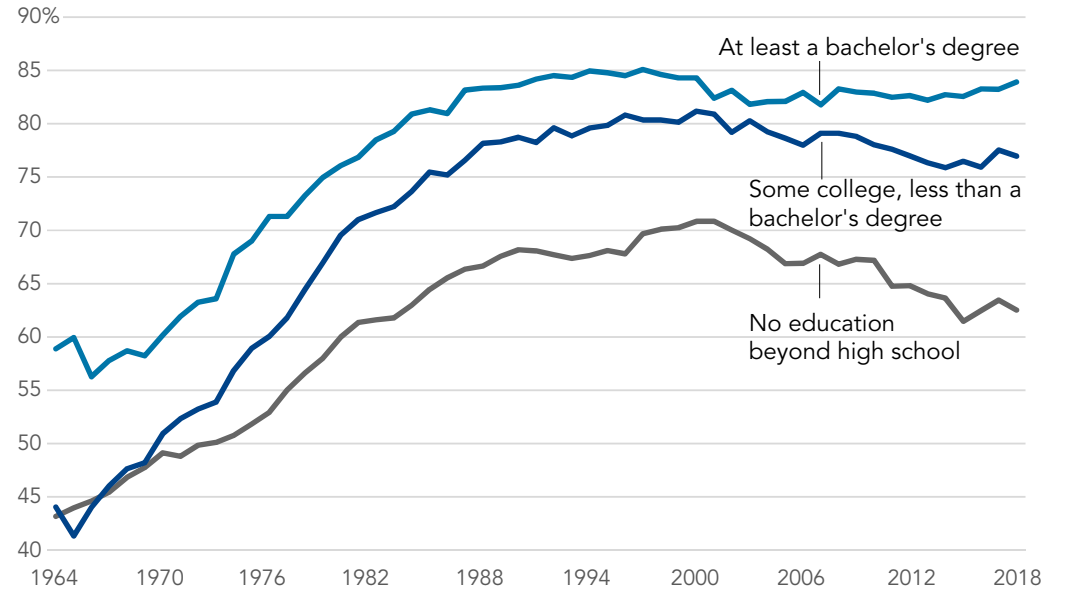


Source: IPUMS-CPS, University of Minnesota

Figure 8

The share of prime-age women with at least a 4-year degree who are working or looking for work remains close to historically high levels

Labor force participation rate of women, ages 25 to 54, by educational attainment



Source: IPUMS-CPS, University of Minnesota

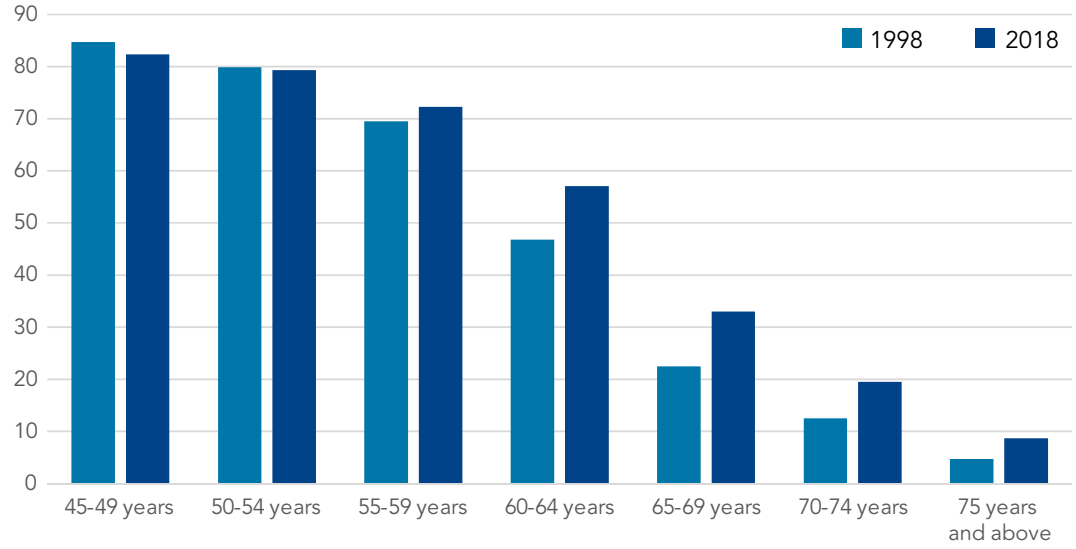
Additionally, the gap in participation between men and women narrows with higher educational attainment. In 2018, men ages 25 to 54 with a high school diploma and no college experience were more than 20 percentage points more likely to be working than women with the same level of educational attainment.[53] Among similarly aged adults with at least a bachelor's degree, the gap between men and women's participation rates was only 10 percentage points.

Matching demographic changes affecting the larger population, the American workforce has gotten significantly older. The median labor force participant in 2018 was 42 years old, three years older than in 1998.[54] This aging of the working-age population has had consequences for labor force participation. While every worker has a unique career path, there are common patterns.[55] For instance, many younger workers delay entry or leave the labor force to pursue additional education or training that will make their work more valuable later on. Younger and midcareer female workers are more likely to temporarily exit the labor force if there are young children at home. But as workers age, their propensity to suffer poor health or a work-limiting disability increases, and workers become increasingly more likely to retire. The average participation rate for adults ages 50 to 54 was 79 percent in 2018, but it was only 72 percent for Americans ages 55 to 59.[56] So the shift to an older workforce means not just a larger share of older workers, but also a gradual reduction of overall participation rates for Americans considered to be of working age.

Figure 9

Americans are more likely to work at older ages than in the recent past but still less likely to be working as they approach typical retirement ages

Labor force participation rates of workers, by age



Source: Bureau of Labor Statistics

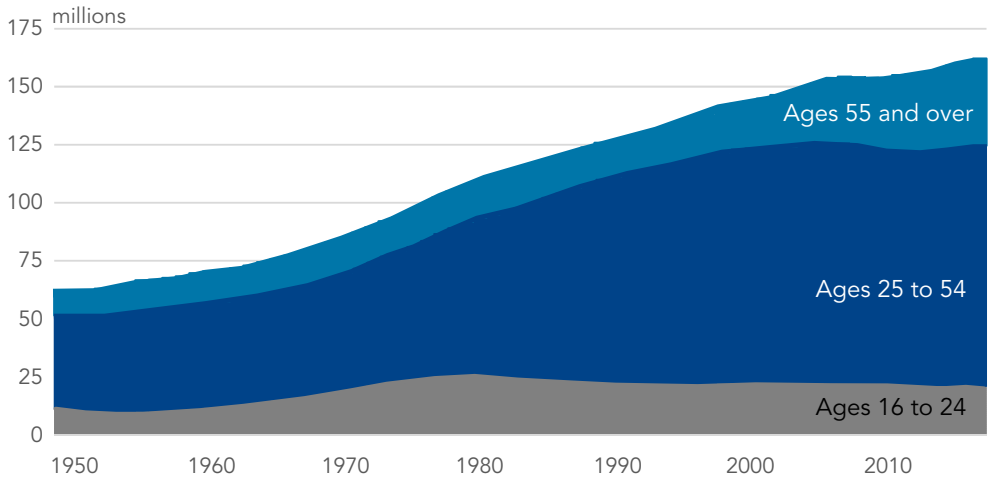
In 2018, Americans over age 55 accounted for roughly 23 percent of the labor force, a 10 percentage point increase compared to two decades earlier.[57] And while participation among older workers has increased compared with similarly aged workers in the past, multiple analyses have pointed to the mere aging of the labor force as the principal reason for the decline in total labor force participation over the past decade.[58] Due to a combination of the aging of the baby boom generation, impacts from the Great Recession, and declines in participation rates, there were fewer labor force participants ages 16 to 54 in 2018 than there were in 2005. To look at it another way, growth in the number of participants 55 years and older accounts for roughly 83 percent of the net growth in the labor force over the past two decades and essentially all the net growth since the Great Recession ended.[59]

In 2018, Americans over age 55 accounted for roughly 23 percent of the labor force, a 10 percentage point increase compared to two decades earlier.

Figure 10

Since the 1990s, the labor force has gotten significantly older

Total cumulative labor force, by age



Source: Bureau of Labor Statistics

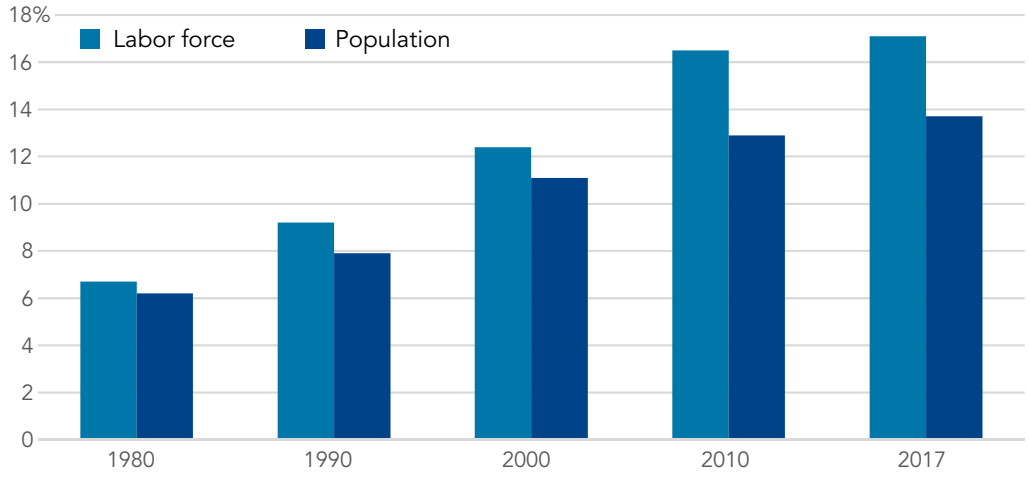
Across several measures, the labor force has also gotten significantly more diverse. In 2018, roughly 17 percent of labor force participants were born outside the US, nearly double the estimated share in 1990.[60] On average, the foreign-born portion of the labor force in the US tends to be younger, more male, and much more likely not to have completed high school.[61] However, more recent immigrants are significantly more likely to be college educated than in the past, which has led to an increase in the share of foreign-born workers with advanced education.[62] Since 1990, the share of the labor force that is nonwhite has increased by roughly 8 percentage points, to 22 percent.[63]

> … more recent immigrants are significantly more likely to be college educated than in the past.

Figure 11

Workers born outside the US have played a growing role in the workforce

Share of the civilian labor force and total population that is foreign born



Source: Migration Policy Institute tabulation of data from the US Census Bureau

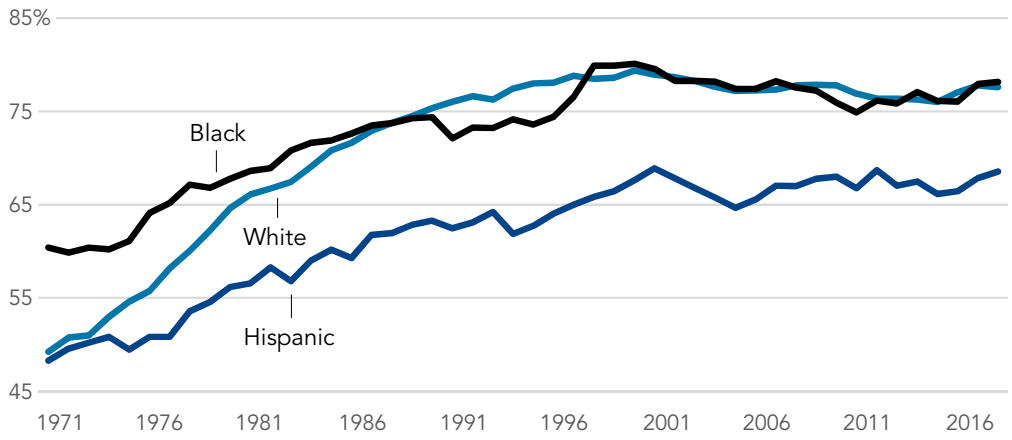
Changes in participation by race and ethnicity

Changes in participation trends among prime-age adults, ages 25 to 54, have been less pronounced than difference in trends by gender. Among women, participation by white, black, and Hispanic women all increased rapidly throughout the 1970s, 1980s, and 1990s.[64] A larger share of prime-age black women had been working or looking for work at the start of the 1970s compared to white and Hispanic women, but black women saw relatively smaller participation gains, leading to a convergence in participation rates among white and black women by the late 1980s.[65] In recent years, black women have maintained a slightly higher average participation rate than white women. Prime-age Hispanic women's participation rates have remained significantly lower than those of white and black women. In 2018, prime-age white, black, and Hispanic women's participation rates were each roughly 1 to 1.5 percentage points lower than in 2000, reflecting relatively similar trends across groups.[66]

Figure 12

Since 2000, prime-age women's labor force participation trends have been very similar across race and ethnicity

Female labor force participation rates, ages 25 to 54, by race and ethnicity



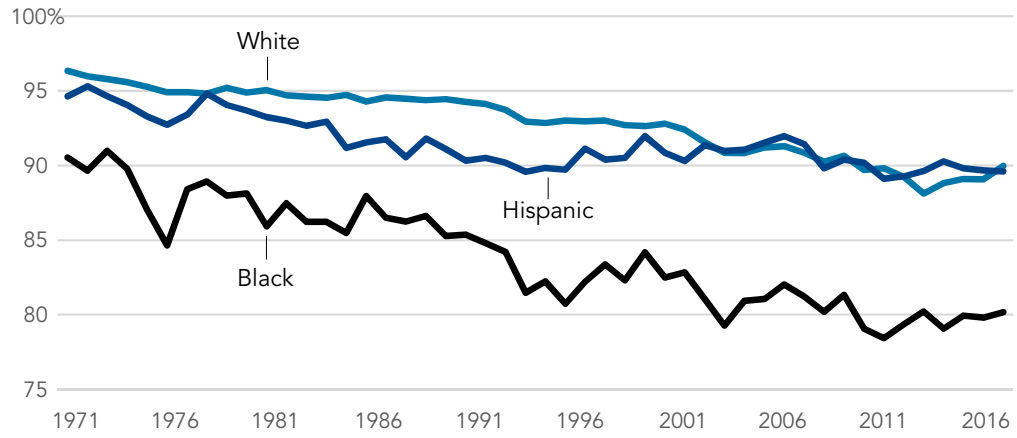
Source: IPUMS-CPS, University of Minnesota

Among prime-age men, participation rates have been slowly declining for white, black, and Hispanic men throughout much of the past 50 years.[67] However, rates of participation for Hispanic men have been largely flat over the past two and a half decades. The gap in average participation rates between prime-age black men and white and Hispanic men has grown over time, with black men experiencing a faster rate of decline over recent decades. As a result, the gap in participation rates between men and women is smallest for black adults, at an average of 4 percentage points in 2018.

Figure 13

The share of prime-age black men working or looking for work has fallen relatively faster than for other prime-age men

Male labor force participation rates, ages 25-54, by race and ethnicity



Source: IPUMS-CPS, University of Minnesota

Potential workers out of the labor force

There are many reasons why some potential workers are currently completely out of the labor force. For example, of the average 54 million Americans ages 16 to 64 who were out of the labor force in 2018, roughly a quarter of those potential workers were teenagers and young adults, ages 16 to 24, who were enrolled in school.[68] Another 13 percent were adults ages 55 to 64 who reported being retired.

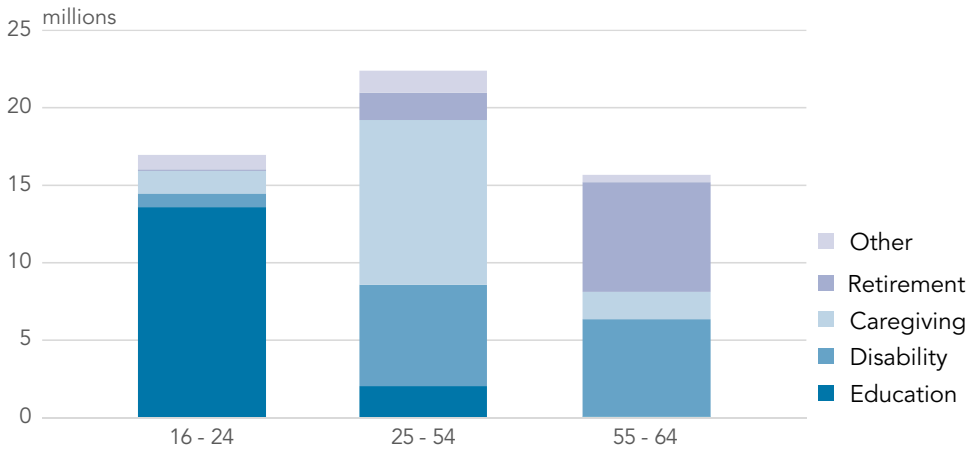
In 2018, roughly 23 million prime-age adults were not participating in the labor force.[69] Almost half of them, including more than 60 percent of women, cited caregiver responsibilities as the primary reason for not working or looking for work, and another nearly 30 percent reported a work-limiting disability or serious illness as their primary reason for being out of the labor force.[70] Many of these potential workers can be expected to enter or reenter the labor force later in their careers as they finish an education spell, transition from caregiver responsibilities, or recover from a temporary disability. For example, roughly 10 percent of prime-age workers who cited disability as their reason for being out of the labor force in 2016 had returned to work in 2017.[71]

Caution should also be applied in treating self-reported reasons for being out of the labor force as equivalent to the motivating factor for labor force exit. For example, a woman with young children who faces gender discrimination and barriers to her advancement at work may be more likely to exit the labor force in order to provide childcare. In such a situation, it would be, at best, incomplete to describe providing childcare as the *reason* she left the labor force. Such distinctions may make identifying effective policy solutions more difficult.

Figure 14

Reasons for being out of the labor force vary sharply by age

Nonparticipants, ages 16 to 64, by age and provided reason, 2018



Source: IPUMS-CPS, University of Minnesota

In 2018, roughly 23 million prime-age adults were not participating in the labor force.

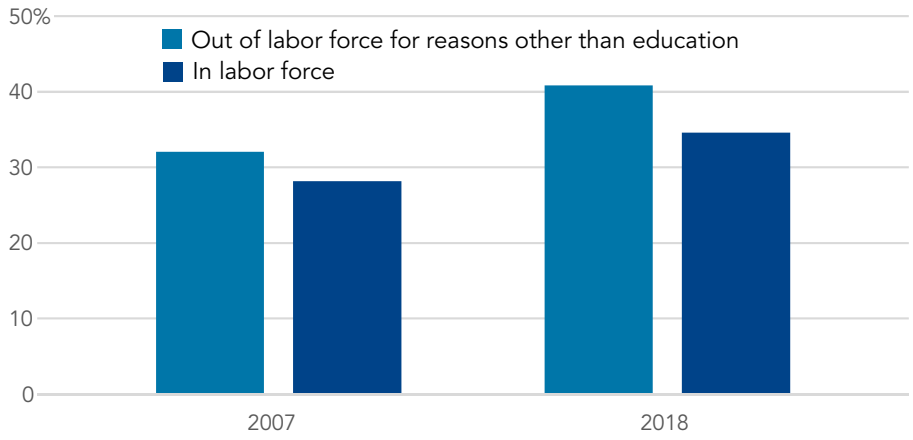
Across all potential workers ages 16 to 64 out of the labor force who did not cite disability, retirement, or education as their reason for being out of the labor force, only about 1 in 5 report currently wanting a job.[72] However, intentions change with circumstances or opportunity, and even seemingly permanent labor force participation decisions are subject to later change. A panel study of workers who retired after age 50 found that roughly a quarter of them subsequently returned to work, with younger retirees more likely to unretire[73]. In a survey of adults ages 50 and older who were out of the labor force, roughly half claimed that they would be willing to work in the future if the right opportunity came along.[74]

Most nonparticipants in the labor force live with someone else. In 2018, more than two-thirds of prime-age women and nearly a third of prime-age men who were out of the labor force lived with a partner or spouse; nearly a third of men and roughly 10 percent of women lived with a parent.[75] When excluding people who identified education as their reason for being out of the labor force, twenty-somethings not in the labor force are only slightly more likely to be living with their parents than similarly aged adults who are in the labor force.[76] However, among twenty-somethings, both labor force participants and nonparticipants for reasons other than education were increasingly likely to be living with a parent in 2018 compared to before the Great Recession.

Figure 15

Young adults are increasingly likely to live with parents regardless of labor force participation

Share of adults, ages 20 to 29, living with a parent, by participation status



Source: IPUMS-CPS, University of Minnesota

The impact of the Great Recession on labor force participation

It is not surprising that in the years immediately after the Great Recession, the share of adults working or looking for work declined faster than would have been predicted by aging alone. Labor force participation is deeply affected by overall economic conditions.[77] Although a worker who becomes unemployed or underemployed in an economic downturn remains in the measured labor force for as long as he or she is actively looking for work, other reactions to poor labor market conditions alter the labor force participation rate.[78] In some instances, the biggest practical change may be in the timing of certain decisions a potential worker would have eventually made anyway, such as pursuing additional education and training sooner or retiring earlier than he or she otherwise might have. However, in some instances, potential workers more fundamentally alter their plans, pursuing education and training they might not otherwise have acquired, taking on additional caregiving responsibilities outside of the workplace, or otherwise dropping out of the labor force at higher rates than they would have in good economic times. These "cyclical" factors affecting labor force participation should eventually abate as education and training are completed, early retirees reach the age at which they would have retired anyway, or improving labor market conditions draw more people into the workforce. For potential workers who pursued additional training and education opportunities that they might not otherwise have pursued, long-run future labor force participation may have even been slightly improved.

There remain significant reasons to be concerned about the potentially long-lasting negative effects resulting from cyclically driven spells of nonparticipation. For one, additional time outside of the labor force may make it more difficult for potential workers to work in the future.[79] But, to the extent that cyclical factors are still exerting downward pressure on labor force participation, there is also hope that participation could continue to improve alongside general economic conditions.[80] For that reason, the degree to which improvements in economic conditions could lead labor force participation rates to return to pre–Great Recession expected levels, versus remaining lower than trend to reflect quasipermanent changes in the economy, was a much-debated economic policy question for much of the decade.[81] However, even while some uncertainty remains today about how much general improvements in the economy can be expected to further boost labor force participation, it is clear that structural improvements will need to be a critical component to raising the current participation trend.[82]

3 Potential drivers of lower labor force participation and barriers to increased participation

Aging appears to be the most significant factor affecting the labor force participation rate, especially since the turn of the century.[83] Aging will likely continue to be the principal driver of reduced labor force participation in the near future. Analyses by staff at the Congressional Budget Office and the Federal Reserve Bank of San Francisco find that population aging will result in an additional 2.5 to 3 percentage point decline in the labor force participation rate over the next decade.[84] By the end of the 2020s, without policy interventions or other changes affecting who seeks and secures work, US labor force participation rates will likely decline to their lowest levels in nearly half a century. In other words, the aging of the American workforce in the first quarter of the 21st century will have wiped out most of the gains in participation that resulted from women's higher rates of workforce participation in the last quarter of the 20th century.

… the aging of the American workforce in the first quarter of the 21st century will have wiped out most of the gains in participation that resulted from women's higher rates of workforce participation in the last quarter of the 20th century.

However, as aging has explained much but not all of the change in labor force participation over the past several decades, aging will not be the only factor affecting such changes in the future. Identifying or anticipating barriers to labor force participation will be a critical aspect of maximizing participation. Previous declines in participation still elicit debate and competing theories for why declines occurred.[85] This is particularly true among prime-age workers, ages 25 to 54, and particularly prime-age men, who experienced a continuing decline in their labor force participation even during years in which the aging of the baby boom generation would have been expected to *increase* labor force participation, all else equal.[86] Instead, declines in the labor force participation of prime-age men have occurred among subsequent generations of men at nearly every age over more than four decades.[87] The overall magnitude of that decline has been several times larger than just the expected effect of aging for prime-age men alone. For example, had participation rates remained at the 1970 level for each five-year age group ages 25 to 54, the prime-age male labor force in 2018 would have been roughly 8 percent larger, with more than 4 million additional men working or looking for work. Had labor force participation rates for prime-age women been similarly maintained since 2000, the 2018 labor force would have featured more than an additional 800,000 female participants.[88]

The role of social factors and workplace culture in the underutilization of talent

There can be many routes by which social factors—including inflexible, inhospitable, or discriminatory workplaces—can contribute to reduced participation and the underutilization of existing talent within the US labor market.[89] For example, bias in the hiring, pay, and promotion decisions encountered in one workplace could potentially affect the opportunities and compensation that are later available to a worker over his or her career. In managing certain impediments or nonprofessional responsibilities, or to make work worthwhile relative to other alternatives, some workers may require more employer flexibility or adaptability. Additionally, when certain groups are underrepresented in a particular role, company, or occupation, the perception of barriers, whether they are real or not, is liable to affect education, training, and other career path choices that individuals make, helping to reinforce underrepresentation.

While there are many contributors and factors, the underutilization of talent is likely, at least in part, a social challenge. For example, although it has shrunk over time, a portion of the persistent pay gap between men and women is probably due to cultural and discriminatory barriers to women's full participation consistent with their talents. One 2018 study estimated that roughly half of the pay gap between men and women could be explained by differences in the industries and occupations in which men and women work, and as much as a third could potentially be due to discrimination or gender stereotyping—which could be operating on the kinds of advice, support, or modeling that young women receive or are exposed to as students or early in their careers. Even if much of the difference in pay, whether owing to occupational choice or spells out of the workforce to provide family care, reflects voluntary personal decisions, evidence suggesting that women's entry in high numbers into a given occupation has historically tended to lower that occupation's wages is telling.[90]

The outcome of these social barriers is likely reflected in the disproportionately small share of women and people of color working in some of the fastest-growing or highest-paying professional fields like computing and engineering. By one estimate, in 2017, women constituted only roughly a quarter of the workforce in computer and mathematical occupations and less than a fifth of the workforce in architecture and engineering occupations.[91] In addition to there being a well-documented pattern of underrepresentation of some racial and ethnic groups across science and engineering fields more broadly, a 2011 study found that, after controlling for other factors, Asian and black researchers were significantly less likely than their white peers to receive research funding from the National Institutes of Health (NIH).[92] Given that NIH is the world's largest funder of biomedical research, such disparities likely contribute to continued underrepresentation.

Women and some minority groups are similarly underrepresented in the economics profession, and black doctors remain disproportionately rare.[93] At the pinnacle of business leadership, CED has called attention to the vast underrepresentation of women in the C-suite and on corporate boards and how some companies are successfully addressing it.[94] Similar stories of discrimination or underutilization of available talent

can be documented for many groups of would-be workers, including but not limited to immigrants, formerly incarcerated individuals, and adults with disabilities.[95] These labor market outcomes flow back into the education system and pipeline for worker development in the form of discouragement, family resource barriers, and other challenges shaping the next generation of US workers.

While progress has been made in reducing some of the social barriers to fuller utilization of existing talent—likely reflected in part by the enormous increase in women's labor force participation in the second half of the 20th century—continued progress in reducing such barriers, including through the actions of committed business leaders, will be an essential element in increasing the share of Americans who are able to more fully profit from their talents.

While international comparisons can be misleading, differences in labor force trends in the US relative to other advanced economies also point to the importance of factors beyond demographics for determining participation trends.[96] For example, the US was an early leader in women's labor force participation among Organisation for Economic Co-operation and Development (OECD) economies. As recently as 2000, the US labor force participation rates for women ages 25 to 54 exceeded the OECD average by more than 8 percentage points and was broadly comparable with countries like Germany, France, the United Kingdom, and Canada.[97] But the US is one of only six OECD countries to have reported a decline in women's labor force participation for this age group since 2000.[98] By 2017, the share of prime-age American women working or looking for work was only 2 percentage points above the OECD average and trailed Germany, France, the UK, and Canada by at least 5 percentage points each. Had prime-age female labor force participation rates in the US kept pace with Canada, an additional 5 million women would have been in the labor force last year.[99] The striking difference between the US and other countries with similar demographic profiles suggests that there is something unique about the US that has led to lower-than-expected women's labor force participation.

Similarly, American men's labor force participation trends have also been somewhat atypical compared to international peers. While labor force participation for men has declined across advanced economies, the US has experienced the second-largest decline for men ages 25 to 54 among OECD countries since 1990, trailing only Italy.[100] In 2017, the US had the fifth-lowest prime-age male participation rate among OECD countries, nearly 3 percentage points below the average for such countries.

Figure 16

Prime-age American women have not kept pace with labor force participation gains in other advanced economies

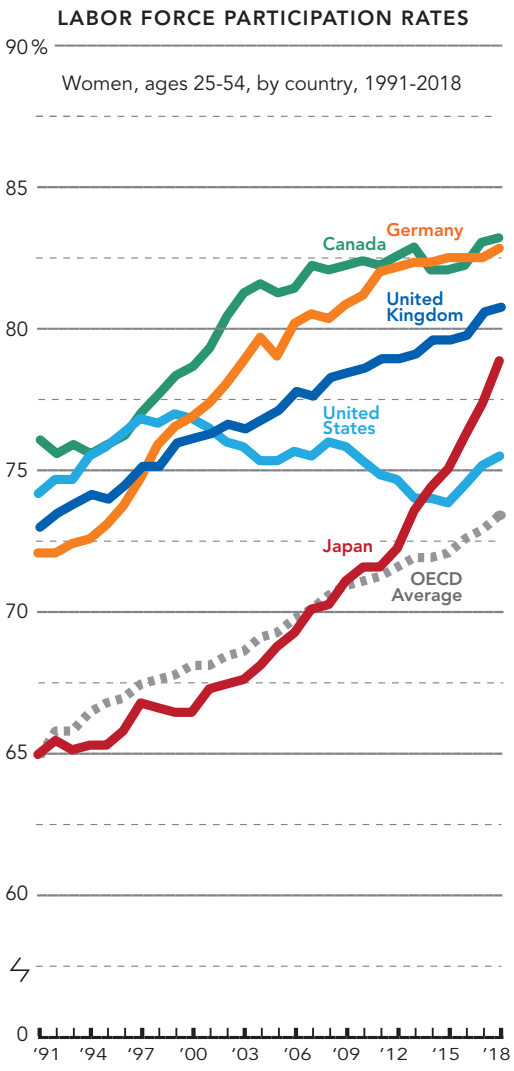
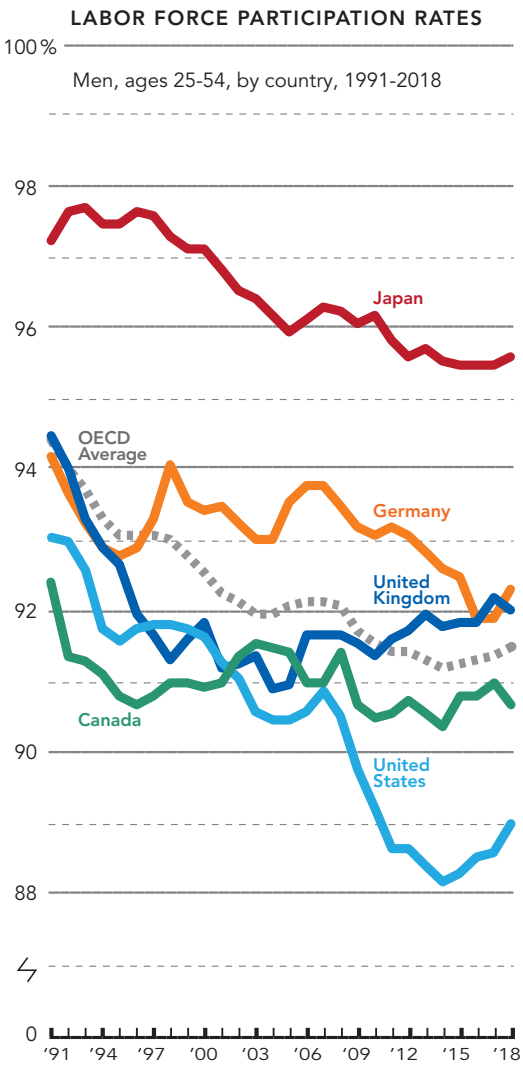


Figure 17

Prime-age American men trail most of their peers in labor force participation



Source: OECD Stat

Major changes in globalization and technology would have been expected to affect the US and other advanced economies somewhat similarly over the past couple of decades. The significant differences in labor force participation trends between the US and other OECD countries suggest that US-specific factors, whether differences in policy, institutions, or culture, have also had an important effect on participation in the past and likely will play an important role in the future.[101]

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Many factors likely contributed to past labor force participation declines among prime-age adults

Researchers have examined a wide mix of factors beyond aging that may have contributed to reduced labor force participation among prime-age adults over the past several decades, but there is no definitive set of explanations. Instead, it is likely that past changes have been motivated by a combination of demand-side changes that have made attractive work less available, supply-side changes that have made available work less attractive, and other changes that have made securing work harder. The drivers of these changes likely include some not yet well-identified factors and have affected different subpopulations of potential workers differently. A few examples of suspected contributors follow.

Table 1

Selected Abraham and Kearney (2018) estimates of contributing factors to the decline in US employment-to-population ratio (EPOP) from 1999 to 2016

Selected factors	Estimated reduction in EPOP (percentage point)
Expanded trade with China and adoption of industrial robots	1.6
Increased receipt of federal disability benefits	0.2
Increased rate of incarceration	0.1
Total net decline in EPOP between 1999 and 2016	4.5

Source: Katharine Abraham and Melissa Kearney, "Explaining the Decline in the US Employment-to-Population Ratio: A Review of Evidence," 2018, Table 3.

Possible contributor: Reduced demand for low-education workers

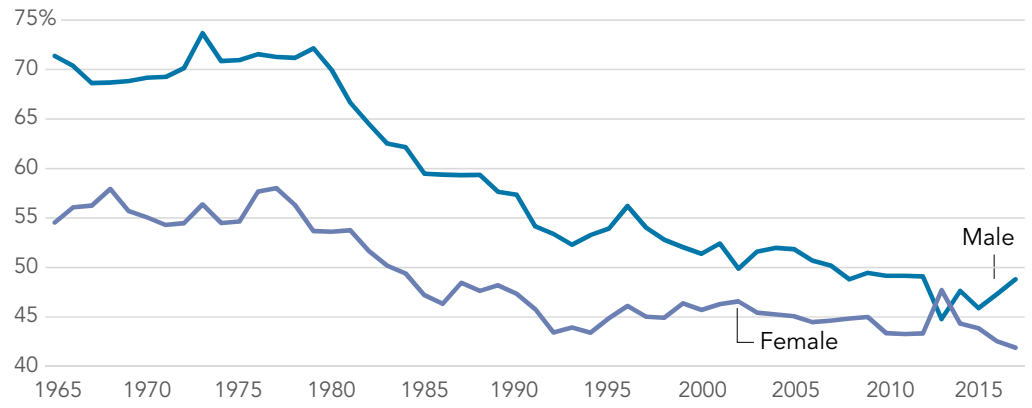
Declining labor market opportunities for potential workers not currently participating in the workforce has been a leading explanation for past declines in labor force participation, especially among prime-age men.[102] One theory along those lines, with some supportive evidence, is that increased exposure to global trade and technological change led to increased polarization in the American labor market—increasing demand for highly educated workers while displacing some workers with less education.[103] Analysis by Didem Tüzemen and Willem van Zandweghe suggests that polarization over the past two decades may have led to nearly 2 million fewer prime-age men participating in the labor force than if the mix of jobs requiring low, middle, and high levels of education had remained constant.[104] Surveying the literature, researchers Melissa Kearney and Katharine Abraham estimate that expanded trade and increased automation are likely the largest factors not related to aging that have contributed to the decline in the share of the population working in recent years. They estimate that between 1999 and 2016, those two factors resulted in a 1.6 percentage point decline in the average share of the population that was working, explaining roughly a third of the total net decline during that period.[105]

Whether or not trade and automation are the direct cause, changes in wages and the gap between workers' earnings in jobs requiring high or low levels of education do appear to be associated with changes in labor force participation for prime-age men and could be a sign of decreasing demand.[106] On average, the ratio of the median wages of a high

Figure 18

The relative earnings of high school graduates have significantly declined compared to college-educated peers

Ratio of median wages: high school graduates to 4-year college graduates, by gender



Note: Median earnings of full-time year-round workers ages 25 and older for high school graduates and equivalents (1991-2017) or four years of high school completed (1965-1990) compared to bachelor's degree or more (1991-2017) or four years of college or more completed (1965-1990)

Source: US Census Bureau

school graduate to a college graduate for men over 25 has continued to steadily decline following a period of sharp decline in the 1980s. Real median hourly wages for men in less-skilled and middle-skilled jobs have grown slowly since the early 1970s, and wages at the 20th percentile have been virtually flat.[107] Slow growth is not the same as a real reduction in wages, but one analysis did find that labor force participation decisions of prime-age men appear to be correlated with changes in their relative earnings.[108]

Possible contributor: Preferred alternatives to work

In determining why more potential workers remain outside the labor force today compared with the past, it is important to consider the degree to which working less may reflect changes in the interest of workers not wholly motivated by changes in the quality of available jobs or ability to work. For example, if alternatives to working have become more attractive, due to factors such as more generous safety net programs or parental or spousal income support, then potential workers may be more likely to reduce work effort or opt out of working entirely.

On the one hand, among prime-age men out of the labor force who did not report a work-disabling condition, the share who reported wanting a job has been relatively steady since the 1980s.[109] But compared to earlier decades, prime-age men not in the labor force have become significantly more likely to live in a household with some form of public means-tested income, even as they have become less likely to be the *direct* recipient of the income (excluding Social Security Disability Insurance and similar benefits).[110] Additionally, a number of researchers have pointed to large increases in the number of adults receiving federal disability benefits, not fully explained by population aging or increasing numbers of eligible women, as a potential driver of lower labor force participation.[111] However, the relatively small number of recipients limits the degree to which federal disability receipt is likely to be driving declining participation.[112] Abraham and Kearney estimate that increased federal disability receipt explains roughly 4 percent, or 0.2 percentage points, of the decline in the share of working adults between 1999 and 2016.[113]

A CBO analysis found that increasing numbers of disability benefit recipients played a small role in declining participation rates over the past decade but projected its effect to be significantly diminished in the future. Though the overall effect of the increasing number of disability beneficiaries on participation was small, CBO did find it was likely one of the most significant factors in the decline of labor force participation among prime-age workers after factoring out changes in the business cycle.[114]

Possible contributor: Declining health

In 2016, 37 percent of prime-age men not in the labor force described their own health as fair or worse, compared to roughly 5 percent of similarly aged men working or looking for work.[115]

Economist Alan Krueger pointed to poor health as a potentially significant reason for the decline in labor force participation among prime-age workers. A third of prime-age men out of the labor force reported at least one disabling condition, compared with less than 3 percent of employed men. Prime-age men out of the labor force were also more likely to report frequent and stronger feelings of pain, and were significantly more likely to be using pain medication. Krueger also found that, since 2000, labor force participation has been lower, and has fallen further, in places that had high per capita rates of opioid prescriptions, suggesting a possible connection between recent declines in labor force participation and the proliferation of opioids.[116]

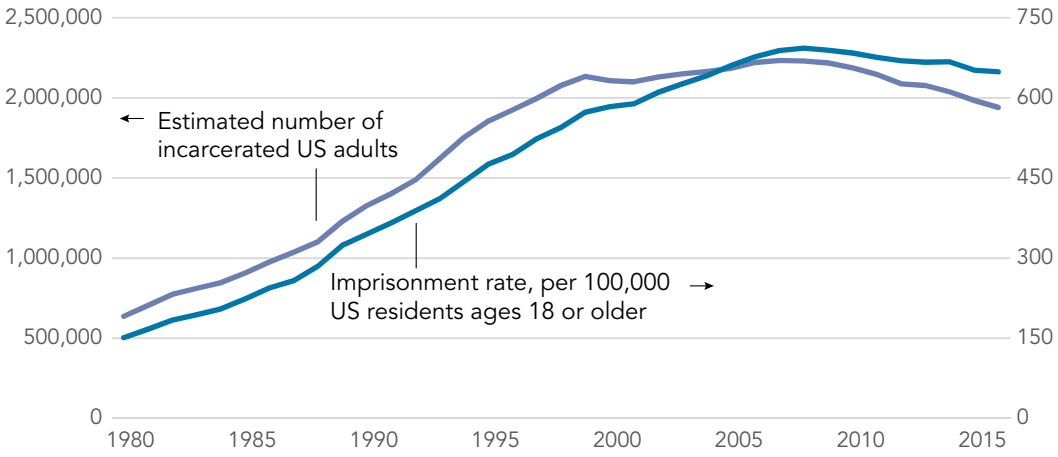
While it is conceivable that there has been a decline in the average health of prime-age adults, exacerbating or exacerbated by the increase in opioid use, there is generally a lack of consistent data available to determine whether nonparticipants are in significantly worse health or suffering from higher levels of pain than in the past after controlling for the aging of the population.[117] Measuring the effect of poor health or disability on labor force participation is also complicated by a potential bias in self-reporting, including the possibility that people who are not working may be more likely to attribute their nonparticipation to poor health or a disability, while those who are working may downplay or underreport similar conditions. One study that attempted to adjust for possible reporting bias found that, in 2006, work-limiting disabilities were likely reducing the overall labor force participation rate by at least 2 percentage points, but it is not clear if that number has changed significantly over time.[118] When looking at self-reported reasons for being out of the labor force, the share of nonparticipants ages 25 to 54 who cite a work-limiting disability as their primary reason for being out of the labor force was less than 1 percentage point higher in 2018 than in 1998.[119]

Possible contributor: Increased incarceration and barriers to workforce reentry

Another factor potentially affecting labor force participation rates is the significant barrier to employment faced by potential workers who were formerly incarcerated, a population that increased significantly between the 1970s and mid-2000s.[120] In 2016, more than 5 out of every 1,000 US adults were incarcerated, and an average of more than 600,000 people are released from prison each year.[121] One study estimated that, in 2008, 1 in 33 working-age adults was a former prisoner.[122] Employment outcomes for former prisoners are bleak, with one study finding that only 55 percent of ex-prisoners had any earnings in their first full year after release.[123] According to one estimate, the unemployment rate among formerly incarcerated individuals ages 25 to 44 was roughly five times higher than that of the general population in 2008.[124]

Figure 19

Increased incarceration has led to a significant increase in the number of potential workers who are ex-prisoners



Note: Imprisonment rate is for sentenced prisoners under state or federal correctional jurisdiction
Source: Bureau of Justice Statistics

Because the incarcerated population tends to be heavily male, a significant number of working-age men are either prisoners or ex-prisoners. Among all 30-year-old men in the US who are not working, an estimated one-third are either in prison, in jail, or unemployed former prisoners.[125] While pre-incarceration employment outcomes also tend to be weak for adults who are subsequently imprisoned, making it more difficult to parse out the direct effect of incarceration, there are still indications that going to prison has a lasting negative effect on employment outcomes, particularly for former prisoners who had stable earnings records prior to incarceration.[126] Abraham and Kearney estimate that increases in incarceration rates led to a 0.1 percentage point decline in the share of the working-age population that was working between 1999 and 2016.[127] Even if incarceration rates continue to decline, the number of working-age ex-prisoners will likely continue to increase for years, making improving labor market outcomes for this population a critical and ongoing challenge.

4 Policy solutions

American labor force participation peaked at just above 67 percent in 2000. Had the labor force participation rate in July 2019 been equal to the peak rate from roughly 19 years earlier, an additional 11.1 million Americans would have been working or looking for work.[128] Significantly, there is no reason to assume that a labor force participation rate of 67 percent represents a ceiling on potential participation or a necessarily desirable target. But even if it is difficult to estimate what the ideal labor force participation rate should be under current circumstances, there are a number of indications that the US is underperforming at a cost to the global economic competitiveness of its employers, the well-being of its citizens, and the nation's economic strength and fiscal health. Comparatively low labor force participation by adults with less education, relatively low participation by women compared to their international peers, and the potential to better utilize the talents of aging workers who want to remain working should be significant motivators for policy makers and business leaders concerned about economic growth.

Had the labor force participation rate in July 2019 been equal to the peak rate from roughly 19 years earlier, an additional 11.1 million Americans would have been working or looking for work.

Given the challenges to, and importance of, fuller participation, civic-minded business leaders need to act and lead. Even in the absence of public policy changes, such action and leadership could help to boost labor force participation. It is also what the American people expect of their business leaders. For instance, in a 2019 Pew Research Center survey, roughly three-quarters of respondents believed it was important for companies and other organizations to promote racial and ethnic diversity in their workplace.[129] In a 2018 survey, nearly 60 percent of respondents said too few women were in top executive business positions, with the majority citing gender discrimination as a major reason why.[130]

In addition to their civic responsibility, business leaders who have benefited from US institutions, rule of law, and resources have an enormous and enlightened self-interest in proactively supporting the strengthening of the American workforce, and helping to ensure that there is a diverse and deep talent pool available to them in the face of increasingly challenging global competition. In a 2019 survey conducted by The Conference Board, CEOs identified attracting and retaining top talent as their single most critical concern among 14 hot-button internal issues.[131] With the slowdown in the growth of the US labor force, the competition for talent will likely only increase in the years ahead. A more diverse workforce may also be its own source of strength.[132] A survey of global leaders by The Conference Board found that companies with a strong track record of cultivating inclusion are often the same ones with a track record of continual innovation.[133]

Business leaders concerned about the national interest and the positioning of their companies for the future should strive to recruit and support a diverse workforce and design human resource policies to advance these goals. Whether it is finding ways to allow older workers to remain working, accommodating parents balancing caregiving responsibilities with work, supporting the needs of employees managing chronic or serious health conditions, or otherwise accessing talent pools that have typically been underrepresented or undersupported in the workforce, the businesses that find ways to take advantage of the full potential of the US workforce will have a critical competitive advantage over their peers.

However, if the US is going to draw on the full strength of the American workforce, CED believes that private and public action will be needed in concert. Just as it is difficult to assess all of the many factors that may have contributed to past declines in labor force participation, it is unlikely that any single policy will fully offset expected future declines in participation. Instead, policy makers should seek to identify a suite of options to incentivize work effort and reduce barriers to participation in order to address many different factors that may be weighing on potential workers' ability and desire to work. To this end, CED has identified a series of policy recommendations that business leaders and policy makers should champion to help more potential workers connect to successful employment opportunities and remain working.

> … if the US is going to draw on the full strength of the American workforce…private and public action will be needed in concert.

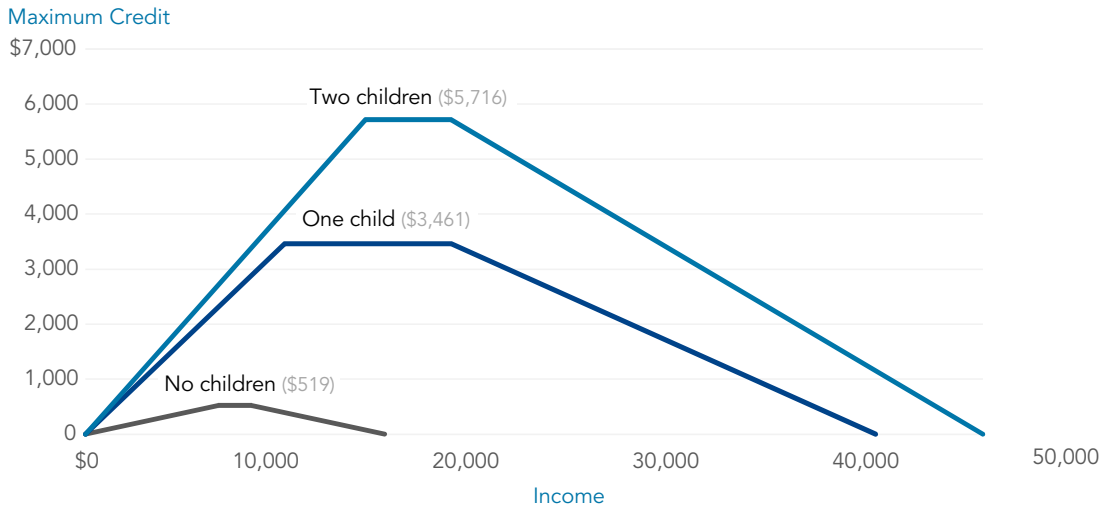
Making work pay: Expand the Earned Income Tax Credit for workers without custodial children

One straightforward approach to incentivizing more people to enter the labor force is to make the benefits of working greater. Expansions of the federal Earned Income Tax Credit (EITC) would be a smart way to target potential workers, including younger or less-educated adults, whose initial job opportunities may fall on the lower end of the income scale. Past expansions of the EITC have already helped to significantly increase labor force participation, particularly for single mothers.[134]

Figure 20

EITC benefits are heavily tilted to households with children

Earned Income Tax Credit maximum benefits for a single/head of household adult



Source: Internal Revenue Service

However, the existing EITC benefit for adults who do not have primary custodial responsibility for a child is very small and has not been expanded since its enactment in the 1970s. As a result, even though roughly a quarter of claimants do not have qualifying children, some 97 percent of EITC benefit dollars go to families that do.[135] Partly due to the well-recognized success of the EITC in helping to move parents into the labor force, an expansion of the EITC for adults without custodial responsibilities has at times enjoyed bipartisan support, including from former President Barack Obama and former House Speaker Paul Ryan.[136] Glenn Hubbard, a former Chair of the Council of Economic Advisers (CEA) during the George W. Bush administration, has written that "increasing EITC payments for childless workers and phasing out those benefits more slowly as earnings rise can bolster work and inclusion," and Jason Furman, a former CEA Chair during the Obama administration, has similarly written that such an expansion would be "well-targeted to improving the incomes and participation rate of workers at the bottom who have been left behind by the rising prosperity of the US economy."[137]

In addition to making the existing credit more generous, both President Obama and Speaker Ryan proposed reducing the age of first eligibility for adults without qualifying children from 25 to 21 in order to benefit more early-career workers who have seen significant labor force participation rate declines.[138] A 2014 analysis by the US Department of the Treasury and the Executive Office of the President found that an expansion of the EITC benefit for workers without qualifying children along the lines proposed by

President Obama and Speaker Ryan would have benefited more than 13 million workers already in the labor force, including 3.3 million workers ages 21 to 24, but did not directly estimate the number of new workers who would join the labor force as a result of the expansion.[139] In 2016, the American Action Forum estimated that Speaker Ryan's proposal would have increased employment of individuals without qualifying children by 10 percent, bringing 8.3 million more workers into the labor force.[140]

President Obama also proposed to increase the maximum age of eligibility from 64 to 66 to avoid having adults without qualifying children suddenly lose their eligibility for the EITC before reaching the eligible age for "normal" Social Security retirement benefits. According to CEA estimates, increasing the maximum eligibility age would have provided an EITC benefit to an estimated 300,000 low-income workers aged 65 or 66. A recent evaluation of a demonstration program in New York City that provided a more generous EITC-like benefit to adults without qualifying children found that the program led to a nearly 2 percentage point increase in employment rates of eligible participants, with the positive effects concentrated on women and more disadvantaged men.[141]

Another piece of supportive evidence for the potential labor force impact of expanding the EITC to workers without qualifying children comes from the UK, which expanded its somewhat-similar Working Tax Credit to people without children in 2003. An analysis that compared similar young adult workers just on either side of the age eligibility cutoff found that the introduction of the credit increased employment rates by roughly 2.4 percentage points among eligible workers with lower levels of education.[142]

CED has long supported the EITC as an important tool for making work financially rewarding and has called on Congress to consider expansions and simplifications in the past.[143] Given the available evidence, policy makers and business leaders concerned about boosting labor force participation and attachment should advocate for Congress to significantly increase the generosity of the federal Earned Income Tax Credit for adults without custodial responsibilities, including expanding the age of eligibility in order to incentivize younger workers at the onset of their working careers and low-income workers approaching retirement.

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The Earned Income Tax Credit

A 2014 Republican House Budget Committee Report described the federal Earned Income Tax Credit (EITC) as "one of the federal government's most effective anti-poverty programs," and a 2016 study by researchers at the University of California, Berkeley and the US Department of the Treasury found that the EITC lifted more than 3 million children out of poverty each year.[144] The EITC provides a means-tested benefit for low-income workers that increases with each dollar earned before plateauing and then phasing out for workers with annual earnings above a certain level.[145] Over 28 million taxpayers, roughly 1 out of every 5 tax filers, claimed the EITC in 2016.[146] The generosity of the EITC depends on how much income a household earns, the workers' marital status, and the number of dependent children in the household. For example, in order to be eligible for the EITC in 2019, a single parent with one child needed to have income below roughly $41,100, and a married couple with two children needed to have income below $52,500.[147]

In 2016, the average annual tax credit was just under $3,200 for an eligible family with qualifying children and just under $300 for a family without qualifying children.[148] Since it first went into effect in 1975, the benefit for workers with qualifying children has been increased several times, roughly tripling the inflation-adjusted value of the average EITC benefit claimed.[149] In addition to the federal credit, more than half of the states now offer some form of a smaller earned income tax credit, typically based on the federal credit.

A wide range of research suggests that EITC receipt leads to significant positive benefits for recipients beyond increased labor force participation, including higher earnings, better health, and higher rates of school completion for their children. To the extent that the EITC increases work and earnings, it also helps to generate additional payroll and sales taxes. Between these additional revenues and reduced spending on health, public safety, and other social programs, one recent study has suggested that the cost of the current EITC benefit is largely offset by increased tax revenues and forgone government spending.[150] If these results are confirmed, the cost of future expansions in the EITC benefit may be lower than currently estimated.

Many criticisms of the EITC or opposition to expansion have focused on the relatively high reported improper payment rate.[151] The IRS estimates that roughly a quarter of EITC claims cannot be satisfactorily documented when audited, which would translate to roughly $18.4 billion in "improper" EITC payments in 2018.[152] However, the nature of how improper payments are calculated and the complexity of EITC eligibility rules as they relate to children's residency and relationships mean the number of payments made in error and the cost to government is likely overstated.[153] For instance, in a family with separated parents, if the wrong parent incorrectly claims the EITC on behalf of eligible dependents but the eligible parent does not claim an EITC on their behalf, the payment is recorded as improper even though the net benefit level paid to the family may be consistent with their combined eligibility. In that circumstance, the payment is made in error but not at a cost to the government. Similarly, if a family with two eligible children claims a benefit on behalf of three children, the whole payment is reported as improper rather than the portion of the payment made in error. For reasons like these, American Enterprise Institute visiting scholar Bruce Meyer has referred to concerns about fraud in the EITC program as "overstated."[154]

Four other considerations related to improper EITC payments are notable:

1. Improper payment amounts are likely significantly overestimated by nonresponses to audit inquiries, even though payments may not have been made in error. A 2007 study by taxpayer advocate Nina Olson found that roughly a "quarter of taxpayers receiving an [EITC] audit notice did not understand that the IRS was auditing their return."[155]
2. While the EITC has a high rate of improper payments, it is administered at a very low cost relative to most programs aimed toward low-income families. Administrative costs make up less than 1 percent of total EITC costs, suggesting that the fiscal cost associated with high rates of improper payments is partially offset by administrative efficiency.[156]
3. The government has enacted some measures to try to reduce improper EITC payment rates. Since 2017, the IRS has begun delaying the issuance of EITC refunds to provide more time to detect and prevent fraud.[157]
4. Given that improper EITC payments are largely driven by incorrect or undocumented claims related to custodial children, the high improper payment rate for the EITC is likely to be a less relevant consideration for potential expansions targeting workers without qualifying children.

Should an expansion of work requirements be considered?

If making work pay better has been an effective approach for getting more adults to work, it stands to reason that making alternatives to work less attractive or less generous could also motivate higher labor force participation. A 2018 report by the Council of Economic Advisers described adding additional work requirements into programs that serve low-income families as potentially "a more effective approach for moving nondisabled working-age parents who are still on the sidelines into the labor force" than efforts to increase the returns to work, such as additional increases in the EITC for families with children.[158] They cite Medicaid, federal housing assistance programs, and the Supplemental Nutrition Assistance Program benefits for adults with children as examples of large federal safety net programs that currently lack significant work requirements for adults who do not have disabilities that prevent work. In each of the three programs, most nonelderly beneficiaries who were not enrolled in a federal disability program worked less than 20 hours in a given month.[159]

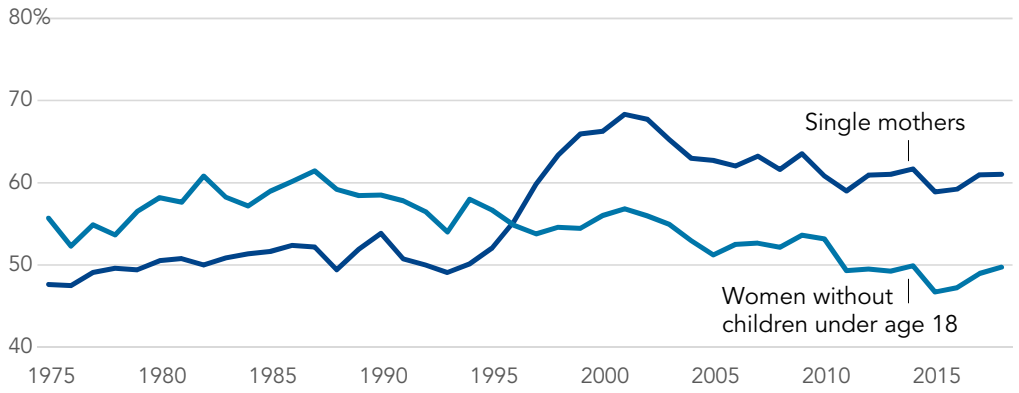
Following federal welfare reforms in the 1990s that added work requirements and time limits for almost all adults eligible for cash welfare, as well as the expansion and growth of income-contingent EITC benefits, federal safety net benefits for adults without a disability have become over the past two decades increasingly contingent on work.[160] Work requirements were an important part of 1997's Temporary Assistance for

Needy Families welfare reform, which appears to have significantly contributed to the decline in cash welfare receipt, and very likely played an important role in the increase in employment among families that were previously eligible for cash welfare benefits. However, EITC expansion appears to have been a larger contributor to increased employment rates among families affected by work requirements.[161]

Figure 21

Labor force participation increased for low-income single mothers in the period of EITC expansion and federal welfare reform

Labor force participation rate of women, ages 25 to 54, living in a household in the bottom quartile of earnings



Note: Single mothers include all women with at least one child under age 18 present in the household who do not report being married, regardless of whether a spouse is present.

Source: IPUMS-CPS, University of Minnesota

Leaning on the evidence from welfare reform, the Council of Economic Advisers concludes that expanding "carefully designed work requirements to noncash welfare programs" could lead to "major increases in the work effort of nondisabled working-age adults, potentially helping recipients and their families."[162] However, carefully designing work requirements poses significant challenges. Income enhancements like the EITC generally do not risk much harm to families with adults who are incapable of meeting certain levels of work effort, even if it excludes those families from the enhanced benefit. By contrast, while work requirements may incentivize a significant share of adults who would otherwise be unwilling to enter the labor force, it may punish some who are unable to satisfy the work requirements rather than just those who choose not to.

To give some sense of the complexity, consider the treatment of adults with a disability who are not currently receiving a federal disability benefit.[163] A well-designed work requirement policy would likely need to verify and enforce exceptions for work-limiting impairments that do not qualify for federal disability benefits because they are expected

to be too temporary. Additionally, there would likely need to be some exception for adults in the process of qualifying for long-term federal benefits, an uncertain process that often takes several months to reach conclusion, or else risk sanctioning adults with severe disabilities without other sources of federal support.

Attempts to carefully establish work requirements must also contend with the volatility that is characteristic of the low-income labor market. For instance, an analysis of SNAP recipients ages 18 to 49 without dependents found that roughly 75 percent worked at some point over a two-year period, and a majority worked more than an average of 20 hours per week in at least one month.[164] However, more than 40 percent of those who worked more than 20 hours per week for at least one month also spent at least one month during the two years unemployed, out of the labor force, or working less than 20 hours per week on average. It's possible that some portion of that volatility is the result of considered decisions on the part of those workers, but it seems unlikely that the high level of churn is entirely the product of voluntary decisions. Considering that pattern, it is easy to see how setting a monthly work requirement of 20 hours per week on average that was not sufficiently flexible might unintentionally lead to a high rate of sanctioned workers. As Ed Dolan, a senior fellow at the Niskanen Center, points out, it is also likely that workers dealing with substance abuse issues or mental health impairments that make sustained work engagement over long periods more difficult would be particularly vulnerable to sanction unless (potentially hard-to-implement) exemptions were in place.[165]

Finally, evidence from welfare reform can also be useful in highlighting some of the challenges posed even in the context of relatively successful work requirements. A review of studies following mothers who had left welfare found that while most found employment, one-third to one-half of mothers who had formerly received cash welfare were not employed when surveyed, typically within the next six months to a year.[166] Because the review looked at multiple state-based studies, it can be difficult to generalize; but in most instances, the average family was earning below poverty levels, before factoring in benefit transfers, suggesting that many families may not have been immediately made better off materially as a result of moving from welfare to work.

No matter how well designed the program, the benefits of imposing work requirements must be balanced against the harm caused to those who fail to meet them. Extending work requirements to a wider array of noncash benefits means less support will be available to the families of sanctioned adults than was the case during welfare reform. For instance, many of the families leaving or sanctioned off the Temporary Assistance to Needy Families program likely were receiving or eligible for nutrition (SNAP), health insurance (Medicaid), or housing assistance that they would potentially be ineligible for if work requirements were extended to those noncash welfare programs.

The federal minimum wage and labor force participation and attachment

If making work pay better is a potentially effective strategy for increasing labor force participation, should federal policy makers also consider changes to the minimum wage to induce more people to enter the workplace or work more hours? The most recent increase of the federal minimum wage, to $7.25 per hour, went into effect in July 2009.[167] A worker consistently earning the minimum wage for 40 hours of work per week would earn about $15,000 in wages over the course of a year, leading to an income roughly 20 percent above the poverty guideline level for a single-person household in 2019.[168] Among individuals working at least 30 hours a week, roughly 14 percent of Americans reported making $15,000 in income or less in 2018.[169]

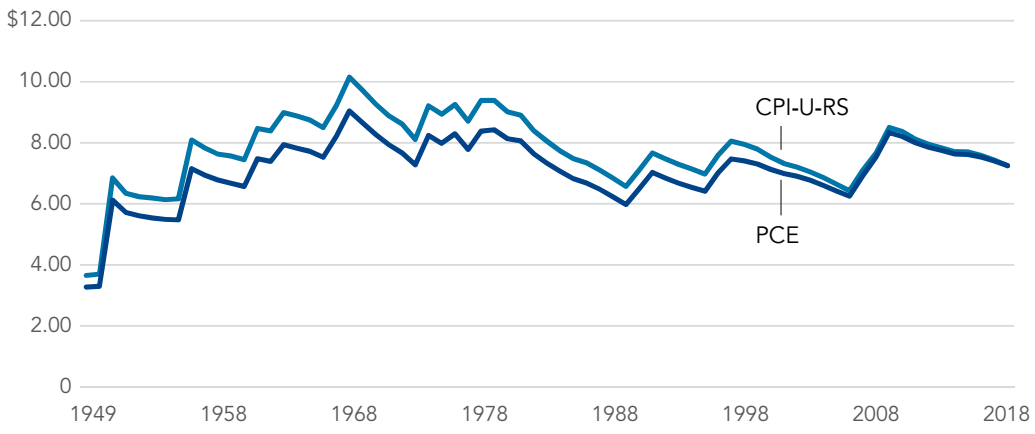
Because the federal minimum wage is set in statute and not adjusted for changes in prices, the inflation-adjusted value of the minimum wage can decline significantly before the next minimum-wage increase. For example, the inflation-adjusted value of the federal minimum wage has declined roughly 15 percent in the 10 years since it was last increased, though it remains more valuable than it was just prior to the increases that went into effect in 2007-2009.[170] The current federal minimum wage is significantly less valuable than at its peak in the late 1960s, when it was likely worth an estimated $10 per hour in today's terms.[171]

Another way to look at the federal minimum wage is in terms of its value relative to the median wage. In 2017, the US had the lowest federal minimum hourly wage relative to the average wages of a full-time worker of any OECD country.[172] Forty years ago, in order to reach the median weekly earnings of a full-time worker, an American worker would

Figure 22

The value of the federal minimum wage has declined significantly from its 1968 peak

Inflation-adjusted value of the year-ending hourly federal minimum wage



Note: CPI-U-RS = Consumer Price Index for All Urban Consumers Research Series, extended to years prior to 1977 using the 1977 ratio of CPI-U to CPI-U-RS; PCE = Personal Consumption Expenditures Deflator. While the value of the federal minimum wage has fluctuated, so has the estimated share of workers earning at or below the federal minimum wage due in part to changes in state and local laws—and private compensation policies—that may establish a higher wage floor in statute or practice.

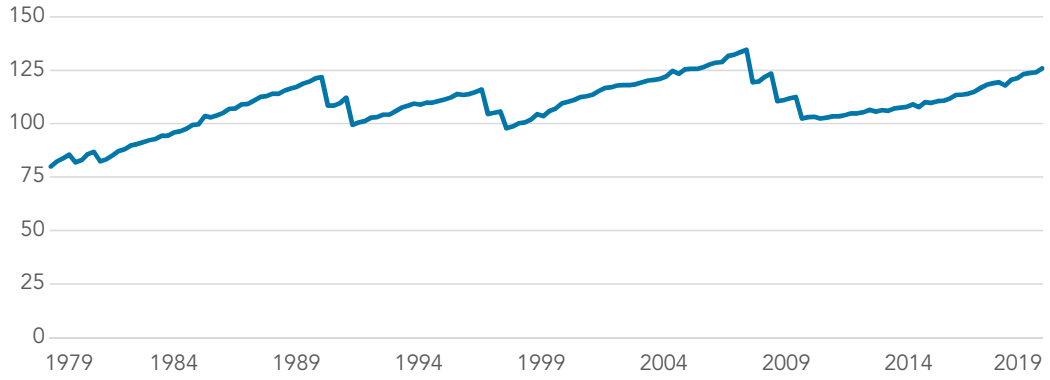
Sources: Bureau of Labor Statistics; Bureau of Economic Analysis

have had to work roughly 80 hours at minimum wage.[173] By comparison, in 2018, it would have taken more than 120 hours of minimum-wage work to reach median weekly wages. By that standard, a minimum-wage worker in 1979 was earning roughly the equivalent of $11.25 per hour today. Because the EITC has become relatively more generous for eligible workers with children, some minimum-wage workers, especially those with multiple children, receive a boost to their hourly income from the EITC that helps to close a significant portion of the gap between the minimum and median wage in 1979 and today.

Figure 23

Minimum wage has grown more slowly than median wage for much of the past 40 years

Hours of federal minimum wage work required to reach median usual weekly earnings of a full-time worker



Source: Bureau of Labor Statistics

In 2018, only roughly 1 percent of wage and salary workers earned the hourly federal minimum wage.[174] A smaller share of hourly employees were directly affected by the minimum wage in 2018 than at any time in the past 50 years.[175] One reason for fewer workers being affected by the federal minimum wage is that 29 states and the District of Columbia, representing roughly 60 percent of the population ages 18 to 64, have instituted state minimum-wage laws at higher levels than the federal law.[176] As a result, nearly 9 in 10 workers who earn the minimum wage for their state or locality are earning an hourly wage above the federal minimum.[177] By one estimate, adjusting for the local prevailing minimum wage, the average American lives in a place where the effective minimum wage is nearly $12 an hour.[178]

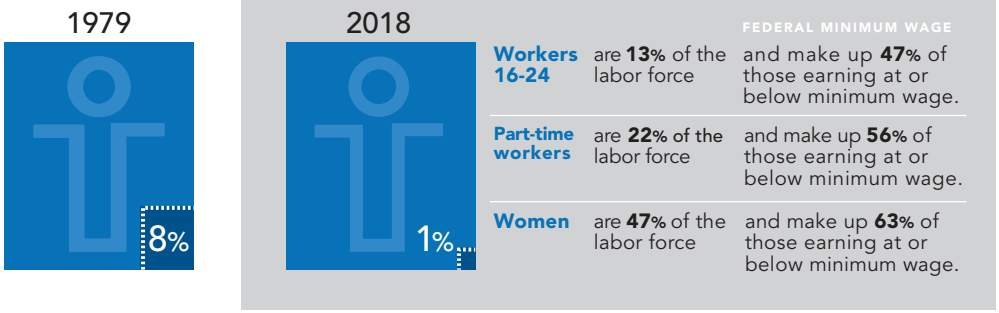
Because the federal minimum wage serves as a national hourly wage floor, and states and some localities have an ability to raise their own statutory minimum wages to match regional conditions, policy makers considering increases in the minimum wage as a potential tool for incentivizing labor force participation need to be particularly sensitive to the risks that a high federal minimum wage will distort labor markets in low-cost-of-living, low-wage states and localities.[179]

By making low-wage jobs relatively more attractive, a higher minimum wage would be expected to increase potential workers' willingness to work.[180] However, unlike an income subsidy, an increase in the minimum wage may reduce the total number of available jobs or available work hours as employers attempt to use less low-wage labor to compensate for increased costs.[181] Even if most workers affected by an increase in the minimum-wage benefit from higher average incomes, some number of younger, less-educated, or less-experienced workers may face a particular risk of being shut out of employment opportunities or spending longer stretches with few or no work hours.[182] Of the 1.7 million workers who were paid the federal minimum wage in 2018, nearly half were under age 25, and more than half were part-time workers.[183]

Breakdown of workers earning minimum wage

Number of people at or below the **federal** minimum wage has been on the decline

Share of total wage and salary workers at or below federal minimum wage*



*Wage and salary workers. Workers age 16 and older who receive wages, salaries, commissions, tips, payments in kind, or piece rates on their sole or principal job. This group includes employees in both the private and public sectors. All self-employed workers are excluded whether or not their businesses are incorporated.

Source: Bureau of Labor Statistics.

In practice, few studies of minimum-wage increases to date have demonstrated large effects on overall employment, either positive or negative, though most increases that have been studied have been relatively modest.[184] Declines in the relative value of the minimum wage do suggest that the incentives for low-income work may be well below what they have been in the past. But while there may be other justifications for an increase in the minimum wage, policy makers concerned with the potential effects of a minimum-wage increase on labor force participation do not have many guideposts for evaluating the likely impact of large increases. This lack of guideposts could change with time, as more states and localities pursue comparably large increases relative to past historical experience.[185]

Reducing barriers to participation through matching and mobility

In reviewing the potential reasons for labor force participation declines, Brookings scholars Eleanor Krause and Isabel Sawhill concluded that there was "a growing gap between the skills demanded by today's employers and those supplied by the labor force" and that "a general lack of the right education and skills" is one of the three most important reasons why some prime-age adults were not working.[186] In theory, a growing mismatch between worker skills and employer needs could be contributing to declining labor force participation, though the evidence of it is not clear.[187] Particularly after being displaced from a job where their skill set had been well compensated, some workers may eventually leave the labor market, temporarily or altogether, rather than accept a lower-paying job that doesn't utilize their skills, or that values those skills at what the workers believe to be unacceptably lower levels.[188] The delay in finding a match, if it persists for long enough, can itself be harmful, as the value of workers' existing skills continues to erode.[189]

Meanwhile, some employers may struggle to find a deep-enough pool of prospective workers with the specific skills they desire when those skills are relatively new.[190] As a result, faced in the short run with a shortage of needed workers or labor costs driven to levels that threaten the perceived viability of a product or even their core enterprise, employers may create fewer jobs, which in turn reduces opportunities for participation.[191]

From the perspective of a policy maker concerned about labor force participation, an important consideration is whether some of these mismatches or shortages may be the product of information or geographical limitations that could be overcome. Employers' hiring pools are limited to potential employees who are aware of and apply to an opening. Employees may have skills that are more in demand and valuable somewhere other than where they are looking for work. Pursuing policies that effectively reduce those barriers, particularly for workers involuntarily separated from employment and at greater risk of leaving the labor force for an extended period, may be worthwhile.

Necessarily, separated workers assessing their job search options face challenging trade-offs. For example, a worker must sometimes choose between accepting an employment offer that is secured relatively quickly, but at reduced hours or a lower wage, or holding out for the possibility of a better match that could be found with additional time. In a circumstance where the better match never materializes, forgoing the earlier employment option, which may not remain available, could be costly. These complications can lead to seemingly contradictory policy goals, where there is potentially a public interest in both facilitating longer or more far-reaching searches to help workers and employers find higher-value matching opportunities, and ensuring that workers transition more quickly to new opportunities to avoid the risk of an extended spell out of the labor force with declining skills.[192]

Providing job search assistance can be one effective route to helping unemployed workers more quickly connect to available job opportunities. A federally funded Reemployment Eligibility and Assessment (REA) program that provided low-cost job-search assistance to randomly assigned unemployed workers in Nevada increased employment rates by roughly 3 to 5 percentage points in the six years after services

were received and increased total wages.[193] The relatively large impacts estimated in Nevada from fairly low-cost, low-intensity assistance were a surprise given that past demonstrations of similar programs had produced more modest results.[194] A US Department of Labor–funded multistate evaluation of REA programs is expected to be completed in 2019 and will provide further evidence of the degree to which reemployment services can be effective.[195] Recognizing the success of the Nevada program, in February 2018, Congress approved a dedicated federal funding stream to support state reemployment services efforts.[196] Now, it will be critical that business leaders and policy makers push states to deliver high-quality and effective services informed by the evidence of what works best.

Another approach to improving job matching would be to lower existing barriers to switching jobs. By one estimate, nearly 1 in 5 labor force participants were bound by a noncompete agreement in 2014, agreeing not to work for competing employers within a specified industry, and possibly geographic area, for a set period of time after leaving employment.[197] Although noncompetes are generally thought of as tools to protect trade secrets in high-income, high-skill fields like technology, roughly 12 percent of workers without a bachelor's degree earning less than $40,000 annually have signed a noncompete, and some 30 percent of US workers do not know whether they have signed one.[198] The targeting of workers without college degrees, who are less likely to have had access to highly valuable training or trade secrets; the fairly common practice of requesting workers sign a noncompete agreement only *after* accepting a new job; and the use of noncompetes in states where they are not legally enforceable has led some commenters to raise the concern that noncompetes are being used inappropriately and limiting or chilling employment options beyond what existing state laws intend.[199] Noncompete agreements are generally governed by state law, but in recent years, some Republican and Democrat lawmakers have separately introduced federal legislation that would alter the rules around noncompete clauses. In March 2019, a bipartisan group of US senators asked the Government Accountability Office to study the prevalence of noncompete agreements in low-wage occupations.[200]

Similarly, franchise no-poaching agreements, which prevent managers from hiring an employee working elsewhere within a franchise, sometimes without employees' knowledge of the ban, have also drawn scrutiny for restricting employment options for low-income workers.[201] In 2018, Democrats in the House and Senate introduced legislation to ban such agreements, and the Washington State Attorney General announced that seven fast food chains had agreed to drop no-poaching clauses from their franchise agreements, likely due in part to media attention and political pressure.[202]

Additionally, occupational licensing requirements have attracted attention as a possible barrier to more widespread participation in the labor force, restricting a worker's ability to move to the best possible economic opportunity.[203] In 2018, nearly 1 in 4 workers held a certificate or license.[204] Licensing requirements play a significant role in relatively low-wage occupations and affect a significant share of workers in fields that don't require a college degree. Roughly 16 percent of employed workers with a certificate or license in 2018 had less than an associate degree.[205] While well-designed licensing can be a form of safety protection in activities with a risk of serious harm or a form of consumer quality assurance, it is unclear whether licensing is delivering on those intended

benefits.[206] On the other hand, poorly designed licensing requirements can increase barriers to employment or, if requirements vary across jurisdictions, make it more difficult for workers to move to better employment opportunities.[207] Generally, the trade-off between current levels of licensing and employment is hard to define, but one recent estimate suggests that licensing requirements could be reducing total employment by hundreds of thousands of jobs.[208]

> Licensing requirements play a significant role in relatively low-wage occupations and affect a significant share of workers in fields that don't require a college degree.

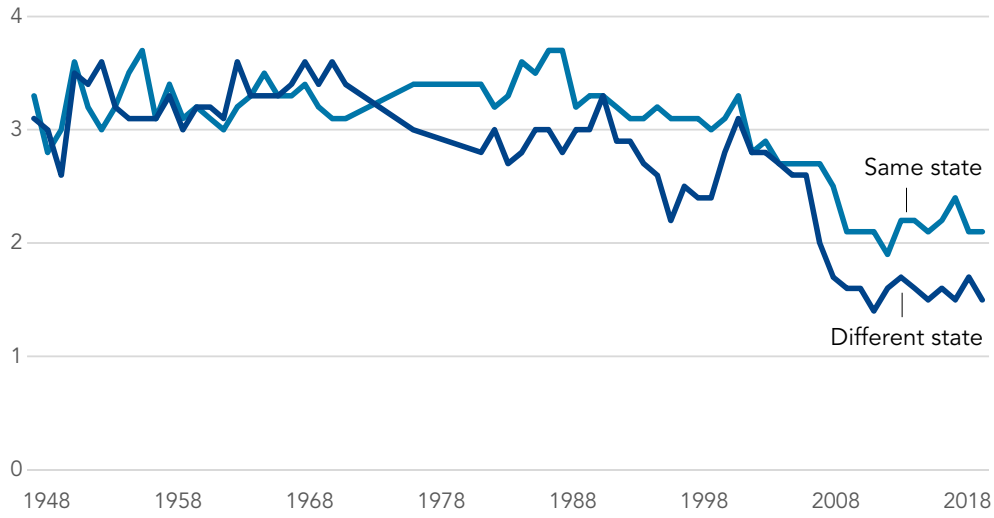
In recent years, CED has called particular attention to the need to continuously review and revise regulations, including occupational licensing requirements, to ensure that they remain "smart": necessary for addressing important concerns and rigorously assessed to ensure that net benefits are maximized over time.[209] In keeping with that call, there has been significant bipartisan focus on improving occupational licensing practices, including modest efforts to encourage reform supported by both the Obama and Trump administrations.[210] A review by the National Conference of State Legislatures found that several states had "proposed legislation to remove or lessen occupational requirements that were believed to stifle employment growth."[211] In 2019, Arizona became the first state to uniformly recognize out-of-state occupational licenses.[212] At a state and local level, policy makers should be strongly encouraged to reconsider whether existing occupational licensing requirements remain appropriate, work to document when requirements are aligned with a meaningful demonstration of competency and when the social benefits of requiring licensing outweigh the costs, and, particularly for occupations where the likely magnitude of harm from unlicensed practitioners is limited, recognize licenses granted in other states.

Better and faster job matching may also be facilitated by providing support for unemployed workers to move for a new job. In general, Americans have never been less likely to move in the post-World War II period than they are today.[213] By several measures, Americans have become less likely to move jobs or move to areas where there are greater employment opportunities.[214] Despite past indications that Americans were relatively quick to move in response to better economic opportunities elsewhere, since the 1980s Americans have become less likely to move out of states that experience adverse labor market outcomes, like high unemployment rates.[215] There are many potential reasons for declining geographic mobility, including the possibility that the economic returns to moving for workers without a college degree have declined.[216] With the rise of two-earner families, relocating for work may have increased in complexity, with the best employment opportunity for one partner not necessarily producing the best combined outcome when both partners' circumstances are considered. However, the reduction in geographic mobility is likely disproportionately hurting lower-income, underemployed, or unemployed Americans, since the people most likely to leave their local labor market tend to be higher income and more educated.[217] If the cost of relocating is depressing geographic moves to better employment opportunities for part-time or unemployed workers, then policy could play a role in increasing labor force participation.

Figure 24

Americans are relocating less than in the past

Percentage of US population that moved to a different county during the prior year



Source: US Census Bureau

Evidence from Germany suggests that subsidizing the cost of moving to further away places makes it more likely that an unemployed worker will receive higher wages and spend longer employed in his or her new job.[218] An analysis of a Kentucky program that provided moving assistance to welfare recipients for purposes of relocating for a new job similarly suggested that mobility subsidies were helpful in increasing the employment and wages of recipients.[219] In part, just offering a subsidy appears to help improve job-finding outcomes by encouraging unemployed workers to search for more distant jobs than they otherwise would.[220]

Though there are reasons to be skeptical about whether declining mobility is a barrier to better employment rather than a symptom of other changes in the economy, efforts to increase mobility are worth testing as a potentially promising route to improving labor force participation and attachment outcomes, particularly if mobility can increase the quality of the match between employers and employees. Additionally, recent research on the effect of place on economic outcomes has raised the possibility that increasing mobility may be an important long-run tool to promoting better future economic outcomes for children. However, policy makers will have to grapple with the consequence that increased relocation from economically depressed or declining areas may contribute to those areas becoming economically weaker.

The effect of place on economic outcomes

A growing body of literature suggests that place can be a limiting factor in achieving one's potential, especially for children. Work by Raj Chetty and Nathaniel Hendren identified how, for children and young adults, changing neighborhoods could have significant positive or negative effects on eventual college attendance and earnings, based on the characteristics of residents in the new neighborhood and how long the young people spent there.[221] Similarly, a study in Iceland showed that a forced move resulting from a natural disaster sharply increased earnings and education outcomes for movers under age 25 compared to others in the same area who did not move. In the Icelandic example, the gains occurred even though the movers generally moved to an area with lower average incomes. One possibility is that gains were due to movers going to areas where there was more economic diversity, suggesting that moving from even relatively high-income areas can be an advantage if the mix of available occupations does not match a would-be mover's talents.[222]

Other research on the effect of place on economic outcomes suggests that people living in local areas particularly hard hit by the Great Recession still had worse employment outcomes several years after the recession ended, compared to similar workers living in areas that fared better.[223] A study of children forced to relocate from a disadvantaged neighborhood when their family's public housing in Chicago was demolished found that, as adults, those displaced children were 9 percent more likely to be employed and had average earnings 16 percent larger than children who had grown up in nearby public housing where no relocation was necessary.[224] One study of the individual tax returns of New Orleans residents forced to relocate as a result of Hurricane Katrina found that in the years shortly after their relocation, they economically outperformed similar groups of workers in comparable cities unaffected by the storm.[225] If additional evidence mounts in the years ahead concerning the role of place on economic outcomes like earnings and employment, particularly for young children, policy makers and business leaders will have to take into account the potentially important policy role mobility could play in harnessing the full talent of the American workforce.

Another approach that could be further explored to help shorten unemployment spells or reduce the risk that an unemployed worker falls out of the labor force entirely is wage insurance.[226] Typically, wage insurance proposals try to incentivize displaced workers to find new employment more quickly by providing a time-limited payment that partially makes up for the difference between lower wages received in a new job compared with higher wages previously received at a job from which a worker was laid off.[227] If labor force participation is lower than it would otherwise be because some workers who have been let go are giving up when they cannot find new employment at similar wages, wage insurance proposals could be an effective way to incentivize them into settling for a lower-paying job more quickly. By reducing what employers need to initially pay to attract and hire a displaced worker, the wage insurance benefit can help employers and

employees find a match and provide a financial bridge to the worker until he or she is able to command a higher salary, thanks to on-the-job training and experience, without the subsidy. At a minimum, wage insurance should help displaced workers recover some of the wages they would have otherwise lost.

However, the evidence on the effectiveness of wage insurance on increasing labor force participation is thin.[228] Currently, the US operates a small wage insurance program, originally enacted under President George W. Bush, called Alternative Trade Adjustment Assistance (ATAA). ATAA is targeted to workers over age 50 who have been separated from employment due to international trade, but it serves fewer than 4,000 workers per year and has not been well evaluated.[229] Canada operated a somewhat more generous wage insurance demonstration program from 1995 to 1998, finding that it increased workers' willingness to accept lower-paying full-time jobs but that the impact on the speed with which workers reentered the labor force was not long-lasting.[230]

Critiques of wage insurance proposals have typically centered on fears that they might incentivize workers to settle for permanently lower wages too quickly, or that wage insurance benefits would be relatively expensive or less efficient compared to other types of financial incentives or reemployment services.[231] These misgivings notwithstanding, wage insurance appears to be an effective way to reduce the income loss suffered by many displaced workers.

Especially when considering the possibility that disruption from employment may occur more frequently in the future, particularly if automation and other technological changes proceed at a faster pace than has been the historical norm, evaluating the effectiveness of interventions that could help employers find a deeper pool of skilled workers and help workers reattach to the labor force more quickly or at higher wages should be a high priority. Mobility assistance and wage insurance could be two potentially effective approaches to intervention. Policy makers and business leaders concerned about labor force participation and attachment should support federal funding for high-quality demonstration projects focused on boosting mobility or testing wage insurance as a common-sense and prudent step forward.[232]

The role of improvements in education and training as a path to higher labor force participation

If a growing share of the potential workforce is being kept from employment due to a lack of in-demand skills, or if the change in employer-desired skills is occurring faster over time, boosting labor force participation may require a more forward-looking set of policy improvements and investments to train and retrain workers to better meet rapidly evolving demands.[233] Beyond efforts to incentivize potential workers into the labor force or reduce existing barriers to participation and attachment, more fundamental improvements in the education and training of workers may be required. An effective system that can steer would-be workers toward skills in high demand and short supply is badly needed.

Concerns about the American education system's ability to educate and train its citizenry to remain internationally competitive and keep up with demands for new skills in periods of technological change and innovation have been perennial.[234] In 2016, nearly 3 out of 10 adults thought that a four-year college degree failed to adequately prepare students for a well-paying job in today's economy. Roughly two-thirds of workers said the need to improve skills was greater than in the past 20 to 30 years, and more than 70 percent said that that need would grow over the next 20 to 30 years.[235]

Unfortunately, the task of determining what skills will be needed is challenging—a 2016 National Academies of Sciences report on technology and the workforce noted that "the United States has a poor track record of predicting future workforce skills"—and the potential magnitude of the need to reskill midcareer workers is large.[236] American employers surveyed by the World Economic Forum for its 2018 Future of Jobs report estimated that more than a quarter of their current workforce would need at least three months of training to keep pace with the necessary skill requirements of their roles by 2022.[237] In a 2016 survey, more than half of labor force participants ages 30 to 49 said that ongoing training would be essential throughout their working lives, and 35 percent said that they currently needed more education and training in order to get ahead in their current jobs or careers.[238]

In examining the role of business leaders, CED has called for employers to make a strong commitment to further opportunities for the training and higher educational attainment of their employees, while highlighting business leaders who have championed that effort in their own communities and firms.[239] In recent years, CED has also addressed some of the policy changes that could help modernize and reinvigorate higher education, examined the merits of apprenticeships, worked with business leaders and parents to understand community-driven approaches that can build support for successful transitions into the workplace, and put forward recommendations to improve the noncollege pathways to successful careers, including uncovering and utilizing competencies that go unnoticed because of a lack of formal educational qualifications.[240] As part of its commitment to improving American prosperity and global economic leadership in a rapidly changing 21st-century economy, CED will continue to provide analysis and reasoned policy solutions to address the challenges and opportunities to directly improve career readiness and midcareer job training.

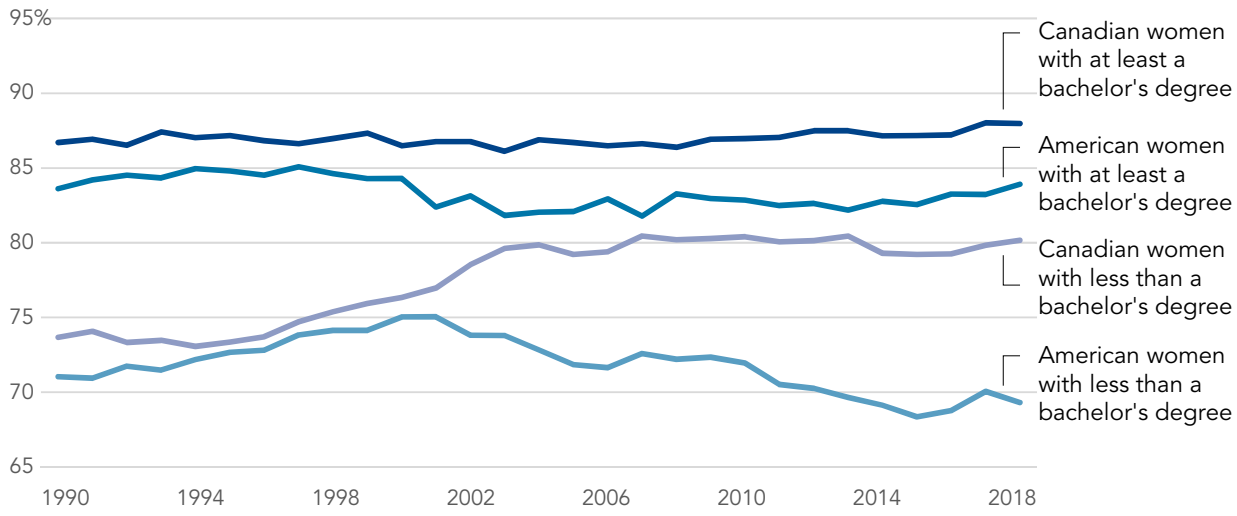
Reducing barriers to the full labor force participation and attachment of working parents

American female labor force participation rates were high compared to other OECD economies throughout much of the second half of the 20th century, but the US has fallen sharply behind its peers over the past two decades. While American men have also experienced sharper relative declines in participation than men in other OECD countries, the relative decline among women has been significantly more pronounced.[241] This pattern has led to apparent mysteries. For instance, prime-age American women with at least a four-year college degree were roughly 4 percentage points less likely to be in the labor force in 2018 than similarly educated Canadian women. But among similarly aged and educated Canadian and American men, participation rates have been largely identical over the past couple of decades.[242] While it could reflect country-specific differences in demographics, cultural norms and preferences, or economic conditions, relative changes in female labor force participation across countries suggest that public or private policy differences that particularly affect women's ability or willingness to work could be contributing.[243]

Figure 25

American women participate at lower rates than Canadian women with similar levels of education

Labor force participation rates of women, ages 25 to 54, by education and nationality



Sources: IPUMS-CPS, University of Minnesota; Statistics Canada

In a 2017 speech, then-Chair of the Federal Reserve Janet Yellen warned that not addressing barriers to women's workplace success would "squander the potential of many of our citizens and incur a substantial loss to the productive capacity of our economy at a time when the aging of the population and weak productivity growth are already weighing on economic growth."[244] In a 2018 report, CED identified helping skilled workers, particularly well-educated mothers, return to work following a career break as an important avenue to boosting economic growth.[245]

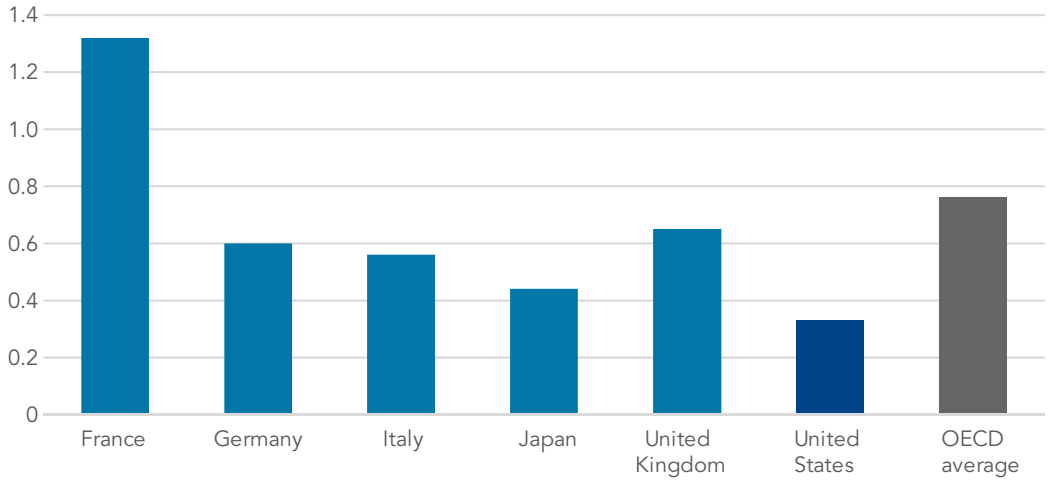
In terms of family-friendly labor market policies, the US is reasonably considered an outlier compared to many advanced economies, most of which have significantly expanded the generosity of such policies over the past several decades.[246] For example, the US is the only OECD country not to offer a federal paid leave entitlement for mothers.[247] The US also has among the lowest levels of public spending on early childhood education and care across OECD countries.[248] In 2015, only about one-quarter of children in low-income families who were eligible under state-defined rules for a childcare subsidy through the Child Care and Development Fund received support.[249]

> …the US is the only OECD country not to offer a federal paid leave entitlement for mothers. The US also has among the lowest levels of public spending on early childhood education and care across OECD countries.

Figure 26

The US spends less on early childhood education and care than most advanced economies

Public spending on childcare and early education as a share of GDP, 2015



Source: OECD Family Database

Analyzing the differences in labor force participation between American and Canadian women since the late 1990s, researchers at the Federal Reserve Bank of San Francisco attribute much of the difference to Canadian policies that support parental attachment to the labor force, and particularly state-subsidized parental leave.[250] Research focused on expansions of Canadian parental leave protections and benefits found that policy changes contributed to significant increases in the number of mothers who remained employed, and with the same employer, following a birth.[251]

Similarly, a 2013 study estimated that the American prime-age female labor force participation rate could have been as much as 4 percentage points higher if the US had adopted a more beneficial set of parental leave and part-time worker protection policies.[252]

Although mostly promising, evidence that policies supporting parental attachment to work, such as paid parental leave, childcare subsidies, and part-time worker protections, increase female workforce participation is not always clear cut.[253] Countries with more liberal leave and part-time work policies also generally feature a larger share of women working part time and fewer women in high-ranking positions compared to the US. Blau and Kahn note that more than half of the increase in labor force participation implied by the policy changes studied likely would have come in the form of increased part-time work, and suggest that there may be a trade-off between policies supporting higher rates of female labor force participation and women's advancement at work. As noted by the AEI-Brookings Working Group on Paid Family Leave, these potential trade-offs could be minimized through program designs that reduce gender differences in parental leave usage.[254] Additionally, as researchers Claudia Goldin and Joshua Mitchell have pointed out, some of the differences in prime-age female labor force participation rates between the US and OECD countries with highly subsidized leave policies are based on the large number of women who are counted as being in the labor force during the period of their paid parental leave.[255]

Subsidized childcare appears more likely to increase women's labor force participation and attachment than parental leave alone, assuming the benefit is well designed.[256] For example, there are promising indications that providing full-day preschool services could be an effective work support for mothers of young children. A study in England found that the provision of free part-day preschool had little effect on parents' labor market outcomes, but free full-day preschool allowed for significantly higher labor force participation.[257] Similarly, the introduction of universal full-day preschool for all three- and four-year-old children in Washington, DC, coincided with a large increase in the labor force participation of mothers with young children.[258]

The Committee for Economic Development of The Conference Board has long supported a national strategy to ensure that all children are able to engage in effective, high-quality early childhood education from birth to age five, beginning with those in the greatest need, as one of the most effective routes to improving the lives of children and securing the future economic strength of communities and the nation.[259] If full-day high-quality preschool can also be a route to improving America's economic competitiveness in the short term through the contributions of the parents of preschoolers, then that possibility should be considered in thinking through the benefits and trade-offs of different approaches to preschool. State governments are already spending an estimated $8 billion annually on preschool programs that reach more than 1.5 million three- and four-year-old children, many of whom are in part-time settings.[260] Congress and philanthropic organizations should fund evaluations of high-quality preschool expansion in different US settings that can help to define the potential effects on parental labor force participation for consideration, alongside children's development, in the benefit-cost trade-offs involved in preschool program design.

The Committee for Economic Development of The Conference Board has long supported a national strategy to ensure that all children are able to engage in effective, high-quality early childhood education from birth to age five, beginning with those in the greatest need, as one of the most effective routes to improving the lives of children and securing the future economic strength of communities and the nation.

Whether or not family-friendly labor market policies can be an effective route to increasing female labor force participation, there continues to be a strong need for private-sector leadership in solving the challenge of how to support parents in the workplace. For instance, there are indications that women with young children highly value the opportunity to work from home and avoid irregular or shifting schedules.[261] CED has a long history of advocating for employers to recognize the mutual benefit in taking any necessary steps to increase opportunities for working parents and otherwise meet the diverse needs of a modern workforce.[262] That private-sector role, reducing the barriers to labor force participation of employees with caretaking roles, will continue to be critical to drawing out the full potential of the American workforce.

Alternative approaches to reducing labor force barriers for working parents

Policies that provide a direct benefit like paid leave and childcare will only reduce barriers to labor force participation or attachment for beneficiaries in a position to use them. For example, one study of California's Paid Family Leave program estimated that only 45 percent of new mothers and 9 percent of new fathers made use of the benefit in 2014.[263] Similarly, the effectiveness of a childcare subsidy, including the availability of a free "seat" in a preschool classroom, in reducing barriers to employment is going to depend on parents being able to find eligible care that suits their employment schedules and quality requirements. However, there are likely to be trade-offs between providing more direct forms of family-friendly work support versus providing more flexible benefits, such as reduced tax liability.

Tax policy may provide effective alternative levers for the labor force participation of parents. This may be especially true to the extent that broader income tax policy is potentially contributing to lower labor force participation through a "second-earner penalty," which imposes a higher marginal tax rate on a second earner within a married couple.[264] As outlined by researchers Melissa Kearney and Lesley Turner, low-income families may face particularly sharp marginal tax rates if the second earner's income pushes them further along the phase-out range of means-tested benefits, since additional income is traded off against reductions in benefits received from income support programs like EITC or SNAP and additional work-related costs, including for childcare and transportation.[265]

In the past, there have been proposals from both Republicans and Democrats to address second-earner penalties. For example, while running for president, former Governor Jeb Bush proposed to reduce marginal income tax rates for second earners in a married couple to those of an individual filer.[266] The Obama administration had previously proposed a means-tested tax credit of up to $500 on second-earner income.[267] By reducing the marginal tax rates faced on a first dollar of earnings, second-earner tax policies could help increase labor force participation rates by making a spouse's work more rewarding.

Currently, most working families with dependent children under age 17 are eligible for a means-tested, partially refundable Child Tax Credit (CTC).[268] Changes or supplements to the CTC, such as increasing the benefit for lower-income parents or for the parents of particularly young children, could be tailored to incentivize greater labor force participation for families who face particularly sharp cost barriers. But providing broad relief to working parents through the tax code risks having unintended effects on labor force participation. For example, while a more generous CTC may induce some parents to enter the labor force, it could also allow others to take additional time out of the labor force to provide childcare. While the policy outcome of parents being able to afford more time providing childcare may be desirable, it may diminish intended positive labor force participation and attachment effects.[269]

Reducing the barriers to participation for older workers

Between 2001 and 2011, the share of adults ages 65 to 69 working or looking for work increased by about a quarter, or 7 percentage points, and by 2018, roughly 1 in 3 adults in that age group remained in the labor force.[270] As the workforce has aged, a greater share of older Americans continuing to work has helped to prevent a shrinking of the workforce. Americans also appear to be increasingly unhappy with retirement, suggesting that there could be more older Americans potentially willing to work longer. The share of newly retired adults who report being dissatisfied with retirement doubled between 1998 and 2014, to 16 percent.[271]

In a different survey, more than 40 percent of retirees indicate that they left the workforce earlier than they had planned, citing health problems, a disability, and changes at their company as the most common reasons for earlier-than-expected retirement. The same survey indicates that roughly 80 percent of workers approaching retirement say they expect to work for pay at some point after they retire, while only 28 percent of retirees report having worked for pay since retiring.[272] Preserving and expanding upon the increased participation of older workers could be one potential avenue for boosting overall labor force participation.

> More than 40 percent of retirees surveyed indicate that they left the workforce earlier than they had planned…

One reason for the increase in older Americans working is their increased longevity and relatively strong health at later ages. More than 9 out of 10 workers ages 55 to 60 report good health, according to a 2019 Brookings report. Another potential contributor to higher levels of labor force participation by older Americans could be that a slowdown in the growth of educational attainment that occurred between the mid-1970s and mid-1990s, especially among men, has led to an older-age workforce that is only somewhat less likely to have completed a college degree than younger cohorts.[273] But if older workers look more like younger workers from a health and education standpoint than they have in years past, there are still a number of barriers to their fullest participation. A Senate Special Committee on Aging report identified age discrimination, managing health conditions and disabilities, and balancing caregiving responsibilities with work as some of the critical challenges facing older Americans in the workforce.[274]

For these and other reasons, older workers appear to face steeper barriers to returning to the labor force after a disruption compared to younger counterparts. While older workers are less likely than younger workers to lose their jobs on average, this statistical difference appears to be largely the product of longer average tenures with employers. When comparing workers who have been with an employer for a similar length of time, men in their 50s are more likely than younger workers to become displaced due to a layoff or quit due to job dissatisfaction.[275] A study of workers over 50 who had spent at least five years with the same employer found that more than a quarter of such workers were subsequently laid off before reaching retirement.[276]

After losing their jobs, older workers may struggle to secure new employment. One study found that men ages 50 to 61 who lost their jobs and continued searching for employment were nearly 40 percent less likely to be reemployed in any given month than otherwise identical workers ages 25 to 34 who had similarly been displaced.[277] On average, experiencing an involuntary job loss after age 58 leads an older worker to retire 14 months earlier than would otherwise be expected.[278]

Older workers perceive illegal age discrimination to be a large barrier to employment opportunities, with one study finding that a third of Americans over age 50 believe that they, or someone they know, have been victims of workplace discrimination based on age, according to a 2017 report from Brookings senior fellow Gary Burtless. One possible reason why age discrimination could be an issue is that employing older workers increases the average cost of providing health insurance coverage to employees.[279] For older workers looking for new jobs, employers may also worry that the fixed costs of hiring and training a new employee may be less likely to be recouped for a worker closer to potential retirement age.

Discrimination likely contributes to when, or why, older workers leave the labor force. Nearly 40 percent of new retirees responding to the Health and Retirement Study survey in 2014 reported feeling "forced" to retire for reasons not of their own choosing.[280] An analysis of workers over age 50 who had worked steadily for a single employer for at least five years found that 15 percent of them reported ultimately leaving those jobs due to deteriorating working conditions or pressure from their employer.[281]

It is possible that stronger enforcement of existing antidiscriminatory laws, or a tightening of those laws, could reduce age discrimination on the margin.[282] But given the ongoing challenge of age discrimination in the face of such laws, it is worth considering whether other approaches could also be effective. For example, piloting public information campaigns that lay out the business case for hiring older workers could be a relatively low-cost effort to counter potential employer concerns that could be motivating some discrimination.[283]

However, if age discrimination is partly motivated by the higher cost of providing health insurance benefits when employing older workers, the most effective route to reducing discrimination would be eliminating that cost disparity. CED has proposed market-based health care reform that would prevent insurers from charging higher premiums to older or more at-risk individuals.[284] By shifting to a regionally uniform provision of tax credits financed through broad-based taxes and mandating that insurers charge uniform premiums and accept all applicants, older workers would also gain more flexibility to choose the employment situation that best suits their needs without relying on employer-provided health benefits to afford care.[285] Increasing consistent access to affordable health care also has the potential benefit of making it easier for workers with chronic health conditions, to which older workers are more prone, to better manage their treatment and care and more easily find and maintain employment.[286] Policy makers and business leaders should champion health care reforms along the lines proposed by CED, in small part because of its pro-work aspects that could help boost labor force participation.

Increasing consistent access to affordable health care also has the potential benefit of making it easier for workers with chronic health conditions, to which older workers are more prone, to better manage their treatment and care and more easily find and maintain employment.

Policy makers should also ensure that federal retirement laws are not sending the wrong message about older workers continuing in the labor force. While many workers probably understand that Social Security benefits increase the longer a soon-to-be retiree waits to claim them, the Social Security "retirement earnings test" may send a confusing signal to some older would-be workers who have reached early retirement age. Currently, workers who claim Social Security after age 62 but before reaching the program's full retirement age will have a portion of their benefits temporarily withheld if their earnings exceed a certain threshold.[287] Although workers who have had their near-term Social Security benefits reduced due to the retirement earnings test will receive higher future benefits as a result—calculated in a manner estimated to provide the same total value of Social Security benefits over time—the existence of the retirement earnings test may be causing some number of Social Security-eligible workers to stop working for fear of missing out on their benefits.[288]

Repealing the earnings test would make clear that the rules of Social Security are not intended to discourage work at older ages and could help contribute to the social norm of working longer. It would also make it easier for older workers to understand the effect of claiming benefits and continuing to work past age 61. That simplicity, and the opportunity to receive benefits and work income simultaneously, is likely to lead some older workers to work more hours or to a later age. Because the amount of Social Security benefits ultimately paid out to beneficiaries should be the same with or without an earnings test, but total revenues paid should increase as a result of workers' additional earnings, repealing the earnings test would be fiscally positive.[289]

Arguments against repealing the retirement earnings test center on beneficiaries who, in the absence of an earnings test, will choose to claim benefits earlier than they otherwise would have, even as they continue working. While such beneficiaries would have increased income in the short run, they would have lower annual Social Security benefits. Since few of these workers would be expected to save their additional income, those who survive to older ages are likely to be at an increased risk of falling into poverty.[290] There is suggestive evidence that removing the Social Security earnings test for workers ages 65 to 69 in 2000 contributed to a higher incidence of poverty among older female retirees.[291]

Both the positive and negative outcomes of repeal are likely to be relatively limited. While the concerns over increased poverty at older ages is not to be taken lightly, given the potential to boost labor force participation, policy makers should pilot the elimination of the Social Security retirement earnings test in one or more regions of the country in order to evaluate the likely magnitude of its effects.

Given the higher likelihood that they are dealing with challenges like health conditions and caregiver responsibilities, flexibility may play an outsized role in determining the labor force participation of older workers. Self-employment rates steadily increase with age.[292] Older workers are more likely to be independent contractors, with nearly 2 in 5 contractors aged 55 and over in 2017.[293] Older men are also significantly more likely than prime-age workers to choose to work part time. In 2016, there were more than 6 million adults over age 55 working part time who did not express an interest or availability to work full time, including roughly 3 million workers over age 65.[294] Many older workers need to find ways to balance work and caregiving responsibilities. A 2015 AARP study estimated that roughly 15 million adults ages 50 to 64 had served as unpaid caregivers for a family member over the past year, with roughly a third of those adults reporting that they provided on average over 20 hours of unpaid care per week.[295]

While the challenge of accommodating alternative work arrangements in order to better tap the underutilized talent of older would-be employees falls primarily on employers, policy makers can explore ways to make it easier or more enticing for older adults who are not currently working or are at risk of leaving the labor force to engage in independent or less than full-time work.[296] One of the draws of full-time employment relative to other arrangements is that it more frequently provides a range of nonwage benefits and typically is covered by much stronger worker protection laws.[297] For example, employees are covered by a system of workers' compensation, with employers paying into a state-run program that provides a benefit for workers injured on the job, but independent workers generally lack this protection.[298] Similarly, full-time employees are much more likely than other workers to have access to retirement benefits.[299] In addition to fewer benefits and protections, independent workers generally face a larger burden of knowledge and planning compared to an employee, as they try to comply with tax requirements, manage income volatility risk, or arrange for training.

One potential policy response is to make it easier for independent or part-time workers to access benefits typically provided to full-time employees. For example, a bipartisan group of senators proposed establishing a $20 million competitive grant fund for pilot projects experimenting with portable benefit models to make it easier for independent workers to access and maintain benefits and protections as they change jobs.[300] James Capretta, a resident fellow at the American Enterprise Institute, has proposed allowing firms that work with a large number of independent contractors to opt in to paying for and providing workers' compensation benefits through the existing state system in return for additional legal protections.[301] Other proposals have looked at more radical changes to reduce distinctions in a worker's status for purposes of determining benefit access, often by making certain benefits universally available.[302] From the perspective of encouraging labor force participation, there will be a tension between making more flexible work arrangements more attractive to older workers currently working full time, potentially leading to reduced work effort, and enticing more older workers to enter or remain longer in the labor force. Experimentation is well justified, and policy makers and business leaders should advocate for robust evaluation of piloted changes in order to determine the potential labor force participation consequences, particularly for older workers.

Reaching more Americans: Addressing remaining workforce participation challenges

Different individuals face different barriers to working to their fullest interest and ability. No short set of recommendations can comprehensively address the complicated, multifaceted array of potential barriers people face. But the strategies laid out in this report target some of the most cross-cutting challenges affecting the largest number of people, where evidence suggests that business leaders and policy makers could make an immediate difference in growing the US workforce's critical contribution to the economic strength of the country. These recommendations target potential workers with initially low-income prospects to incentivize them into, or keep them in, the labor force. They expand access and connection to existing opportunities for workers already seeking to enter, or reenter, the workforce. And, looking specifically at two very large segments of the nation's workforce, they seek to confront common challenges to parents and older workers reaching their goals for employment.

But the need to maximize the contributions of the American workforce does not end with these recommendations. Many segments of the population may face specific barriers to participation and attachment requiring targeted solutions that could build from these initial recommendations. For example, roughly 3 percent of adults ages 16 to 64 report having a disability, according to the Bureau of Labor Statistics. Adults reporting a disability have significantly worse employment and labor force outcomes, including an unemployment rate in 2018 more than double that of adults without disabilities.[303] Closing that gap would have added an additional roughly 250,000 workers under age 65 to employment and significantly reduced the risk of those workers leaving the labor force. The challenge of navigating work and serious health conditions is widespread. Among those currently working, roughly 4 million adults can be expected to report a new, serious health shock each year; increasing the use of early intervention strategies for newly ill or injured workers may be an effective way to boost workforce participation and attachment.[304]

Many of the recommendations in this report would directly improve the workforce participation and attachment of potential workers with disabilities, and not only because many workers with disabilities are older or parents themselves. Improvements in health care coverage, more flexible work arrangements, and increased support for reattaching to the labor force after the loss of a job could be particularly valuable for workers who often are managing challenges and considerations related to new or chronic serious health conditions. But it is likely that additional work-enhancing strategies that specifically target needs for members of this population could be an important part of a broad-based strategy to increase the contributions of our existing workforce.

In the past, CED has put forward recommendations to help workers find work and continue working, among other critical outcomes, for many different segments of the American population, including a recent report focused on workers without college degrees.[305] CED will continue to advance reasoned solutions tailored to the many different aspects of this challenge in the future to ensure that Americans of all backgrounds are able to contribute to and benefit from the strength of the US economy.

Conclusion

The Committee for Economic Development of The Conference Board believes that long-term American leadership, prosperity, and competitiveness hinge on the contributions of our nation's workforce. With our population aging and our workforce growth slowing, the US must make full use of our available talent to remain competitive in a rapidly changing 21st-century economy.

Making it easier and more attractive for potential workers to find work and remain working will be an increasingly critical component of US economic strength. Helping Americans who would like to work more do so, including by drawing more potential workers into the labor force, can help deliver more widely shared prosperity for families; provide a deeper, more-skilled pool of talent to American businesses; and help strengthen the nation's economic growth and fiscal standing.

The private sector itself will play a critical role in creating the conditions that draw out the full strength of the American workforce. Business leaders interested in having access to the best talent for their companies and helping the country prosper must take the lead in creating a welcoming work environment where all Americans, regardless of background or identity, can make contributions in line with their talent and potential. But individual action will not be sufficient. As outlined in this report, achieving these improvements will require business leaders to work with policy makers and advocate for a range of policies to incentivize work and reduce the barriers that are currently preventing workers from achieving their employment goals.

Four Ways Business Leaders and Policy Makers Can Improve Labor Force Participation and Attachment

1. **Strengthen the Earned Income Tax Credit (EITC) for adults without qualifying children** Incentivize more people with initially low-income job prospects to enter the labor force and remain working by increasing EITC benefits and expanding eligibility to reach more potential workers who do not have qualifying custodial responsibility for a child.

2. **Lessen barriers to participation through improved employee-employer matching and increased mobility** Reduce geographical limitations, information gaps, and unnecessary occupational barriers in order to connect potential workers, particularly those most at risk of dropping out of the labor force following a job loss, to a wider set of employment opportunities, by:

   - Pushing states to deliver high-quality, effective reemployment services to help displaced workers quickly find jobs that can make use of and add to their existing skills;
   - Funding high-quality demonstrations to improve employee-employer matching, including relocation assistance and wage-insurance pilots; and
   - Reviewing and reforming occupational licensing requirements and the inappropriate use of noncompete clauses.

3. **Help parents remain connected to the workforce and meet family responsibilities** As part of a national strategy to ensure all children can engage in effective, high-quality early childhood education from birth to age five, weigh the participation benefits of family-friendly labor market policies, including funding evaluations of the labor force impacts of different high-quality preschool program designs.

4. **Support older workers who wish to remain working** Use more of the work potential of older Americans by:

   - Funding public information campaigns to counter employer misperceptions;
   - Eliminating health insurance cost disparities that may motivate; discrimination through market-based health reform;
   - Piloting repeal of the Social Security retirement earnings test; and
   - Piloting initiatives to support flexible work arrangements, including by increasing access to nonwage benefits and worker protections typically only available to full-time workers.

Appendix
Identifying a best measure of long-run labor market health

In attempting to capture the workers' or employers' experience of how an economy *feels*, business leaders, policy makers, and reporters often ask if the labor market is "healthy," or how well the labor market is "working." Can labor market health be defined in a way that lends itself to clear and simple metrics? The question is immediately complicated by the fact that, reductively, workers can be thought of as sellers and employers as buyers on the labor market, suggesting that views of how well the labor market is working at a given time may diverge. There may be times when conditions feel more favorable to workers than employers—such as when shortages of available-but-not-employed workers force employers to compete sharply over existing employees—and vice versa.

For some, the key question is the degree to which everyone who wants to be working can find a job that meets with his or her skills and abilities. For others, there is an additional requirement that workers can get jobs that, over time, will lead them to secure a decent standard of living or get ahead. From the view of employers, the health of the labor market is likely determined by the balance between a bountiful enough supply of available workers with the skills they desire and a bountiful enough supply of consumers with confidence to spend. Further complicating the challenge is an interest in being able to describe the relative health and outlook of the labor market compared to the past, while parsing out the degree to which things are better or worse for temporary reasons versus more enduring ones.

Ideally, a single measure could at least broadly answer these questions but, given how subjective and hard to quantify they are, no one measure can do more than provide a useful but limited snapshot. Nearly all measures, at least when it comes to assessing employment, will suffer from the near impossibility of defining the correct denominator—the share of people who could, or should, be working.[306]

Typically, in most media discussions of labor markets, the unemployment rate gets top, or at least most frequent, billing.[307] The Bureau of Labor Statistics reports six different monthly measures of labor underutilization, of which the "official unemployment rate"—U-3—is the most commonly discussed.[308] U-3 unemployment measures the share of people without a job who are part of the civilian labor force. The civilian labor force includes all people in the US ages 16 and older, not on active duty or living in an institutional setting, who have a job or have actively looked for work in the prior four weeks. So, a high U-3 unemployment rate—many people looking for work who cannot find an acceptable job offer—is a reliable indicator of labor market weakness. But it misses key context that may make comparisons between unemployment rates at two

different periods misleading. If increasing numbers of workers can only find part-time work or are being forced to settle for reduced pay, the official unemployment rate may be unaffected. The U-3 unemployment rate can *decline* if unemployed workers become particularly discouraged and give up on finding a job altogether, but few observers would count that as a sign that the labor market had improved.

The Bureau of Labor Statistics's alternative measures of labor force utilization try to capture other characteristics of labor market health, including the extent to which unemployed workers have been without work for an extended period of time, the share of workers out of the labor force who have looked for a job in the past 12 months, and the share of employed workers who are working part time but want and are available to work full time. Each of these measures helps to provide further context to the labor market, but all are sensitive to recent cyclical conditions.

By contrast, the labor force participation rate can provide a bigger-picture view of long-run labor market trends, filtering out some of the more temporary employment impacts that occur during economic downturns. Usefully, relative to the official unemployment rate, the labor force participation rate can also help capture when a growing number of potential workers become discouraged and give up their job search, retire, go back to school, or stay home to care for others. But some states of being, like the difference between unemployment and nonparticipation and the reasons for nonparticipation, can only be assessed by self-reporting on surveys. Accurately determining and reporting motivation is inherently a challenge, and the reported status itself may be temporary or conditional. For example, it is difficult to know how many current early retirees might be willing to return to the labor force if their job prospects improve. What share of people currently out of the labor force due to a work-limiting disability plan to return to work in the future? What share hope to? These ambiguities can make interpreting changes in the participation rate more challenging. Some economists focus on the prime-age labor force participation rate, ages 25 to 54, to try to capture fundamental changes in who is seeking work during the years in which the greatest number of people would be expected to be working. By limiting the measure to potential workers in the time of their lives when they are most likely to be working, analysts can focus on big-picture changes less likely to be driven by retirees or students; still, this approach misses important changes affecting younger or older workers.

Unlike some employment measures, changes in labor force participation rates may not quickly or fully communicate changes, for good or ill, in available hours, compensation, or opportunity. While the difference between being in or out of the labor force is significant, so is the difference between working 20 hours a week and working 40 hours a week when a full-time job is desired. Neither the unemployment rates nor the labor force participation rate may capture when workers feel secure in their current job, when employees' work schedules have become more or less predictable, or changes in the intensity with which employers are recruiting for their currently advertised openings.[309]

Direct measures of employment or participation are not the only ways to assess labor market health over time, and many policy makers and business leaders are as interested in trying to predict the short-term direction of the labor market as identifying long-run trends. To help translate a wealth of competing labor market data into an easily digestible headline number, many researchers have sought to construct indices of employment conditions. For example, since 2014, the Federal Reserve Bank of Kansas City has published a set of two Labor Market Conditions Indicators, which incorporate 24 separate labor market variables.[310] Until 2017, the Federal Reserve Board of Governors published a different index that utilized 19 measures.[311] But indices require a significant amount of judgment to construct, and sometimes to interpret, making them hard to evaluate by anything but their results for their intended purpose.[312] A 2015 analysis by a researcher at the Federal Reserve Bank of St. Louis found that both the Federal Reserve Bank of Kansas City's and the Federal Reserve Board of Governors' indices had, to date, largely just tracked the official unemployment rate.[313]

Ultimately, in pursuing policies that could help to durably grow the economic strength the nation derives from its workforce, a careful analysis of the labor force participation of different groups is a useful starting point. But no policy maker or business leader would make the mistake of relying on a single indicator to try to fully understand the state of the labor market, particularly with respect to how it compares to the past.

Endnotes

1. Jonathan Vespa, Lauren Medina, and David Armstrong, "Demographic Turning Points: Population Projections for the United States: 2020 to 2060," US Department of Commerce, US Census Bureau, March 2018; "Table 2. Population, Housing Units, Area Measurements, and Density: 1790 to 1990," US Census Bureau, August 1993. From April 1, 1930, to April 1, 1940, the US population increased an estimated 7.3 percent. By comparison, based on extrapolations from its 2016 population estimate, the US Census Bureau is projecting total population growth of roughly 7.5 percent in the decade prior to 2020.
2. Vespa et al., "Demographic Turning Points"; Lyman Stone, "Declining Fertility in America," American Enterprise Institute, December 2018. The number of expected births per woman declined steadily over the 19th and early 20th centuries, before a sharp decline and rebound associated with the economic and social volatility around the Great Depression and World War II. However, following the end of the baby boom, total fertility rates have been mostly flat and below replacement rates since the mid-1970s. Without a combination of immigration, improvements in childhood survival, and improvements in longevity, the future US population growth outlook would be negative.
3. "2017 National Population Projections Tables, Projections for the United States: 2017-2060, Projected Population Size and Births, Deaths, and Migration," US Census Bureau, 2018. Based on US Census projections, the number of annual births is expected to increase by only roughly 8.5 percent between 2017 and 2060.
4. "Civilian Labor Force," US Department of Labor, Bureau of Labor Statistics, retrieved from FRED, Federal Reserve Bank of St. Louis on May 13, 2019.
5. Mitra Toossi, "A Look at the Future of the US Labor Force to 2060," Bureau of Labor Statistics, September 2016.
6. Since 1993, hours growth accounted for roughly 15 of 70 aggregate log points of GDP growth. Growth in total hours worked has been driven by additional workers in the labor force as the average annual number of employee hours worked has been mostly steady over the past few decades. In 2018, the average annual number of hours worked was only 4 percent below the annual average throughout the 1970s and 1 percent below the annual average throughout the 1980s. However, growth in total hours worked has been declining. Between 1970 and 1999, the US averaged a 1.5 percentage point increase in hours worked each year. Between 2000 and 2018, average growth was closer to 0.5 percentage point. See: "Total Economy Database: Output, Labor and Labor Productivity, 1950-2019," The Conference Board, accessed on May 14, 2019.
7. Brian Schaitkin, "Global Economic Outlook 2019: United States—The High-Flying Economy of 2018 Will Slow in 2019 and Beyond," The Conference Board, November 2018.
8. For instance, given the slow projected growth in hours worked from 2019 to 2028, achieving an annual average rate of GDP growth over that period on par with what was achieved in the late 1990s and early 2000s would require higher average annual productivity growth rates—on the order of 3.5 percent per year—than were achieved in any comparable period in the last 70 years. See: The Conference Board, "Total Economy Database"; Schaitkin, "Global Economic Outlook 2019: United States."
9. Niklas Engbom, "Firm and Worker Dynamics in an Aging Labor Market," Federal Reserve Bank of Minneapolis Working Paper No. 756, April 2019; Adam Ozimek, Dante DeAntonio, and Mark Zandi, "Aging and the Productivity Puzzle," Moody's Analytics, September 4, 2018. Engbom has argued that, in theory, the aging of the labor force may be reducing dynamism economy-wide, with fewer workers switching jobs or engaging in entrepreneurship, ultimately creating fewer matches and opportunity for matches between firms and employees, fewer opportunities for workers to move up the job ladder, and less dispersion of productivity across firms. Researchers at Moody's Analytics have also offered analysis suggesting that the aging workforce, reflected in an increased share of workers over 65, has been reducing annual productivity growth by at least 0.2 percentage points over the past decade. Given demographic trends, they project that effect to continue through the next decade. Economists at the Federal Reserve Bank of New York have proposed that demographic-driven declines in the growth rate of the labor force are largely responsible for the steady decline in the rate of new firm formation over the past four decades. See: Fatih Karahan, Benjamin Pugsley, and Ayşegül Şahin, "Demographic Origins of the Startup Deficit," Federal Reserve Bank of New York Staff Report No. 888, May 2019.
10. Nearly a quarter of Medicaid spending in 2013, $94 billion, was on enrollees ages 65 or older. See: "MACStats: Medicaid and CHIP Data Book," Medicaid and CHIP Payment and Access Commission, December 2018.
11. "2019 Annual Report: Table V.A3.—Social Security Area Population on July 1 and Dependency Ratios, Calendar Years 1945-2095," The Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, April 25, 2019, p. 93.
12. Ultimately, the increase in the number of older Americans eligible for benefits will exacerbate the political trade-offs involved in increasing taxes, increasing borrowing, or maintaining or increasing the generosity of existing supports.
13. Greater labor force participation can reduce but not solve these challenges. For example, Louise Sheiner at Brookings Institution (Brookings) has estimated that maintaining the Social Security dependency ratio at its current level over the next three decades would, eventually, require as much as a 22 percentage point increase in the overall labor force participation rate, far surpassing the historical high-water mark and requiring near-universal participation by nonelderly adults. An ambitious but more realistic medium-term goal might be to increase overall labor force participation and attachment by an amount equivalent to raising women's labor force attachment to equal men's. Based on Congressional Budget Office projections, an increase of that magnitude would be expected to reduce the estimated increase in the dependency ratio by a little less than a fifth. See: Louise Sheiner, "The Long-Term Impact of Aging on the Federal Budget," Hutchins Center Working Paper No. 40, January 2018.
14. In addition to the direct economic benefit, the Committee for Economic Development of The Conference Board (CED) has frequently highlighted the importance of helping all workers, from all backgrounds, reach their full potential in terms of the societal benefit, including greater trust and stability, that is likely to be a product of a strengthened, more sustainable capitalism. For example, see: Steve Odland and Joe Minarik, *Sustaining Capitalism: Bipartisan Solutions to Restore Trust & Prosperity*, CED, 2017.

15. Lisa Cook and Jan Gerson, "The Implications of US Gender and Racial Disparities in Income and Wealth Inequality at Each Stage of the Innovation Process," Washington Center for Equitable Growth, July 2019.
16. Alex Bell, Raj Chetty, Xavier Jaravel, Neviana Petkova, and John Van Reenen, "Who Becomes an Inventor in America? The Importance of Exposure to Innovation," Equality of Opportunity, November 2018.
17. For example, many adults face difficult questions like whether to provide rather than purchase caregiving for family members; how to time retirement decisions given trade-offs between future well-being and additional financial security; how working will affect their health and how changes in their health may affect their job prospects; and when the gains from pursuing additional training or education are likely to outweigh the investment in time and money they require.
18. Take the example of a two-parent family deciding whether one parent should stay home to care for a child. If improvements in the labor market lead to opportunities for higher real wages, both parents may be incentivized to work for additional income, strengthening or increasing labor force participation. However, it is also possible that an increase in one parent's wages in that same scenario may make it more affordable for the other parent to stay home to care for the child if that is their preference, lowering participation rates. Reasonably, the increase in available wages should be viewed as positive regardless of its impact on participation.
19. Jerome Adams, "Improving Individual and Community Health through Better Employment Opportunities," *Health Affairs Blog*, May 8, 2018.
20. "Report on the Economic Well-Being of US Households in 2018," Board of Governors of the Federal Reserve, May 2019.
21. "The Long-Term Decline in Prime-Age Male Labor Force Participation," Council of Economic Advisers (CEA), June 2016. As documented by CEA, long-term unemployment is associated with higher rates of suicide and alcohol-related death, more smoking, lower reported happiness, higher crime rates in their communities, and worse academic and future earnings outcomes for children of unemployed parents.
22. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."
23. Mary Daly, Joseph Pedtke, Nicolas Petrosky-Nadeau, and Annemarie Schweinert, "Why Aren't US Workers Working?" Federal Reserve Bank of San Francisco, November 13, 2018.
24. "Labor Force Statistics from the Current Population Survey: A-3. Employment Status of the Civilian Noninstitutional Population by Sex and Age, Seasonally Adjusted," Bureau of Labor Statistics, accessed on August 5, 2019. Except where otherwise noted, the labor force participation rate is the share of people ages 16 and older who are currently employed or who have sought employment in the last four weeks, as seasonally adjusted and reported by the Bureau of Labor Statistics, based on the Current Population Survey.
25. "Labor Force Statistics from the Current Population Survey: Household Data Annual Averages: 1. Employment Status of the Civilian Noninstitutional Population, 1948 to Date," Bureau of Labor Statistics, accessed on May 21, 2019.
26. "Hours Worked (Indicator)," Organisation for Economic Co-operation and Development (OECD), accessed on May 21, 2019. Much of the decline in average hours worked occurred in the late 1960s and early 1970s. In 2017, the US ranked ninth in hours worked per worker out of the 34 OECD countries reporting.
27. Authors' calculation based on "Labor Force Statistics from the Current Population Survey: A-6. Employed and Unemployed Full- and Part-Time Workers by Sex and Age, Seasonally Adjusted" and "A-7. Employed Persons by Class of Worker and Part-Time Status, Seasonally Adjusted," Bureau of Labor Statistics, accessed on August 5, 2019. In July 2019, out of an estimated civilian labor force of more than 162 million people, more than 130 million were working full time, while close to 9 million were either unemployed and looking for a full-time job or worked less than 35 hours a week for "economic reasons," meaning they wanted to work 35 hours or more. Of those people who said they weren't looking for a full-time job, about 23 million worked part time, while another roughly 1 million unemployed adults said they were looking for a part-time job.
28. Megan Dunn, "Who Chooses Part-Time Work and Why?" Bureau of Labor Statistics, March 2018. As a percentage of total employment, the share of "voluntary" part-time workers, who report being unavailable or uninterested in working 35 hours or more in a week, has declined from an average of 14.9 percent in 1994 to 14.3 percent in 2018.
29. "Civilian Labor Force Participation Rate: 25 to 54 years [LNS11300060]," Bureau of Labor Statistics, retrieved from FRED on June 10, 2019.
30. "Labor Force Statistics from the Current Population Survey," Bureau of Labor Statistics, accessed on June 10, 2019.
31. John Coglianese, "The Rise of In-and-Outs: Declining Labor Force Participation of Prime Age Men," November 14, 2018. The share of workers who have temporarily exited is measured based on those workers who reported at least some labor force participation and some nonparticipation during eight reporting months in a 16-month period. These numbers are adjusted based on a rough calculation of the likelihood that a nonparticipation spell that began during the observed period was likely to be permanent.
32. Coglianese, "The Rise of In-and-Outs." Relative to workers permanently exiting the labor force, men who temporarily end participation are higher skilled, more likely to be living with a partner, and less likely to report disabling work conditions or live in economically declining regions. Among those living with partners, the increase in temporary exits from the labor force appears to have risen most in the households where women's wages increased more.
33. In July 2018, the labor force participation rate of 16- to 19-year-olds was 43 percent, reflecting a somewhat steady decline of nearly 29 percentage points from the peak teen participation rate achieved in July 40 years earlier. The decline in summer employment roughly mirrors an increase in the share of older teens in school during the summer. Between 1985 and 2016, the proportion of 16- to 19-year-olds who reported being enrolled in school in July quadrupled from 10 percent to 42 percent. See: Teresa Morisi, "Teen Labor Force Participation before and after the Great Recession and Beyond," Bureau of Labor Statistics, February 2017.
34. Authors' calculations based on "Labor Force Statistics from the Current Population Survey: Series LNU00024887 and LNU00022967, 1985-2018," Bureau of Labor Statistics, accessed on May 23, 2019.

35. Authors' calculations based on "Labor Force Statistics from the Current Population Survey: Series LNU01322966 and LNU01322968, 1985-2018," Bureau of Labor Statistics, accessed on May 23, 2019. Between October 2002 and 2018, labor force participation rates among school-enrolled teens ages 16 to 19 declined roughly 11 percentage points, while participation rates for students ages 20 to 24 dropped over 9 percentage points.

36. Charles Baum and Christopher Ruhm, "The Lasting Benefits of Early Work Experience," Employment Policies Institute, August 2014. It is notable that the returns to early work experiences may be highly situational and declining. See: Charles Baum and Christopher Ruhm, "The Changing Benefits of Early Work Experience," IZA Institute for the Study of Labor Discussion Paper No. 8431, August 2014.

37. Paul Gregg, "The Impact of Youth Unemployment on Adult Unemployment in the NCDS," *The Economic Journal* 111, no. 475, November 2001.

38. "Table 2. Labor Force Status of Persons 16 to 24 Years Old by School Enrollment, Educational Attainment, Sex, Race, and Hispanic or Latino Ethnicity, October 2018," Bureau of Labor Statistics, April 2019.

39. "Improving Noncollege Pathways to Skills and Successful Careers," CED, May 2019.

40. Gray Kimbrough, "Xboxes and Ex-workers? Gaming and Labor Supply of Young Adults in the US," Munich Personal RePEc Archive paper, January 2, 2019.

41. Yuriy Gorodnichenko, Jae Song, and Dmitriy Stolyarov, "Macroeconomic Determinants of Retirement Timing," National Bureau of Economic Research (NBER) Working Paper No. 19638, November 2013. For example, virtually no workers were retired at age 60 in 1960. By 1985, more than 40 percent of adults in the lowest quintile of lifetime earnings were retired, while only roughly 10 percent of adults in the highest quintile were. Federal policy also likely played a role, offering a Social Security Disability Insurance benefit for pre-retirement-age workers beginning in July 1957, as well as establishing an "early" retirement Social Security benefit for workers 62 and older in 1956 (for women) and 1961 (for men). See: Geoffrey Kollmann, "Social Security: Summary of Major Changes in the Cash Benefits Program," Congressional Research Service, May 18, 2000.

42. Felicitie Bell and Michael Miller, "Life Tables for the United States Social Security Area 1900-2100," Social Security Administration Actuarial Study No. 116, August 2002; "Period Life Table, 2016," Social Security Administration, accessed on May 23, 2019. Predicted life expectancy is based on holding observed mortality rates in a given year constant, without projecting any additional future reductions in mortality. So, for example, observed mortality rates for adults ages 55 and older in 1980 would lead to the expectation that a 55-year-old man would live for a little less than 21 more years on average if there were no future changes in mortality. Repeating that same exercise in 2016 would predict a little less than 26 years of additional life expectancy.

43. "The Social Security Retirement Age," Congressional Research Service, March 7, 2019. The amount of income exempted from the earnings test for Social Security beneficiaries who were of full retirement age (i.e., 66 years old for workers who turned 62 between 2005 and 2016) steadily increased in the late 1990s. The earnings test for such beneficiaries was eliminated in 2000. See: Kollmann, "Social Security."

44. Gorodnichenko et al., "Macroeconomic Determinants of Retirement Timing."

45. "Labor Force Statistics from the Current Population Survey: A-3," Bureau of Labor Statistics, accessed on August 5, 2019.

46. Claudia Goldin and Joshua Mitchell, "The New Lifecycle of Women's Employment: Disappearing Humps, Sagging Middles, Expanding Tops," NBER Working Paper No. 22913, December 2016. Researchers Goldin and Mitchell looked at five-year birth cohorts to examine changes in participation rates over time. For example, women born between 1935 and 1939 had a roughly 50 percent labor force participation rate at age 35. By comparison, women born between 1945 and 1949 had a greater than 65 percent labor force participation rate at that age. The 1955-1959 cohort had a participation rate above 70 percent at age 35, but subsequent cohorts had little subsequent gains in participation relative to their immediate predecessors. This generational change story is in contrast with men's labor force participation trends, which a Council of Economic Advisers study found had fallen at all ages across the life cycle of successive birth cohorts, suggesting that the impact was not due to changes in any one generation of workers. See: CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

47. The most rapid period of sustained growth in women's labor force participation occurred in the late 1960s through mid-1980s. Despite the rapid, nearly 4 percentage point increase in women's labor force participation during World War II, wartime employment appears to have "played a limited direct role" in later increases in labor force participation following mass layoffs at the conclusion of the war. See: Evan Rose, "The Rise and Fall of Female Labor Force Participation During World War II in the United States," *The Journal of Economic History* 78, no. 3, September 2018.

48. Sandra Black, Diane Whitmore Schanzenbach, and Audrey Breitwieser, "The Recent Decline in Women's Labor Force Participation," The Hamilton Project, October 2017. Among women ages 25 to 54, the gap in participation between single, childless women and married women with children under age 18 narrowed by roughly three-quarters between 1968 and the early 2000s.

49. "Current Population Survey Historical Time Series Table A-2. Percent of People 25 Years and over Who Have Completed High School or College, by Race, Hispanic Origin and Sex: Selected Years 1940 to 2018," US Census Bureau, accessed May 22, 2019. Prior to 1992, the Current Population Survey recorded the number of years of college completed rather than degree attainment. In 2018, both the share of the population over 25 with at least a bachelor's degree and the share of the population that had completed at least four years of college was 35 percent.

50. "Labor Force Statistics from the Current Population Survey: Table 7. Employment Status of the Civilian Noninstitutional Population 25 Years and over by Educational Attainment, Sex, Race, and Hispanic or Latino Ethnicity," Bureau of Labor Statistics, accessed on May 22, 2019. Conversely, men and women out of the labor force are less educated on average than those who are participating. Among nonparticipants age 25 and older, roughly half have no education beyond a high school diploma, compared with roughly 39 percent of the population as a whole.

51. "Labor Force Statistics from the Current Population Survey, Labor Force Participation Rate - 25-54 yrs., Men (LNS11300061)," Bureau of Labor Statistics, accessed on May 22, 2019.

52. Authors' calculations based on Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, and J. Robert Warren, "Integrated Public Use Microdata Series, Current Population Survey: Version

6.0," Minneapolis, MN: IPUMS, 2018. As overall women's labor force participation rose through the end of the 20th century, an increasing share of women ages 25 to 54 were participating in the labor force at all education levels. But since the late 1990s, while there has been an overall decline in prime-age women's labor force participation, women with at least a bachelor's degree participated at similar rates in 2018 (84 percent) to 20 years earlier (85 percent in 1998). By comparison, labor force participation rates for women with less than a bachelor's degree have declined roughly 5 percentage points over that period (from 74 percent in 1998 to 69 percent in 2018).

53. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0."

54. "Employment Projections: Table 3.4 Median Age of the Labor Force, by Sex, Race, and Ethnicity, 1998, 2008, 2018 and Projected 2028," Bureau of Labor Statistics, September 4, 2019.

55. In the aggregate, men are increasingly likely to be working as they reach their early 30s and gradually less likely to be in the labor force as they get older. Women have a slightly different pattern of participation. They reach the age at which they are most likely to be working in their late 20s before experiencing a slight drop-off in their 30s, coinciding with the time when there are most likely to be children in the home. Overall, women become somewhat more likely to be working in their 40s and early 50s as children age or leave the household. Goldin and Mitchell have termed this pattern the "sagging middle," which has replaced a previous pattern of increasing likelihood of participation, though at lower aggregate levels, into women's mid-40s. See: Goldin and Mitchell, "The New Lifecycle of Women's Employment."

56. "Labor Force Statistics from the Current Population Survey: A-3," Bureau of Labor Statistics, accessed on May 22, 2019.

57. Authors' calculations based on "Labor Force Statistics from the Current Population Survey: Series LNS11000000 and LNS11024230," Bureau of Labor Statistics, accessed on May 23, 2019. Since the late 1990s, the share of the labor force ages 55 and older has steadily increased. Post-World War II, this share previously peaked at roughly 18 percent, where it stood for much of the 1950s and 1960s.

58. For example, a Hamilton Project analysis concluded that aging contributed 2.7 percentage points to the 3.1 percentage point decline in labor force participation between 2007 and 2018. An earlier Peterson Institute analysis came to a similar conclusion. See: Lauren Bauer, Patrick Liu, and Jay Shambaugh, "Is the Continued Rise of Older Americans in the Workforce Necessary for Future Growth?" The Hamilton Project, April 4, 2019; and Harris Eppsteiner, Jason Furman, and Wilson Powell, "An Aging Population Explains Most—But Not All—of the Decline in the US Labor Force Participation Rate since 2007," Peterson Institute for International Economics, July 7, 2017.

59. Authors' calculations based on "Labor Force Statistics from the Current Population Survey: Series LNS11024887, LNS11000060, and LNS11024230," Bureau of Labor Statistics, accessed on May 23, 2019.

60. "Foreign-Born Workers: Labor Force Characteristics – 2018," Bureau of Labor Statistics, May 16, 2019; Elizabeth Grieco, "The Foreign Born in the US Labor Force: Numbers and Trends," Migration Policy Institute, January 2004. A labor force participant is considered foreign born if he or she was not a US citizen at birth. Foreign-born workers include naturalized citizens, lawful permanent residents, other legally admitted immigrants, refugees, temporary residents such as students and temporary workers, and undocumented immigrants. Of all foreign-born persons in the US, roughly half are current US citizens. See: "Migration Policy Institute Data Hub, State Immigration Data Profiles, United States: Demographics & Social," Migration Policy Institute, accessed on July 23, 2019.

61. Bureau of Labor Statistics, "Foreign-Born Workers." In 2018, over 57 percent of the foreign-born labor force was male, 73 percent was age 25 to 54, and 21 percent had not completed high school. By comparison, the native-born labor force was 52 percent male, with 62 percent of participants ages 25 to 54. Only 4 percent of the native-born labor force had not completed high school.

62. Jeanne Batalova and Michael Fix, "New Brain Gain: Rising Human Capital among Recent Immigrants to the United States," Migration Policy Institute, May 2017. Roughly 48 percent of immigrants older than 25 arriving in the US between 2010 and 2015 had a college degree, compared with 27 percent of arrivals between 1985 and 1990. By 2018, roughly 37 percent of the foreign-born labor force had at least a bachelor's degree, an increase of 5 percentage points from a decade earlier.

63. Authors' calculations based on "Labor Force Statistics from the Current Population Survey: Series LNS11000000 and LNS11000003, 1990-2018," Bureau of Labor Statistics, accessed on May 23, 2019.

64. Black et al., "The Recent Decline in Women's Labor Force Participation."

65. Black et al., "The Recent Decline in Women's Labor Force Participation."

66. Author's calculations based on "Labor Force Statistics from the Current Population Survey: Labor Force Participation Rate – 25-54 years, by Sex, Race, and Ethnicity," Bureau of Labor Statistics, accessed on June 11, 2019.

67. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

68. "Table 2. Labor Force Status of Persons 16 to 24 Years Old by School Enrollment, Educational Attainment, Sex, Race, and Hispanic or Latino Ethnicity, October 2018," Bureau of Labor Statistics, April 2019.

69. "Labor Force Statistics from the Current Population Survey: A-3," Bureau of Labor Statistics, accessed on May 22, 2019.

70. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0." An additional roughly 9 percent of nonparticipants were active students, and 8 percent reported that they were retired.

71. Ernie Tedeschi, "Will Employment Keep Growing? Disabled Workers Offer a Clue," *New York Times*, March 15, 2018.

72. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0."

73. Nicole Maestas, "Back to Work: Expectations and Realizations of Work after Retirement," RAND Working Papers, 2007. A similar study found that at least 15 percent of workers ages 49 and older who left the labor force after 1992 after having held the same full-time job for 10 years or more subsequently returned to work for some period before 2008. The subset of workers who left the labor force by age 55 were more likely to return (22 percent). See: Kevin Cahill, Michael Giandrea, and Joseph Quinn, "Retirement Patterns and the Macroeconomy, 1992–2010: The Prevalence and Determinants of Bridge Jobs, Phased Retirement, and Reentry among Three Recent Cohorts of Older Americans," *The Gerontologist* 55, no. 3, December 7, 2013, pp. 384-403.

74. Nicole Maestas, Kathleen Mullen, David Powell, Till von Wachter, and Jeffrey Wenger, "The American Working Conditions Survey Finds That More Than Half of Retirees Would Return to Work," RAND Research Brief, 2017.

75. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0."

76. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0." For instance, in 2018, among 20- to 24-year-olds, roughly 48 percent of labor force participants lived with at least one parent for reasons other than education, compared with 55 percent of nonparticipants. The gap was smaller for 25- to 29-year-olds, with roughly 24 percent of labor force participants living with at least one parent for reasons other than education, compared with 28 percent of nonparticipants.

77. Audrey Breitwieser, Ryan Nunn, and Jay Shambaugh, "The Recent Rebound in Prime-Age Labor Force Participation," Brookings, August 2, 2018.

78. Didem Tüzemen and Willem van Zandweghe, "The Cyclical Behavior of Labor Force Participation," Federal Reserve Bank of Kansas City Working Papers, August 30, 2018.

79. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

80. Looking at the trend in declining participation among prime-age workers prior to 2000, an August 2018 analysis by economists at Brookings showed that men's participation still remained roughly 1 percentage point below the expectations, possibly reflecting additional room for cyclical recovery. Prime-age men and women both participated more between 2015 and 2018 as the labor market improved. See: Breitwieser et al., "The Recent Rebound in Prime-Age Labor Force Participation."

81. Heidi Shierholz, "Labor Force Participation: Cyclical Versus Structural Changes since the Start of the Great Recession," Economic Policy Institute Issue Brief #333, May 24, 2012; "The Labor Force Participation Rate since 2007: Causes and Policy Implications," CEA, July 2014. Nor should the prerecession trend be necessarily viewed as a ceiling for cyclical improvements since it remains unclear whether labor force participation had fully recovered from the effect of the 2001 recession prior to the Great Recession.

82. Breitwieser et al., "The Recent Rebound in Prime-Age Labor Force Participation."

83. Bauer et al., "Is the Continued Rise of Older Americans in the Workforce Necessary for Future Growth?"; Julie Hotchkiss, "Changes in the Aggregate Labor Force Participation Rate," *Federal Reserve Bank of Atlanta Economic Review* 94, no. 4, 2009. Analysis by Hotchkiss suggests that changes in population share (i.e., the share of the male or female workforce ages 25 to 54) accounted for as much as 77 percent and as little as 20 percent of the change in total labor force participation in any given five-year period between 1950 and 2005, leaving other factors, such as behavioral changes, to explain the remainder. Similarly, economists Abraham and Kearney find declines in employment within age groups as important as population aging overall for explaining the declining share of working-age people who are working for the period 1999–2016. See: Katharine Abraham and Melissa Kearney, "Explaining the Decline in the US Employment-to-Population Ratio: A Review of the Evidence," NBER Working Paper No. 24333, February 8, 2018.

84. Andreas Hornstein, Marianna Kudlyak, and Annemarie Schweinert, "The Labor Force Participation Rate Trend and Its Projections," Federal Reserve Bank of San Francisco Economic Letter, November 19, 2018; Joshua Montes, "CBO's Projection of Labor Force Participation Rates," Congressional Budget Office Working Paper No. 2018-04, March 2018.

85. For example, see: Didem Tüzemen, "Why Are Prime-Age Men Vanishing from the Labor Force?" Federal Reserve Bank of Kansas City, February 21, 2018; Scott Winship, "Declining Prime-Age Male Labor Force Participation: Why Demand- and Health-Based Explanations Are Inadequate," Mercatus Working Paper, 2017.

86. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation." Since men are more likely to work at age 30 than age 25, aging would have been expected to contribute to a marginal increase in prime-age labor force participation between the late 1970s and early 1990s as the members of the baby boom cohort began to filter through their prime working ages.

87. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation." For example, men born between 1943 and 1952 had a higher labor force participation rate at age 30 on average than those born between 1953 and 1962 but a lower participation rate than those born between 1933 and 1942.

88. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0." The projected 2018 prime-age labor force is calculated by assuming that participation rates for men in 1970 and women in 2000 at ages 25-29, 30-34, 35-39, 40-44, 45-49, and 50-54 were maintained for respective workers in those same age brackets in 2018.

89. Rebecca Blank, "Tracing the Economic Impact of Cumulative Discrimination," *American Economic Review* 95, no. 2, May 2005, pp. 99-103. Such discrimination or disadvantages can have long-lasting or cumulative economic effects over time for some individuals or families, and may even help reinforce or perpetuate those effects. For purposes of a simple example, reduced economic opportunities due to discrimination may affect a family's take-home pay, which may in turn affect where they can afford to live, which schools their children attend, and the quality of health care services their children receive, with impacts that potentially snowball into the next generation.

90. Sarah Jane Glynn, "Gender Wage Inequality: What We Know and How We Can Fix It," Washington Center for Equitable Growth, April 2018.

91. "NCWIT Scorecard: The Status of Women in Computing," National Center for Women & Information Technology, May 2019.

92. Howard Garrison, "Underrepresentation by Race–Ethnicity across Stages of US Science and Engineering Education," *CBE—Life Sciences Education* 12, Fall 2013, pp. 357-363; Donna Ginther, Walter Schaffer, Joshua Schnell, Beth Masimore, Faye Liu, Laurel Haak, and Raynard Kington, "Race, Ethnicity, and NIH Research Awards," *Science* 333, no. 6045, August 19, 2011, pp. 1015-1019; "Impact of NIH Research," US Department of Health and Human Services, National Institutes of Health, accessed on July 31, 2019.

93. Amanda Bayer and Cecilia Elena Rouse, "Diversity in the Economics Profession: A New Attack on an Old Problem," *Journal of Economic Perspectives* 30, no. 4, Fall 2016, pp. 221-242; Marcella Alsan, Owen Garrick, and Grant Graziani, "Does Diversity Matter for Health? Experimental Evidence from Oakland," NBER Working Paper No. 24787, August 2019. While

roughly 13 percent of the US population identifies as black, roughly 4 percent of physicians and 7 percent of recent medical school graduates do.

94. "Filling the Pipeline: Advancing More Women into the C-Suite and on Corporate Boards," CED, April 2019.

95. For example, see: Marianne Bertrand and Sendhil Mullainathan, "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination," *American Economic Review* 94, no. 4, September 2004, pp. 991-1013; Victoria Esses, Caroline Bennett-AbuAyyash, and Natalia Lapshina, "How Discrimination against Ethnic and Religious Minorities Contributes to the Underutilization of Immigrants' Skills," *Policy Insights from the Behavioral and Brain Sciences* 1, no. 1, 2014, pp. 55-62; Devah Pager, "The Mark of a Criminal Record," *American Journal of Sociology* 108, no. 5, March 2003, pp. 937-975; Mason Ameri, Lisa Schur, Meera Adya, Scott Bentley, Patrick McKay, and Douglas Kruse, "The Disability Employment Puzzle: A Field Experiment on Employer Hiring Behavior," NBER Working Paper No. 21560, September 2015; Cook and Gerson, "The Implications of US Gender and Racial Disparities in Income."

96. While not all advanced economies saw increased female participation on the same schedule or aged at the same speed, variation in the timing and pace of demographic transitions between advanced economies only partially explains the difference in labor force participation trends. See: Francesco Grigoli, Zsoka Koczan, and Petia Topalova, "Drivers of Labor Force Participation in Advanced Economies: Macro and Micro Evidence," IMF Working Paper No. 18/150, June 25, 2018.

97. "LFS by Sex and Age–Labour Force Participation Rate," OECD, accessed on June 3, 2019.

98. OECD, "LFS by Sex and Age," 2019. The others were the Slovak Republic, Denmark, Estonia, and Finland. Only Estonia had a steeper decline in participation rates than the US during this period.

99. Daly et al., "Why Aren't US Workers Working?"

100. OECD, "LFS by Sex and Age," 2019.

101. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

102. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

103. David Autor, "The Polarization of Job Opportunities in the US Labor Market: Implications for Employment and Earnings," The Center for American Progress and The Hamilton Project, April 2010. One theory of polarization is that automation has significantly lowered demand for so-called "middle-skill" labor, replacing relatively well-paying routinized jobs that could be performed by workers without high levels of education, while increasing the demand for "high-skill" jobs involving management or creative problem solving. Some displaced middle-wage workers get higher-paying "high-skill" jobs, but most are forced to compete with workers with less education for lower-paying service jobs. Some workers exit the labor force rather than settle for lower-paying jobs, but the increased supply of available labor from those who do choose to compete for lower-wage, lower-education-requirement jobs reduces job prospects and wages for the less-educated segment of the labor pool and leads to additional exits from the labor force. However, preliminary analysis by Hunt and Nunn argues that by looking at changes in individual wages rather than occupational mix, strong patterns of upward mobility from middle wages to high wages and downward mobility from middle wages to low wages typically have occurred at different periods, clouding an automation-driven polarization story. See: Jennifer Hunt and Ryan Nunn, "Why Are Fewer Workers Earning Middle Wages and Is It a Bad Thing?" NBER SI 2017 Labor Studies, July 24, 2017.

104. Tüzemen and van Zandweghe, "The Cyclical Behavior of Labor Force Participation."

105. Abraham and Kearney, "Explaining the Decline in the US Employment-to-Population Ratio."

106. Robert Moffitt, "The Reversal of the Employment-Population Ratio in the 2000s: Facts and Explanations," Brookings Papers on Economic Activity, Fall 2012; CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

107. Winship, "Declining Prime-Age Male Labor Force Participation."

108. CEA, "The Long-Term Decline in Prime-Age Male Labor Force Participation."

109. Winship, "Declining Prime-Age Male Labor Force Participation." Between 10 and 16 percent of the prime-age male nonparticipants who did not report a work-disabling condition as the primary reason for leaving the workforce reported wanting or maybe wanting a job between 1980 and 2014.

110. Nicholas Eberstadt, *Men without Work: America's Invisible Crisis* (West Conshohocken, PA: Templeton Press, 2016), p. 115. Notably, the increase in the incidence of means-tested benefit receipt was larger in households with prime-age men in the labor force.

111. Between 1985 and 2014, the number of federal disability insurance (DI) beneficiaries more than tripled. In 2017, there were nearly 6 million more DI recipients than 30 years prior. However, a significant portion of the increase is likely explained by increases in the number of eligible workers, particularly among women; the aging of the population to ages where DI receipt is more likely; and an increase in Social Security's full retirement age. See: Zhe Li, "Trends in Social Security Disability Insurance Enrollment," Congressional Research Service, November 30, 2018.

112. Though the effects of benefit receipt on work effort could extend beyond the direct recipient to other members of the household.

113. Abraham and Kearney, "Explaining the Decline in the US Employment-to-Population Ratio."

114. Montes, "CBO's Projection of Labor Force Participation Rates." The analysis found that increasing disability insurance caseloads accounted for roughly 12 percent of the net reduction in potential labor force participation rates between 2007 and 2017 but projected that caseload growth would only account for roughly 3 percent of the projected net decline in labor force participation over the next decade. "Potential" labor force participation is an estimate of labor force participation changes had the business cycle remained constant.

115. Krause and Sawhill, "What We Know and Don't Know about Declining Labor Force Participation."

116. Alan Krueger, "Where Have All the Workers Gone? An Inquiry into the Decline of the US Labor Force Participation Rate," Brookings Papers on Economic Activity, August 26, 2017. The most common of the six disabling conditions reported were difficulty walking or climbing stairs and difficulty concentrating, remembering, or making decisions. The other disabling conditions measured are deafness/serious difficulty hearing; blindness/serious difficulty seeing, even when wearing glasses; difficulty dressing or bathing; and difficulty doing errands alone such as visiting

a doctor's office or shopping. Among prime-age men out of the labor force, those without any college education were more likely to report a disabling condition, and roughly half of those without a college education who reported any disabling conditions reported multiple disabling conditions. Krueger found that about a fifth of prime-age males who were not participating in the labor force reported regular opioid painkiller use.

117. Winship, "Declining Prime-Age Male Labor Force Participation."
118. Douglas Webber and Melissa Bjelland, "The Impact of Work-Limiting Disability on Labor Force Participation," *Health Economics* 24, no. 3, March 2015.
119. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0."
120. The share of US residents who were incarcerated quintupled between 1972 and 2007. See: "The Growth of Incarceration in the United States: Exploring Causes and Consequences," National Research Council (Washington, DC: The National Academies Press, 2014).
121. Danielle Kaeble and Mary Cowhig, "Correctional Populations in the United States, 2016," US Department of Justice, Office of Justice Programs, Bureau of Justice Statistics, April 2018; Jennifer Bronson and E. Ann Carson, "Prisoners in 2017," Bureau of Justice Statistics, April 2019.
122. John Schmitt and Kris Warner, "Ex-offenders and the Labor Market," Center for Economic and Policy Research, November 2010. The authors estimate that between 5.4 million and 6.1 million working-age adults were former prisoners in 2008. Other attempts to estimate the population of working-age former prisoners have arrived at similar calculations. See: Cherrie Bucknor and Alan Barber, "The Price We Pay: Economic Costs of Barriers to Employment for Former Prisoners and People Convicted of Felonies," Center for Economic and Policy Research, June 2016.
123. Adam Looney and Nicholas Turner, "Work and Opportunity before and after Incarceration," Brookings, March 2018.
124. Lucius Couloute and Daniel Kopf, "Out of Prison & Out of Work: Unemployment among Formerly Incarcerated People," Prison Policy Initiative, July 2018.
125. Looney and Turner, "Work and Opportunity before and after Incarceration."
126. Michael Mueller-Smith, "The Criminal and Labor Market Impacts of Incarceration," August 18, 2015. Felons with stable earnings in the period prior to an incarceration lasting at least one year saw a 24 percentage point drop in employment rates post-release. A study of employment outcomes of offenders who were diverted from prison also provides suggestive evidence of the strong negative effect incarceration has on employment and earnings. See: Michael Mueller-Smith and Kevin Schnepel, "Diversion in the Criminal Justice System," January 17, 2019.
127. Abraham and Kearney, "Explaining the Decline in the US Employment-to-Population Ratio."
128. Authors' calculations based on "Table A-1. Employment Status of the Civilian Population by Sex and Age," Bureau of Labor Statistics, accessed on August 5, 2019.
129. Juliana Menasce Horowitz, "Americans See Advantages and Challenges in Country's Growing Racial and Ethnic Diversity," Pew Research Center, May 8, 2019. A similar proportion of respondents indicated that racial and ethnic diversity was good for the country. In an earlier 2017 survey, roughly 80 percent of Americans indicated that they viewed racial and ethnic diversity in the workplace as important, although only a third agreed that increasing the supply of potential workers was an important reason to support such diversity. See: Cary Funk and Kim Parker, "Women and Men in STEM Often at Odds over Workplace Equity," Pew Research Center, January 9, 2018.
130. Kim Parker, Juliana Menasce Horowitz, and Ruth Igielnik, "Women and Leadership 2018," Pew Research Center, September 20, 2018.
131. Charles Mitchell, Ilaria Maselli, Rebecca Ray, and Bart van Ark, "C-Suite Challenge™ 2019: The Future-Ready Organization," The Conference Board, January 2019.
132. Mary Young, Charles Mitchell, and Michelle Kan, "Inclusion + Innovation: Leveraging Diversity of Thought to Generate Business Growth," The Conference Board, January 2016. In its literature review, The Conference Board highlights several studies finding that more-diverse groups tend to outperform groups with less diverse perspectives. Similarly, a 2010 paper by Lisa Cook and Chaleampong Kongcharoen found that co-ed patent teams are more successful at commercializing patents than single-sex patent teams. See: Lisa Cook and Chaleampong Kongcharoen, "The Idea Gap in Pink and Black," NBER Working Paper No. 16331, September 2010; Cook and Gerson, "The Implications of US Gender and Racial Disparities in Income."
133. Young et al., "Inclusion + Innovation." Though inclusion and innovation were correlated in The Conference Board global survey of leaders responsible for either innovation or diversity and inclusion at their respective companies, the correlation could be due to the influence of other factors in common, like strong leadership and alignment around company-wide priorities.
134. Nada Eissa and Jeffrey Liebman, "Labor Supply Response to the Earned Income Tax Credit," NBER Working Paper No. 5158, June 1995; Jeffrey Grogger, "The Effects of Time Limits and Other Policy Changes on Welfare Use, Work, and Income among Female-Headed Families," NBER Working Paper No. 8153, March 2001; "The President's Proposal to Expand the Earned Income Tax Credit," Executive Office of the President and the US Department of the Treasury, March 2014; Jacob Bastian and Katherine Michelmore, "The Long-Term Impact of the Earned Income Tax Credit on Children's Education and Employment Outcomes," *Journal of Labor Economics* 36, no. 4, October 2018. Eissa and Liebman found that EITC expansions enacted in 1986 likely helped contribute to a nearly 3 percentage point increase in labor force participation for all single women with children between 1984 and 1986 and between 1988 and 1990, while the labor force participation increase among the subset of single mothers most likely to be eligible for EITC was larger. Looking across 1978 to 1999, Grogger found that each $1,000 increase in the maximum EITC benefit contributed to a 3.6 percentage point increase in the labor force participation rate of single mothers eligible for the credit. Citing research by Chetty, Friedman, and Saez, the Executive Office of the President and the Treasury Department calculated that the EITC is responsible for a roughly 10 percent reduction in the nonparticipation rate of parents generally. Notably, many studies find some reduced labor force participation from married women as a result of EITC expansions, though the effect is dwarfed by increases among unmarried parents. Using survey data, Jacob Bastian and Maggie Jones have estimated that every $1,000 increase in the maximum EITC benefit has increased average employment rates for female recipients by 0.6 percentage point. See: Raj Chetty, John Friedman, and Emmanuel Saez, "Using Differences in Knowledge across Neighborhoods to Uncover the Impacts of the EITC on Earnings," *American Economic Review* 103, no. 7, December 2013, pp. 2683-2721.

135. Gene Falk and Margot Crandall-Hollick, "The Earned Income Tax Credit (EITC): An Overview," Congressional Research Service, April 18, 2018.

136. EOP and US Treasury, "The President's Proposal to Expand the Earned Income Tax Credit," March 2014; "Expanding Opportunity in America," House Budget Committee, July 24, 2014.

137. Glenn Hubbard, "Turn the Populism of 2016 into an Honest Revolution in Washington," Quartz, June 30, 2016; Jason Furman and Phillip Swagel, "Economic Strategy for Higher Wages and Expanded Labor Participation," The Aspen Institute Economic Strategy Group, February 4, 2019.

138. "General Explanations of the Administration's Fiscal Year 2017 Revenue Proposals," US Department of the Treasury, February 2016. Adults ages 21 to 24 who are enrolled in full-time education and are themselves still claimed as dependents for tax purposes would have remained ineligible for the EITC benefit. In addition to lowering the age of eligibility, President Obama and Speaker Ryan proposed to increase the maximum credit from roughly $500 to $1,000 and make it available to adults with somewhat higher incomes. In 2017, President Obama's proposal would have increased the income level at which the benefit starts to phase out from roughly $8,400 to $11,500, and would have extended the income at which the benefit completely phases out from $18,000 to nearly $24,000.

139. EOP and US Treasury, "The President's Proposal to Expand the Earned Income Tax Credit," March 2014.

140. Douglas Holtz-Eakin, Ben Gitis, and Curtis Arndt, "The Work and Safety Net Effects of Expanding the Childless EITC," American Action Forum, February 2, 2016.

141. Cynthia Miller, Lawrence Katz, Gilda Azurdia, Adam Isen, Caroline Schultz, and Kali Aloisi, "Boosting the Earned Income Tax Credit for Singles: Final Impact Findings from the Paycheck Plus Demonstration in New York City," MDRC, September 2018. The program, called Paycheck Plus, provided up to $2,000 for single adults without dependent children who earned less than $29,900. Current EITC rules for noncustodial adults provide a maximum benefit of up to $519 for unmarried adults with less than $15,270 in earnings.

142. Ian Mulheirn and Mario Pisani, "Working Tax Credit and Labour Supply: Treasury Economic Working Paper No.3," HM Treasury, March 2008.

143. For example, in 2005, CED proposed replacing the existing EITC, personal exemptions, standard deduction, and child credit with a flat refundable per-child tax credit and a refundable earnings credit that would have been more generous for most low-income families, in the context of a sweeping personal tax reform proposal. Examples of CED's past proposals related to EITC include: "Welfare Reform and Beyond: Making Work *Work*," 2000; "A New Tax Framework: A Blueprint for Averting a Fiscal Crisis," 2005; "The Federal Budget Deficit and the Public Debt: Why and How to Deal with a Lurking Problem," 2016.

144. House Budget Committee, "Expanding Opportunity in America," July 2014; Hilary Hoynes and Ankur Patel, "Effective Policy for Reducing Poverty and Inequality? The Earned Income Tax Credit and the Distribution of Income," November 2016.

145. The EITC is a refundable tax credit, meaning that beneficiaries whose benefits exceed their tax liabilities receive the difference as a cash payout.

146. Falk and Crandall-Hollick, "The Earned Income Tax Credit."

147. "2019 EITC Income Limits, Maximum Credit Amounts and Tax Law Updates," US Treasury, Internal Revenue Service (IRS), accessed on April 24, 2019.

148. "Policy Basics: The Earned Income Tax Program," Center on Budget and Policy Priorities, accessed on April 24, 2019.

149. Falk and Crandall-Hollick, "The Earned Income Tax Credit."

150. Jacob Bastian and Maggie Jones, "Do EITC Expansions Pay for Themselves? Effects on Tax Revenue and Public Assistance Spending," August 22, 2019. Bastian and Jones estimate that roughly 83 percent of the current cost of the EITC benefit is recouped by the government at some level (federal, state, or local). Even if this is true of current EITC benefit spending, the extent to which an *additional* dollar spent on expanding EITC would be recouped is unknown and would depend in part on who benefited.

151. Robert Rector and Jamie Bryan Hall, "Reforming the Earned Income Tax Credit and Additional Child Tax Credit to End Waste, Fraud, and Abuse and Strengthen Marriage," *Backgrounder*, The Heritage Foundation, November 16, 2016.

152. "Agency Financial Report, Fiscal Year 2018," US Treasury, November 2018.

153. A residency error would stem from an inability or failure to document that a child lived at least half of the calendar year with the tax filer. A relationship error would stem from an inability or failure to document that a claimed child is either the tax filer's son, daughter, stepchild, foster child, sibling, stepsibling, half-sibling, or a descendant of those relationships (like a grandchild, niece, or grandniece).

154. James Pethokoukis, "Inequality and Poverty in the US: A Long-Read Q&A with Bruce Meyer," AEIdeas, January 2, 2018.

155. Nina Olson, "Written Statement of Nina E. Olson, National Taxpayer Advocate, Hearing on Internal Revenue Oversight Before the Subcommittee on Financial Services and General Government, Committee on Appropriations," February 26, 2014.

156. Robert Greenstein, John Wancheck, and Chuck Marr, "Reducing Overpayments in the Earned Income Tax Credit," Center on Budget and Policy Priorities, January 31, 2019.

157. "As Holidays Approach, IRS Reminds Taxpayers of Refund Delays in 2017," IRS, November 22, 2016.

158. "Expanding Work Requirements in Non-Cash Welfare Programs," CEA, July 2018. Noting that adults without custodial children are eligible for a much less generous EITC benefit, the Council of Economic Advisers recognized that "EITC expansions [for adults without children] may be effective in increasing employment."

159. CEA, "Expanding Work Requirements in Non-Cash Welfare Programs."

160. Isabel Sawhill and Ron Haskins, "Welfare Reform and the Work Support System," Brookings, March 2, 2002. Additionally, food stamp (now SNAP) benefit receipt became time limited or contingent on work or training for adults ages 18 to 49 without a disability or dependents, and more of the federal resources available for cash welfare benefits were used for work supports like childcare at the discretion of state governments.

161. Robert Moffitt and Stephanie Garlow, "Did Welfare Reform Increase Employment and Reduce Poverty?" *Pathways*, Stanford Center on Poverty & Inequality, Winter 2018.

162. CEA, "Expanding Work Requirements in Non-Cash Welfare Programs."

163. Ed Dolan, "Do We Really Want Expanded Work Requirements in Non-Cash Welfare Programs?" Niskanen Center, July 23, 2018.

164. Lauren Bauer, Diane Schanzenbach, and Jay Shambaugh, "Work Requirements and Safety Net Programs," The Hamilton Project, October 2018.

165. Dolan, "Do We Really Want Expanded Work Requirements in Non-Cash Welfare Programs?"

166. Sarah Brauner and Pamela Loprest, "Where Are They Now? What States' Studies of People Who Left Welfare Tell Us," Urban Institute, May 1999.

167. "History of Changes to the Minimum Wage Law," US Department of Labor, Wage and Hour Division, accessed April 18, 2019. Employers are required to pay most employees at least the minimum wage of $7.25. However, employers are only required to pay qualifying "tipped employees" $2.13 per hour if those employees earn at least the hourly minimum wage when tips are counted. Additionally, employers may pay a lower minimum wage of $4.25 per hour to new employees under the age of 20 during their first 90 days of employment.

168. "Annual Update of the HHS Poverty Guidelines," US Department of Health and Human Services, Office of the Secretary, *Federal Register* 84, no. 22, February 1, 2019. Few minimum-wage workers work full time in the same job for an extended period. For example, in a study of minimum-wage workers in Seattle, only 1 in 3 held the same job for at least a year. In part because of the higher likelihood of separation and in part because so many work part time, only 7 percent of minimum-wage earners in the study worked an average of 40 hours a week over the course of a 13-week period. See: Ekaterina Jardim, Mark Long, Robert Plotnick, Emma van Inwegen, Jacob Vigdor, and Hilary Wething, "Minimum Wage Increases and Individual Employment Trajectories," NBER Working Paper No. 25182, October 2018.

169. "Income Percentile Calculator for the United States in 2018," DQYDJ, accessed on April 29, 2019.

170. Authors' calculations based on year-ending federal minimum-wage values adjusted by the Consumer Price Index for All Urban Consumers Research Series (CPI-U-RS), which attempts to provide a consistent measure of inflation from 1977 to 2018 using current Bureau of Labor Statistics methods. For years prior to 1977, the US Census Bureau method of derivation was used (applying the 1977 ratio of CPI-U to CPI-U-RS to prior years).

171. Alternatively, using the Bureau of Economic Analysis's Personal Consumption Expenditures Deflator (PCE) would have resulted in a peak minimum-wage value of roughly $9 per hour, while using the Bureau of Labor Statistics unadjusted Consumer Price Index for All Urban Consumers (CPI-U) would have resulted in a peak value approaching $12 per hour. The best measure of inflation to compare the historical purchasing power of the minimum wage over time is debatable, with no method obviously the most appropriate. For a discussion of the differences between the PCE and CPI-U, see: Noah Johnson, "A Comparison of PCE and CPI: Methodological Differences in US Inflation Calculation and Their Implications," Bureau of Labor Statistics, November 2017.

172. "Minimum Relative to Average Wages of Full-Time Workers," OECD.Stat, accessed on April 23, 2019.

173. Authors' calculations based on "Weekly and Hourly Earnings Data from the Current Population Survey: Table 4. Median Usual Weekly Earnings (Second Quartile), Employed Full Time, Wage and Salary Workers (LEU0252881500)," Bureau of Labor Statistics, accessed on April 24, 2019, and "Federal Minimum Hourly Wage for Nonfarm Workers for the United States, Dollars per Hour, Monthly, Not Seasonally Adjusted," US Department of Labor, retrieved from FRED, April 24, 2019.

174. "Characteristics of Minimum Wage Workers, 2018," Bureau of Labor Statistics, BLS Report 1078, March 2019. Wage and salary workers include all "workers age 16 and older who receive wages, salaries, commissions, tips, payments in kind, or piece rates on their sole or principal job" in both public and private sectors, but excludes the self-employed.

175. "Employed: Percent of Hourly Paid Workers: Paid Total at or below Prevailing Federal Minimum Wage: Wage and Salary Workers: 16 Years and Over," Bureau of Labor Statistics, accessed from FRED, April 23, 2019.

176. Authors' calculations based on "Annual Estimates of the Resident Population for Selected Age Groups by Sex for the United States, States, Counties and Puerto Rico Commonwealth and Municipios: April 1, 2010 to July 1, 2017," US Census Bureau, Population Division, June 2018.

177. Ernie Tedeschi, "Americans Are Seeing Highest Minimum Wage in History (Without Federal Help)," *New York Times*, April 24, 2019.

178. Tedeschi, "Americans Are Seeing Highest Minimum Wage in History." The high average minimum wage is particularly driven by California (currently $12 and scheduled to rise to $15 by 2022), New York City (currently $15 for large employers and scheduled to rise to $15 for all employers by 2020), and New York state (currently $11.80 outside of NYC, Long Island, and Westchester, but scheduled to annually increase until reaching $15).

179. For example, while both Mississippi and Virginia currently have minimum-wage levels at the national floor of $7.25 per hour, in May 2018, the median hourly wage was $14.70 in Mississippi and $19.63 in Virginia. The effect of a large increase in the national minimum wage would likely be very different across the two states. See: "May 2018 State Occupational Employment and Wage Estimates," Bureau of Labor Statistics, accessed on April 29, 2019.

180. Jonathan Meer and Jeremy West, "Effects of the Minimum Wage on Employment Dynamics," Upjohn Institute Working Papers, 2015. "Although it reduces demand for labor by raising the marginal cost of employing a new worker, a higher minimum wage increases the gap between the expected returns to employment relative to unemployment, inducing additional search effort from unemployed workers. By increasing the pool of searching workers (and the intensity of their searching), the minimum wage improves the quality of matches between employers and employees, generating surplus." However, some of the increase in returns to work from higher offered wages may be partially offset by reductions in other forms of offered compensation. See: Jeffrey Clemens, Lisa Kahn, and Jonathan Meer, "The Minimum Wage, Fringe Benefits, and Worker Welfare," NBER Working Paper No. 24635, May 2018.

181. David Neumark, "Employment Effects of Minimum Wages," IZA World of Labor, December 2018. Two theories for how minimum-wage increases can reduce employment are 1) by raising the price to produce goods and services, which reduces demand, leading companies to need fewer workers, and 2) by reducing the relative cost of substitutes for minimum-wage labor, leading companies to invest more in technology or higher-wage, higher-productivity workers that can reduce the need for minimum-wage workers.

182. Jardim et al., "Minimum Wage Increases and Individual Employment Trajectories"; Meers and West, "Effects of the Minimum Wage on Employment Dynamics."

183. "Labor Force Statistics from the Current Population Survey: Wage and Salary Workers Paid Hourly Rates with Earnings at or below the Prevailing Federal Minimum Wage by Selected Characteristics," Bureau of Labor Statistics, accessed April 23, 2019.

184. Doruk Cengiz, Arindrajit Dube, Attila Lindner, and Ben Zipperer, "The Effect of Minimum Wages on Low-Wage Jobs," April 1, 2019; Neumark, "Employment Effects of Minimum Wages." Even if there are not large overall effects, it is possible that there will be notable effects for different types of workers. For instance, a 2018 analysis found that increases in the minimum wage had a small positive employment effect on workers ages 62 to 70, while workers in their 50s worked fewer hours but maintained their same earnings. See: Mark Borgschulte and Heepyung Cho, "Minimum Wages and Retirement," IZA Institute of Labor Economics Discussion Paper No. 11728, August 2018.

185. Michael Strain, "A $15 Minimum Wage Will Harm Workers," AEI, February 7, 2019; "The Effects on Employment and Family Income of Increasing the Federal Minimum Wage," Congressional Budget Office, July 2019. The CBO estimated that moving to a national minimum wage of $15 by 2025, and continuing to increase the minimum wage annually based on inflation thereafter, would likely lead to between 0 and 3.7 million fewer employed workers than if the minimum wage remained at $7.25. While lower employment is projected, CBO estimates that up to 27 million workers would see higher average weekly earnings as a result of such an increase.

186. Eleanor Krause and Isabel Sawhill, "What We Know and Don't Know about Declining Labor Force Participation: A Review," Brookings, May 2017. The other contributors Krause and Sawhill describe as among the top three are "too many years of slack labor markets, and high rates of incarceration (in combination with employer reluctance to hire those with a criminal record)."

187. Pascual Restrepo, "Skill Mismatch and Structural Unemployment," Massachusetts Institute of Technology, December 23, 2015. One sign of growing employee-employer mismatch could be that the share of small-business owners responding to the National Federation of Independent Business survey who considered "quality of labor" to be the single most important problem business faces had reached historically high levels by the end of 2018. While a tight labor market with low unemployment is likely the largest driver of that trend, a greater degree of mismatch between employee skills and employer needs could be a contributor. Additionally, the average duration of an unemployment spell in 2018 remains elevated above pre–Great Recession levels, which could be due to remaining slack in the labor market or continued scarring from the Great Recession, or could reflect an increased level of difficulty for workers and employers seeking a match. Even prior to the recession, the median duration of an unemployment spell in the US had been trending higher, which one study by Federal Reserve Bank of New York employees attributed primarily to increasing wage inequality among otherwise similar workers. In that circumstance, which could be the result of technological change leading some workers to be more productive and better compensated even while the overall number of available jobs at that wage-skill level shrink, unemployed workers who see the possibility of attaining a good-paying job may be more likely to pass on lower-paying jobs. See: Gad Levanon and Frank Steemers, "Blue-Collar Worker Shortages: Navigating a Business Environment of Higher Labor Costs," The Conference Board, December 2018; Ryan Nunn, Jana Parsons, and Jay Shambaugh, "How Difficult Is It to Find a Job?" The Hamilton Project, May 2, 2019; Toshihiko Mukoyama and Ayşegül Şahin, "Why Did the Average Duration of Unemployment Become So Much Longer?" *Federal Reserve Bank of New York Staff Reports*, no. 194, September 2004.

188. After an involuntary job loss, adults returning to work for a different employer typically suffer large earning losses due to a combination of reduced pay and a higher likelihood of additional job losses for an extended period after their return. For a survey of the effects of involuntary employment on subsequent work and wages, see: Kevin Hallock, Michael Strain, and Douglas Webber, "Job Loss and Effects on Firms and Workers," Cornell University, June 9, 2011.

189. On average, the longer a worker is unemployed, the less likely it becomes that he or she will find a job soon, though this is likely due in part to selection bias. See: Nunn et al., "How Difficult Is It to Find a Job?"

190. Restrepo, "Skill Mismatch and Structural Unemployment."

191. Employers could be expected to address a labor shortage through a variety of approaches that increase prices, including increased training to create more workers with the desired skills from the available pool of labor and increased pay to attract a wider range of potentially qualified candidates, so long as it is more profit-enhancing than options that may reduce employment within that particular establishment, including increased automation or forgoing a line of business.

192. Debates about the "optimal" design for unemployment insurance benefits often center around this same tension. An unemployment benefit that is larger or lasts longer allows an unemployed worker to spend longer out of the workforce looking for a better job. The evidence on whether more generous unemployment insurance, leading to longer spells out of the workforce, also leads to a job with higher wages and longer tenure, is mixed. See: Ryan Nunn, Laura Kawano, and Ben Klemens, "Unemployment Insurance and Worker Mobility," Tax Policy Center, February 8, 2018.

193. Dayanand Manoli, Marios Michaelides, and Ankur Patel, "Long-Term Effects of Job-Search Assistance: Experimental Evidence Using Administrative Tax Data," NBER Working Paper No. 24422, March 2018. The program required a subset of randomly assigned unemployment insurance beneficiaries to receive personalized job-counseling services (e.g., occupational skill assessment, résumé assistance, help developing a job-search plan, and/or direct referrals), typically during a single meeting held during the first month of benefit receipt. The low intensity of the services led to an average program cost of around $200 per meeting held.

194. Paul Decker, Robert Olsen, Lance Freeman, and Daniel Klepinger, "Assisting Unemployment Insurance Claimants: The Long-Term Impacts of the Job Search Assistance Demonstration," Mathematica, for US Department of Labor, Employment and Training Administration, February 2000. For instance, a demonstration focused on three different models of job search assistance provided in DC and Florida from 1995 to 1997 found that in most instances, the services reduced the duration of unemployment benefit receipts by an average of half a week. Structured job-search assistance—involving an orientation, testing, a job-search workshop, a one-on-one assessment, and follow-up with staff—appeared to increase quarterly earnings in DC by roughly $200 but did not appear to have any effect in Florida.

195. "Evaluation of the Reemployment Eligibility and Assessment Program," US Department of Labor, Chief Evaluation Office, accessed on May 3, 2019.

196. See: Section 30206 Reemployment Services and Eligibility Assessments of the Bipartisan Budget Act of 2018.

197. Evan Starr, JJ Prescott, and Norman Bishara, "Noncompetes in the US Labor Force," University of Michigan Law & Econ Research Paper No. 18-013, August 30, 2019.

198. Starr et al., "Noncompetes in the US Labor Force."

199. Alan Krueger and Eric Posner, "A Proposal for Protecting Low-Income Workers from Monopsony and Collusion," The Hamilton Project Policy Proposal 2018-05, February 2018.

200. "Rubio, Bipartisan Group of Colleagues Request Study on the Impacts of Non-Compete Agreements on American Workers," US Senate Committee on Small Business & Entrepreneurship, March 7, 2019. For examples of recent legislation, see: S.124 Freedom to Compete Act and S.2782 Workforce Mobility Act of 2018.

201. Boris Bershteyn, Karen Hoffman Lent, Tara Reinhart, and Zachery Siegler, "No-Poach Update: DOJ Seeks to Rein In Franchise Suits," Skadden, Arps, Slate, Meagher & Flom LLP, February 11, 2019. No-poaching agreements between independent firms are illegal. Krueger and Posner opine in "A Proposal for Protecting Low-Income Workers" that the law related to no-poaching agreements within franchises remains less settled. Democrats in the House and Senate introduced legislation to ban such agreements in 2018.

202. Jeff Stein, "7 Fast Food Chains Agree to Drop 'No-Poaching' Clauses," *Washington Post*, July 12, 2018; "Booker, Warren Introduce Bill to Crack Down on Collusive "No Poach" Agreements," February 28, 2018.

203. "The State of Occupational Licensing," National Conference of State Legislatures, October 11, 2017.

204. "Labor Force Statistics from the Current Population Survey: Certification and Licensing Status of the Civilian Noninstitutional Population 16 Years and over by Employment Status, 2018 Annual Averages," Bureau of Labor Statistics, accessed on May 7, 2019. Drawing on data from a number of sources, a 2015 report by the Council of Economic Advisers showed that the share of workers with an occupational license had been increasing since the 1950s. As recently as 2000, less than 20 percent of workers held an occupational license. See: "Occupational Licensing: A Framework for Policymakers," CEA, July 2015.

205. "Labor Force Statistics from the Current Population Survey: Certification and Licensing Status of Employed Persons 16 Years and over by Selected Characteristics, 2018 Annual Averages," Bureau of Labor Statistics, accessed on May 7, 2019.

206. Morris Kleiner, "The Influence of Occupational Licensing and Regulation," IZA World of Labor, October 2017. For example, in a study of dentistry licensing in the 1990s, tougher licensing requirements increased prices but did not improve service quality. See: Morris Kleiner and Robert Kudrle, "Does Regulation Affect Economic Outcomes?: The Case of Dentistry," NBER Working Paper No. 5869, January 1997.

207. CEA, "Occupational Licensing."

208. Morris Kleiner and Evgeny Vorotnikov, "At What Cost? State and National Estimates of the Economic Costs of Occupational Licensing," Institute for Justice, November 2018. The researchers estimate that licensing may cost the economy between 1.8 million and 1.9 million jobs.

209. Michael Archbold, Hollis Hart, and Joseph Minarik, "Smart Regulation: Changing Speed Bumps into Guardrails," CED, 2019.

210. Michelle Cottle, "The Onerous, Arbitrary, Unaccountable World of Occupational Licensing," *Atlantic*, August 13, 2017; C. Jarrett Dieterle and Shoshana Weissmann, "The Licensing Logjam," *National Affairs*, Spring 2018. For example, the Obama administration publicized some of its efforts in a 2016 press release, and President Trump signed legislation that included a provision allowing states to make use of some federal education funds to review overly burdensome license and certification requirements for career and technical education students. See: "Fact Sheet: New Steps to Reduce Unnecessary Occupation Licenses That Are Limiting Worker Mobility and Reducing Wages," White House Office of the Press Secretary, June 17, 2016; H.R.2353 Strengthening Career and Technical Education for the 21st Century Act.

211. National Conference of State Legislatures, "The State of Occupational Licensing."

212. Daniel Vock, "Arizona Becomes the First to Recognize Out-of-State Job Licenses," Governing, April 5, 2019.

213. "CPS Historical Migration/Geographical Mobility Tables," US Census Bureau, Current Population Survey, 1948-2018, accessed on May 6, 2019. Following a relatively steady decline, the mover rate within the US in 2017-2018 (9.8 percent) was less than half of the 1985 rate. Even with population growth, fewer Americans were estimated to have moved to a different residence in the US in 2017-2018 than any year since 1956-1957.

214. For example, using a "vitality index" of their own design to measure the economic and social well-being of counties, Hamilton Project researchers found little recent migration from "low-vitality" counties to "high-vitality" counties. Similarly, a 2014 study found that Americans were significantly less likely to switch employers than in past years, with quarterly worker reallocation rates, the sum of hires and separations divided by total employment, falling by more than a quarter between 1999 and 2010. See: Ryan Nunn, Jana Parsons, and Jay Shambaugh, "Americans Aren't Moving to Economic Opportunity," The Hamilton Project, November 19, 2018; Steven Davis and John Haltiwanger, "Labor Market Fluidity and Economic Performance," NBER Working Paper 20479, September 2014.

215. Mai Dao, Davide Furceri, and Prakash Loungani, "Regional Labor Market Adjustment in the United States: Trend and Cycle," *The Review of Economics and Statistics* 99, no. 2, May 2017, pp. 243-257. Over the period of the US's declining geographic mobility, most advanced economies have seen stable or increasing mobility, but the US labor market remains relatively more mobile than most of its international competitors. See: Raven Molloy, Christopher Smith, and Abigail Wozniak, "Internal Migration in the United States," *Journal of Economic Perspectives* 25, no. 3, Summer 2011, pp. 173-196.

216. Raven Molloy, Riccardo Trezzi, Christopher Smith, and Abigail Wozniak, "Understanding Declining Fluidity in the US Labor Market," Brookings Papers on Economic Activity, Spring 2016. Molloy et al. explore a number of potential contributors to declining geographical mobility, including the aging of the American workforce, an increase in the average age of firms, the

possibility of better employee-employer matching, a reduction in the returns from switching employers, and declines in social capital/trust, concluding that the trend is not easily or fully explained by existing data. Recent work by David Autor has examined the declining urban wage premium for "middle-skill" jobs as a possible explanation for why noncollege workers may not be as likely to move as in the past. See: David Autor, "Work of the Past, Work of the Future," *AEA Papers and Proceedings* 109, May 2019, pp. 1-32.

217. Jay Shambaugh, Ryan Nunn, and Patrick Liu, "How Declining Dynamism Affects Wages," The Hamilton Project, February 2018.

218. Marco Caliendo, Steffan Künn, and Robert Mahlstedt, "The Return to Labor Market Mobility: An Evaluation of Relocation Assistance for the Unemployed," IZA Institute for the Study of Labor Discussion Paper No. 9183, July 2015. The researchers found that new workers receiving a moving assistance subsidy outperformed new workers who did not receive the subsidy, receiving significantly (25 percent) higher starting wages in their first month of work, having a 24 percentage point greater likelihood that they were still employed after the first two years of a new job, and facing a higher probability of being employed over the long run. Additionally, participants who moved ended up higher in the wage distribution of their new location compared with their previous location, suggesting positive upward mobility. Potential effect sizes should be interpreted with caution since Americans are much more mobile on average than Germans to begin with.

219. Brianna Briggs and Peter Kuhn, "Paying for the Relocation of Welfare Recipients: Evidence from the Kentucky Relocation Assistance Program," University of Kentucky Center for Poverty Research, June 2008. Starting in 1998, the Kentucky Relocation Assistance Program offered up to $900 in relocation expenses to welfare recipients who accepted a job offer or secured employment within 90 days of the request for aid. To be eligible, the job had to be 10 or more miles from a family's current home and offer at least 30 hours per week at the minimum wage.

220. Marco Caliendo, Steffan Künn, and Robert Mahlstedt, "Mobility Assistance Programmes for Unemployed Workers, Job Search Behaviour and Labour Market Outcomes," IZA Institute of Labor Economics Discussion Paper No. 11169, November 2017. In the study, unemployed workers eligible for mobility assistance applied to more-distant jobs but did not apply to more jobs compared with those who didn't receive the same level of assistance. The finding is important in suggesting that mobility subsidies help to motivate more geographically disparate searches, rather than primarily subsidizing workers who would have moved anyway.

221. Raj Chetty and Nathaniel Hendren, "The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects," *Quarterly Journal of Economics* 133, no. 3, 2018, pp.1107-1162. After a move, a child's expected income increases or decreases by 4 percent per year, through at least age 23, toward the mean expected income of residents who have consistently lived in their new neighborhood. To illustrate this effect, if a child's family moved from a neighborhood where permanent residents have an average annual expected income of $25,000 to a neighborhood with an average annual expected income of $50,000 at age nine, the child would spend 14 years "exposed" to the new neighborhood, and therefore would have an average annual expected income of roughly $39,000 (14 years * 4 percent = 56 percent of the difference between average expected earnings of permanent residents in the original neighborhood and the new one, or +$14,000, in this hypothetical example).

222. Emi Nakamura, Jósef Sigurdsson, and Jón Steinsson, "The Gift of Moving: Intergenerational Consequences of a Mobility Shock," NBER Working Paper 22392, January 2019. The researchers studied the earnings outcomes of residents of a relatively high-income town where a significant portion of houses were destroyed as a result of a volcanic event. Among the people permanently moving away from town, those younger than 25 had significantly higher expected education and earnings, and those over 25 were made slightly worse off than similar residents who remained behind, leading the researchers to conclude "the gains to moving may be very large for those badly matched to the location they happened to be born in, even if differences in average income are small."

223. Danny Yagan, "Employment 'Hysteresis' from the Great Recession," NBER Working Paper No. 23844, August 2018. Yagan finds that each 1 percentage point relative increase in local unemployment between 2007 and 2009 led working-age adults from those areas to be 0.4 percentage point less likely to be employed at all in 2015 compared to similar individuals living elsewhere. Another way that Yagan frames this point is that if severely shocked areas had recovered as well as mildly shocked areas by 2015, such that both areas had the same relationship in terms of relative employment rates as before the Great Recession, an additional 2 million adults would have been employed in 2015.

224. Eric Chyn, "Moved to Opportunity: The Long-Run Effect of Public Housing Demolition on Labor Market Outcomes of Children," *American Economic Review* 108, no. 10, October 2018, pp. 3028-3056.

225. Tatyana Deryugina, Laura Kawano, and Steven Levitt, "The Economic Impact of Hurricane Katrina on Its Victims: Evidence from Individual Tax Returns," *American Economic Journal: Applied Economics* 10, no. 2, April 2018, pp. 202-233.

226. Wage insurance proposals are typically structured as social insurance programs, like unemployment insurance or Social Security Disability Insurance. However, a wage-loss supplement would not necessarily have to be financed by explicit insurance premiums on employers or employees. There are proposals to help bolster the market for privately provided, publicly regulated wage insurance along the lines of a typical insurance product, though those proposals are not discussed in this paper. See: Katherine Lucas McKay, "Bridging the Gap: How Wage Insurance Can Address Unemployment-Related Income Volatility," The Aspen Institute, July 2017.

227. For example, in 2016, then-President Obama proposed a wage insurance proposal with similar parameters to the Alternative Trade Adjustment Assistance demonstration. The proposal would have provided payments to workers equal to up to half of the gap in pay between an old job that they had worked at for at least three years and from which they were laid off, and a new lower-paying job that paid less than $50,000. Wage insurance payments would have been limited to no more than two years and $10,000 total. For example, a worker laid off from a $45,000 a year job who was reemployed making $37,000 would have received monthly payments totaling $8,000 over the next two years (replacing 50 percent of the worker's former salary). A worker laid off from a $60,000 a year job who was reemployed making $45,000 would have received monthly payments equal to $10,000 over the next two years (replacing 33 percent of the worker's former salary). Prior to

the Obama administration's proposal, there had been several wage insurance proposals in recent years. For example, in 2006, as part of a broader restructuring of unemployment insurance, Jeffrey Kling proposed providing a wage insurance benefit for eligible workers following reemployment that would replace up to 25 percent of their reduction in wages, up to a value of $15 per hour, for up to six years. In 2007, Robert LaLonde proposed shifting from the existing trade adjustment assistance model to a "displacement insurance" system that would provide a form of wage insurance. See: "FY 2017 Congressional Budget Justification, Employment and Training Administration, State Unemployment Insurance and Employment Service Operations," US Department of Labor; Jeffrey Kling, "Fundamental Restructuring of Unemployment Insurance: Wage-Loss Insurance and Temporary Earnings Replacement Accounts," The Hamilton Project Discussion Paper 2006-05, September 2006; Robert LaLonde, "The Case for Wage Insurance," Council on Foreign Relations, September 2007.

228. For instance, a modeled analysis of the potential impact of wage insurance conducted in 1995 suggested that it could increase the employment rate of dislocated workers by roughly 1 percentage point but could not rule out that the increase in employment would come at the expense of nondislocated workers. Summarizing the state of research and evaluation, a 2016 report concluded that "little is known about the behavioral impacts of wage supplements on dislocated workers." See: Stephen Wandner, "Wage Insurance as a Policy Option in the United States," Upjohn Institute Working Paper No. 16-250, January 18, 2016; Carl Davidson and Stephen Woodbury, "Wage-Rate Subsidies for Dislocated Workers," Upjohn Institute Working Paper No. 95-31, January 1995.

229. McKay, "Bridging the Gap."

230. Howard Bloom, Saul Schwartz, Susanna Lui-Gurr, and Suk-Won Lee, "Testing a Re-employment Incentive for Displaced Workers: The Earnings Supplement Project," Social Research and Demonstration Corporation, May 1999. The Earnings Supplement Project provided some displaced workers with up to 75 percent of the difference in salary (capped at $13,000 per year) between an older, higher-paying job and a new job at lower wages if they began the new job within six months of their previous layoff. Eligibility for the wage insurance benefit increased the likelihood of full-time reemployment within six months by 4 percentage points but had no meaningful effect at the end of the first year. The evaluation only tracked outcomes for a period of 15 months, so the long-run impacts, if any, are unclear. By the end of the evaluation period, roughly 53 percent of displaced workers who were eligible for a wage insurance benefit were employed full time compared to 52 percent of the displaced workers who were not eligible (the difference was not statistically significant).

231. Wandner, "Wage Insurance as a Policy Option"; Robert Shiller, "How Wage Insurance Could Ease Economic Inequality," *New York Times*, March 11, 2016.

232. The US Department of Labor has already commissioned a report on research design issues around implementing a wage insurance demonstration that could be used to help structure a future pilot. See: Christopher King and Kristie Tingle, "Wage Insurance and Wage Supplements: Final Evaluation Design Report," Ray Marshall Center for the Study of Human Resources, January 2016.

233. For a review of evidence of current skill-driven labor market challenges, see: Peter Cappelli, "Skill Gaps, Skill Shortages and Skill Mismatches: Evidence for the US," NBER Working Paper No. 20382, August 2014. Skills gaps or mismatches are not fundamentally different from other circumstances motivating labor force nonparticipation unless increasing workers' willingness to work does not significantly alter companies' willingness to hire them. For example, on the margin, an EITC expansion could still help to boost labor force participation resulting from a skills gap or mismatch by reducing the price point at which a worker is willing to work. In effect, this should reduce a company's cost of training workers, assuming that an employer thinks that the workers can be trained in the necessary skills and that the employer can provide the necessary training. Similarly, accommodating more workers through family-friendly policies should alter the mix of available skills that potential workers are offering, helping to close gaps.

234. See: David Gardner et al., "A Nation at Risk: The Imperative for Educational Reform," National Commission on Excellence in Education, April 1983. This government report warning of what it perceived to be the failures of the education system of its time remains one of the better-known examples, describing "deficiencies" in American education "at a time when the demand for highly skilled workers in new fields is accelerating rapidly."

235. "The State of American Jobs," Pew Research Center, October 6, 2016. A survey conducted 10 years earlier found a similar share of working Americans who felt that the need for training had grown, potentially indicating a continuing trend or a persistent perception.

236. "Information Technology and the US Workforce: Where Are We and Where Do We Go from Here?" National Academies of Sciences, Engineering, and Medicine, 2017. For example, despite a common emphasis on science, technology, engineering, and math (STEM) skills' importance to future workers in the recent past, research by David Deming suggests that social-skill intensive occupations, including the subset of such occupations that were STEM focused, saw the fastest growth and fastest wage growth in recent decades. By comparison, even jobs that required high levels of math skill but low levels of social skill saw slower growth. See: David Deming, "The Growing Importance of Social Skills in the Labor Market," NBER Working Paper No. 21473, June 2017.

237. "The Future of Jobs Report 2018," World Economic Forum, September 17, 2018.

238. Pew Research Center, "The State of American Jobs."

239. "The Role of Business in Promoting Educational Attainment: A National Imperative," CED, February 2015.

240. "How to Reinvigorate Higher Education for the 21st Century," CED, November 2017; "Apprenticeship in Brief: A Discussion Paper," CED, December 2017; "Building Supports for Successful Transitions Into the Workforce: Community Conversations with Business Leaders & Parents," CED, March 2018; CED, "Improving Noncollege Pathways to Skills and Successful Careers."

241. "Labour Force Participation Rate (Indicator)," OECD, accessed on April 26, 2019. While American men ages 25 to 54 have experienced a sharper labor force participation rate decline then their international peers, dropping 1.8 percentage points more than the OECD average between 2000 and 2016, American women's labor force participation rate declined by 2.4 percentage points at a time when the average gain in an OECD country was 4.6 percentage points. In other words, during the 2000 to 2016 period, American women performed nearly four times worse than men relative to their international peers. However, in terms of relative ranking, men and women performed similarly. In 2016, American prime-age women ranked 31st out of 36

OECD countries, having dropped 14 spots since 2000. American prime-age men were ranked lower (34th) and had fallen nearly as many spots (13) since 2000.

242. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0." and "Table 14-10-0118-01: Labour Force Characteristics by Educational Degree, Annual (x 1,000)," Statistics Canada, accessed on July 30, 2019. In 2018, prime-age men with at least a bachelor's degree had average participation rates of roughly 94 percent in both the US and Canada.

243. To the extent that the US has faced broadly similar changes in technology, automation, and global competition as other OECD countries, those are unlikely to be drivers of the relative change in participation except to the extent that women in the US economy were more, or less, susceptible to the impact of those forces than in other OECD countries. Given differences in labor market flexibility, regulation, and work supports affecting labor force attachment, that possibility cannot be easily dismissed.

244. Janet Yellen, "So We All Can Succeed: 125 Years of Women's Participation in the Economy," Board of Governors of the Federal Reserve System, May 5, 2017.

245. "Helping Skilled Workers Return to Work following a Career Break: Tapping Under-Utilized Talent to Grow the Economy," CED, April 2018.

246. Claudia Olivetti and Barbara Petrongolo, "The Economic Consequences of Family Policies: Lessons from a Century of Legislation in High-Income Countries," NBER Working Paper No. 23051, January 2017.

247. "OECD Family Database: PF2.1: Parental Leave Systems," OECD, August 2019. On average, OECD countries provide just over 18 weeks of paid maternity leave around childbirth, with most countries offering payment worth at least 50 percent of previous earnings. Most OECD countries offer some form of paid leave to fathers as well, with an average length of eight weeks, but most commonly for two weeks or fewer. The US is one of six OECD countries to offer no paid leave benefit specific to fathers.

248. "OECD Family Database: PF3.1: Public Spending on Childcare and Early Education," OECD, April 4, 2019.

249. Nina Chien, "Factsheet: Estimates of Child Care Eligibility & Receipt for Fiscal Year 2015," US Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation, January 2019.

250. Daly et al., "Why Aren't US Workers Working?" Canadian and American prime-age female labor force participation rates were roughly equal in 1997 (77 percent), but Canadian participation (83 percent) was roughly 8 percentage points higher than American participation in 2017. During this period, American female labor force participation declined relative to Canada at all levels of educational attainment, though the decline was least pronounced among those with less than a high school diploma. Compositional differences in educational attainment between Canadian and American women can explain some but not most of the gap.

251. Michael Baker and Kevin Milligan, "How Does Job-Protected Maternity Leave Affect Mothers' Employment and Infant Health?" NBER Working Paper No. 11135, February 2005. The Canadian experience is hard to summarize because it involved multiple, different expansions, with different policies and measured effects. However, an initial expansion to a semi-paid leave mandate of 18 weeks increased the rate at which mothers who worked in the year previous to birth returned to their previous jobs after the leave period by an estimated 10 percentage points, while a subsequent increase of the protected leave period to 29-52 weeks led to a job continuity increase of roughly 9 percentage points and an employment increase of roughly 3 percentage points four months after birth (i.e., fewer mothers quit their jobs during the period of newly protected leave).

252. Francine Blau and Lawrence Kahn, "Female Labor Supply: Why Is the United States Falling Behind?" *American Economic Review* 103, no. 3, May 2013, pp. 251-256. Blau and Kahn attempt to estimate the effect of the "average" parental leave and part-time work policies in place in 16 OECD countries: Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, and the UK. Part-time worker protection policies give workers a right to move to a part-time schedule and/or they provide protections from employer discrimination on the basis of being a part-time worker.

253. Olivetti and Petrongolo, "The Economic Consequences of Family Policies." For example, in reviewing the evidence of subsidized childcare's effect on female labor force participation, Olivetti and Petrongolo note that despite findings of large and lasting labor force participation impacts following the introduction of subsidies for childcare for four-year-olds in Quebec in 1997, other studies of pre-K and public childcare expansions in the states of Georgia and Oklahoma, as well as in Norway, France, the Netherlands, and Spain, have found relatively modest evidence of impact. While a number of studies have found positive labor impacts from California's paid leave program, one study found that it likely improved labor force participation for women under the age of 42 but was also associated with an increase in unemployment for the same group, offsetting some of the positive employment effects. The researchers estimate that as many as 75,000 more young women in California were in the labor force as a result of the paid leave policy but that an additional roughly 80,000 women experienced an unemployment spell. See: Tirthatanmoy Das and Solomom Polachek, "Unanticipated Effects of California's Paid Family Leave Program," IZA Institute for the Study of Labor Discussion Paper No. 8023, March 2014.

254. "Paid Family and Medical Leave: An Issue Whose Time Has Come," AEI-Brookings Working Group on Paid Family Leave, May 2017.

255. Goldin and Mitchell, "The New Lifecycle of Women's Employment." Goldin and Mitchell give the example that the entire difference in labor force participation rates for women in their 30s between the US and Denmark, Norway, and Sweden results from the large number of Scandinavian women who count as participating in the labor force while on subsidized leave. However, this does not conflict with findings that the leave policies may be ultimately contributing to higher rates of participation by keeping women formally attached to their employers while on leave.

256. One review of existing literature on childcare's effect on the labor force participation of mothers found that the estimated effect of a 10 percent decline in the cost of childcare in the US was typically associated with an increase in maternal labor force participation among affected mothers of between 0.5 and 2.5 percent. Effects tended to be strongest for single mothers, mothers with young children, and mothers in low-income households. See: Taryn Morrissey, "Child Care and Parent Labor Force Participation: A Review of the Research Literature," *Review of Economics of the Household* 15, no. 1, March 2017, pp. 1-24. A 2016 study of federal childcare subsidies by the US

Department of Health and Human Services estimated that a 10 percent increase in federal and state childcare expenditures through the Child Care and Development Fund, roughly an additional $700 million in fiscal year 2017, would have led to an additional 32,000-33,000 women entering the labor force. See: Kimberly Burgess, Nina Chien, and Maria Enchautegui, "The Effects of Child Care Subsidies on Maternal Labor Force Participation in the United States," US Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation Issue Brief, December 2016.

257. Mike Brewer, Sarah Cattan, Claire Crawford, and Birgitta Rabe, "Free Childcare and Parents' Labour Supply: Is More Better?" Institute for Fiscal Studies Working Paper No. W16/22, November 2016. Mothers whose youngest children were eligible for free full-school-day preschool increased their labor force participation by nearly 6 percentage points compared to mothers whose children only received free part-time preschool.

258. Rasheed Malik, "The Effects of Universal Preschool in Washington, DC," Center for American Progress, September 26, 2018. Malik attributes a 10 percentage point increase in the labor force participation of mothers of young children to the expansion of free universal preschool. Even if selection bias played a significant role in the increase, it is notable that during the period of free preschool expansion, the labor force participation rates of mothers with children under age five converged with that of mothers of children ages six to 11.

259. "Unfinished Business: Continued Investment in Child Care and Early Education Is Critical to Business and America's Future," CED, 2012.

260. "The State of Preschool 2018," The National Institute for Early Education Research, April 2019.

261. Alexandre Mas and Amanda Pallais, "Valuing Alternative Work Arrangements," *American Economic Review* 107, no. 12, December 2017, pp. 3722-3759.

262. From CED, "Welfare Reform and Beyond: Making Work *Work*," 2000: "The American workforce looks strikingly different today than it did even one generation ago. Rising to that challenge is no small matter…However, many struggle with business cultures that, in varying degrees, are not fully prepared to attract and retain diverse workers and use their talents effectively. Policies and processes for personnel selection and assessment, compensation and fringe benefits, social relationships, and even habits of thought, often enhance progress for some types of employees and impede it for others… However, the greatest benefits of improved diversity management accrue to employers through higher employee morale, reduced turnover, more accurate assessments of individuals' performance and potential, and improved teamwork."

263. Kelly Bedard and Maya Rossin-Slater, "The Economic and Social Impacts of Paid Family Leave in California: Report for the California Employment Development Department," October 13, 2016.

264. For example, if a primary earner in a married couple earns $80,000, the first dollar of earnings of the secondary earner is taxed at the marginal rate applied to the 80,001st dollar of earnings of the married couple. Because of the progressivity of the tax code, if the secondary earner had not been married, the marginal rate applied to that same dollar of earnings would have been significantly lower.

265. Melissa Kearney and Lesley Turner, "Giving Secondary Earners a Tax Break: A Proposal to Help Low- and Middle-Income Families," The Hamilton Project, December 2013; Amir El-Sibaie, "Marriage Penalties and Bonuses under the Tax Cuts and Jobs Act," Tax Foundation, February 14, 2018. In the hypothetical example of a primary earner in a family of four making $25,000 annually (or roughly $12 per hour for full-time work), Kearney and Turner estimated in 2013 that the entry of a spouse into similar full-time employment would be expected to increase net childcare costs by $4,000. If gross family income increased from $25,000 to $50,000 as a result of the second earner, SNAP benefit and EITC eligibility would both decline to zero. Taken together with changes in tax liability, that hypothetical family may increase its income net of federal taxes, childcare expenses, and SNAP by roughly $7,000. In other words, the family may only have kept roughly 30 percent of the second earner's income. However, the rewards for working were estimated to be relatively higher for families making less or more money. For example, in families where both full-time earners made either $14.50 per hour or the federal minimum wage of $7.25 per hour, Kearney and Turner estimated they would have kept just under 40 percent of the second earner's income net of taxes, SNAP benefits, and childcare costs. However, the passage of the Tax Cuts and Jobs Act somewhat reduced income tax liability, and the marginal tax rates faced by second earners, for couples like those described above.

266. Scott Greenberg, "Encouraging Work for Secondary Earners: A Possible Area of Bipartisan Compromise," Tax Foundation, February 11, 2016; Leonard Burman, William Gale, John Iselin, James Nunns, Jeffrey Rohaly, Joseph Rosenberg, and Roberton Williams, "An Analysis of Governor Bush's Tax Plan," Tax Policy Center, December 8, 2015. The proposal would have allowed secondary earners in a married couple to file separate tax returns while preserving existing joint tax-filing benefits for the primary earner. In essence, the favorable tax treatment of married couples where one spouse does not work (a generally lower combined income tax burden than two unmarried individuals with the same income profile) would have been extended to all married couples regardless of income distribution between spouses. Because of the progressivity of the existing income tax brackets, the reduction in marginal tax rates would have been sharpest for two-earner families with higher incomes. In the context of his broader tax plan, this proposal was estimated by the Tax Policy Center to reduce revenues by more than $800 billion over 10 years.

267. US Treasury, "General Explanations of the Administration's Fiscal Year 2017 Revenue Proposals"; "Estimated Budget Effects of the Revenue Provisions Contained in the President's Fiscal Year 2017 Budget Proposal," Joint Committee on Taxation, March 24, 2016. The Obama administration proposal would have reduced the marginal tax rate faced by secondary earners on their first $10,000 in earnings by up to 5 percent through the provision of a $500 tax credit. The credit would have been phased out for families making more than $120,000 in total adjusted gross income. The Joint Committee on Taxation estimated that the Obama proposal would have reduced revenues by roughly $86 billion over 10 years.

268. Margot Crandall-Hollick, "The Child Tax Credit: Legislative History," Congressional Research Service, March 1, 2018. Originally enacted in 1997, and expanded in Tax Cuts and Jobs Act of 2017, the Child Tax Credit provides up to $2,000 per eligible child, of which up to $1,400 is refundable for families with certain levels of earnings. For example, a single parent would need to have roughly $9,300 in earnings in order to potentially receive the maximum refundable credit. The credit is means tested but is generally available even to relatively high-income families. The credit begins to phase out for incomes greater than $200,000 for a single filer and $400,000 for joint filers.

269. A paid leave policy also incentivizes, or makes more affordable, parental substitution of formal labor market participation for time spent on care. However, a paid leave policy is more likely to prevent parents who would have otherwise separated from their employers to remain connected to their jobs. In the case of a child tax credit, the benefit may be maxed out by a spouse's work effort, providing no additional incentive for the other parent to remain attached.

270. "Labor Force Statistics from the Current Population Survey: Employment Status of the Civilian Noninstitutional Population by Age, Sex, and Race," Bureau of Labor Statistics, accessed on May 7, 2019.

271. Richard Johnson and Peter Gosselin, "How Secure Is Employment at Older Ages?" Urban Institute, December 2018.

272. "2019 Retirement Confidence Survey: Summary Report," Employment Benefit Research Institute, April 23, 2019.

273. Alicia Munnell and Abigail Walters, "Proposals to Keep Older People in the Labor Force," Brookings, January 2019. For example, an estimated 53 percent of workers ages 30 to 35 have at least an associate degree, compared to 47 percent of workers ages 55 to 60. Between 1976 and 1994, the share of adults ages 25 to 34 who had at least a four-year college degree was relatively unchanged, averaging 24 percent. Authors' calculations based on Flood et al., "Integrated Public Use Microdata Series: Version 6.0."

274. "America's Aging Workforce: Opportunities and Challenges," Special Committee on Aging, US Senate, December 2017.

275. Richard Johnson and Corina Mommaerts, "Age Differences in Job Loss, Job Search, and Reemployment," Urban Institute, January 2011.

276. Johnson and Gosselin, "How Secure Is Employment at Older Ages?" A larger share of workers likely faced the prospect of involuntary separation, with some unknown number opting for retirement instead.

277. Johnson and Mommaerts, "Age Differences in Job Loss, Job Search, and Reemployment."

278. Irina Merkurieva, "Late Career Job Loss and the Decision to Retire," *International Economic Review* 60, no. 1, February 2019.

279. Gary Burtless, "Age Related Health Costs and Job Prospects of Older Workers," October 22, 2017. Several experimental résumé audit studies, which measure the response rates to substantively similar résumés that differ primarily on the basis of the implied or explicit age of the applicant, suggest that age discrimination is prevalent. Burtless estimates that, on average, annual employer-sponsored health insurance costs for workers ages 55 to 64 are roughly $1,800 higher than for workers ages 45 to 54. Determining the contribution of any specific reason for apparent discrimination is difficult. Beyond health care costs, other potentially motivating factors include the perception that older workers command higher salaries, have less relevant or modern skills, are more difficult to train, and are more at risk of retiring before the employer's investment in hiring and training costs can pay dividends, although evidence in support of these perceptions is not very clear.

280. Johnson and Gosselin, "How Secure Is Employment at Older Ages?" An additional 16 percent of retirees report being "partially forced" to retire. Taken together, the share of new retirees who report being retired at least partly due to reasons not of their own choosing increased from 33 percent in 1998 to 55 percent in 2014, with most of the increase occurring in the early 2000s.

281. Peter Gosselin, "If You're Over 50, Chances Are the Decision to Leave a Job Won't be Yours," ProPublica, December 28, 2018.

282. However, the evidence is not conclusive, and a 2009 Supreme Court decision increased the burden of proof for age discrimination claims. In terms of existing enforcement, roughly 1 in 6 Equal Employment Opportunity Commission complaints brought on the basis of age discrimination and resolved between 2007 and 2016 ended with an outcome "favorable to the charging party." A 2013 analysis found that stronger state age discrimination laws were associated with increases in employment when rules for claiming the old-age Social Security benefit changed. However, a 2016 study focused on tighter state age and disability discrimination laws did not find strong evidence that more restrictive laws were effective in boosting employment among older workers generally. See: US Senate, "America's Aging Workforce"; David Neumark and Joanne Song, "Do Stronger Age Discrimination Laws Make Social Security Reforms More Effective?" NBER Working Paper No. 17467, July 2013; David Neumark, Ian Burn, Patrick Button, and Nanneh Chehras, "Do State Laws Protecting Older Workers from Discrimination Laws Reduce Age Discrimination in Hiring? Experimental (and Nonexperimental) Evidence," Michigan Retirement Research Center Working Paper No. 2016-349, September 2016.

283. Munnell and Walters, "Proposals to Keep Older People in the Labor Force."

284. "Adjusting the Prescription: Improving the ACA," CED, January 2017.

285. In theory, reducing dependence on employer-provided health care benefits could reduce labor force participation, as some workers who currently depend on full-time employment for health benefits are able to leave the labor force or reduce work hours. Such a shift could offset, or more than offset, positive employment effects from reduced discrimination. However, research focused on the labor market outcomes following the enactment of the Affordable Care Act did not find negative impacts on labor force participation among the population affected by Medicaid expansion. See: Maria Serakos and Barbara Wolfe, "The ACA: Impacts on Health, Access, and Employment," *Forum Health Econ Policy* 19, no. 2, December 2016, pp. 201-259.

286. Several studies demonstrate that chronic health conditions negatively affect employment outcomes. However, while there is a lot of survey evidence to suggest that recipients of health insurance coverage believe that it promotes their ability to find and hold jobs, there is not a lot of conclusive experimental evidence of that effect. For example, a study of the Oregon Health Insurance Experiment found no negative or positive effects on earnings or employment. See: Brian Ward, "Multiple Chronic Conditions and Labor Force Outcomes: A Population Study of US Adults," *American Journal of Industrial Medicine* 58, no. 9, June 23, 2015, pp. 943-954; Larisa Antonisse and Rachel Garfield, "The Relationship between Work and Health: Findings from a Literature Review," Kaiser Family Foundation Issue Brief, August 7, 2018; Katherine Baicker, Amy Finkelstein, Jae Song, and Sarah Taubman, "The Impact of Medicaid on Labor Force Activity and Program Participation: Evidence from the Oregon Health Insurance Experiment," *American Economic Review* 104, no. 5, May 2014, pp. 322-328.

287. "Exempt Amounts under the Earnings Test," Social Security Administration, accessed on July 3, 2019. For example, in 2019, all earnings above $17,640 will be subject to partial withholding for Social Security retirement benefit claimants who are not at or above normal retirement age for the year.

288. Robert Clark and John Shoven, "Enhancing Work Incentives for Older Workers: Social Security and Medicare Proposals to Reduce Work Disincentives," Brookings, January 31, 2019.

289. Clark and Shoven, "Enhancing Work Incentives for Older Workers."

290. Jonathan Gruber and Peter Orszag, "What to Do about the Social Security Earnings Test?" Center for Retirement Research Issue in Brief, July 1999.

291. Theodore Figinski and David Neumark, "Does Eliminating the Earnings Test Increase the Incidence of Low Income among Older Women?" NBER Working Paper No. 21601, October 2015.

292. Steven Hipple and Laurel Hammond, "Self-Employment in the United States," Bureau of Labor Statistics, March 2016.

293. Eileen Appelbaum, Arne Kalleberg, and Hye Jin Rho, "Nonstandard Work Arrangements and Older Americans, 2005–2017," Economic Policy Institute and the Center for Economic and Policy Research, February 28, 2019.

294. Dunn, "Who Chooses Part-Time Work and Why?" In 2016, over a third of part-time workers over age 65 and roughly 12 percent of workers ages 55 to 64 were working part time for reasons other than the unavailability of full-time work. By comparison, less than 9 percent of part-time workers ages 25 to 54 were doing so for such reasons. "Voluntary" part-time work is determined by survey respondents providing a reason other than the unavailability of full-time work for seeking less than 35 hours of employment. Given this classification, "voluntary" may be a bit of a misnomer since, for example, workers with health limitations or caregiver responsibilities that prevent them from accepting full-time work may not be "choosing" part-time work.

295. "Caregiving in the US 2015," National Alliance for Caregiving and the AARP Public Policy Institute, June 2015. Roughly 34 percent of an estimated 43.5 million adults provided unpaid care to an adult or child in the 12 months prior to being surveyed.

296. Loosely defined, employees are distinguished from independent workers in that employees work where and when required as a condition of employment. Independent workers, including contractors, temporary workers, and freelancers, are presumed to have a greater ability to accept or refuse work assignments or conditions on a task-by-task or contract-by-contract basis. It is important that policy makers are taking steps to ensure that independent workers, including older workers, are electing to take advantage of the benefits that come with that flexibility and are not being improperly classified for the employer's benefit. See: David Weil, "How to Make Employment Fair in an Age of Contracting and Temp Work," Harvard Business Review, March 24, 2017.

297. Sarah Leberstein and Catherine Ruckelshaus, "Independent Contractor vs. Employee: Why Independent Contractor Misclassification Matters and What We Can Do to Stop It," National Employment Law Project, May 2016.

298. James Capretta, "The On-Demand Economy and Worker Benefits and Protections," The Aspen Institute Future of Work Initiative, August 31, 2016. One trade-off is that the firm contracting with an independent contractor does not have the same level of legal immunity if a contractor is injured on the job as with an employee covered by workers' compensation.

299. Gretchen Spreitzer, Lindsey Cameron, and Lyndon Garrett, "Alternative Work Arrangements: Two Images of the New World of Work," *Annual Review of Organizational Psychology and Organizational Behavior* 4, March 2017, pp. 473-499.

300. "S.541 Portable Benefits for Independent Workers Pilot Program Act," February 25, 2019.

301. Capretta, "The On-Demand Economy."

302. For example, MIT economist Jonathan Gruber has proposed exploring the creation of a government-subsidized mandatory contribution/savings vehicle called a security account, which would provide a source of short-term support akin to unemployment insurance or an emergency fund, irrespective of how a worker earns his or her income. See: Jonathan Gruber, "Security Accounts as Short Term Social Insurance and Long Term Savings," The Aspen Institute Future of Work Initiative, August 31, 2016.

303. "Persons with a Disability: Labor Force Characteristics – 2018," Bureau of Labor Statistics, February 26, 2019.

304. Jack Smalligan and Chantel Boyens, "Supporting Employment for Newly Ill and Injured Workers: Evidence on Early Intervention," Urban Institute, January 2019; Smalligan and Boyens, "Supporting Employment for Newly Ill and Injured Workers: Evidence on Early Intervention: Key Findings about Worker Health and Early Intervention Strategies," June 3, 2019.

305. CED, "Improving Noncollege Pathways to Skills and Successful Careers."

306. It is also important to be humble about the degree of accuracy provided by measures that rely on survey responses for relatively sensitive information. A recent working paper found that the unemployment rate and labor force participation rate may be understated by as much as 2 percentage points. Assuming that finding is accurate, the possibility that the degree of bias has not been stable over a long period of time could change interpretations of unemployment and labor force participation trends. See: Hie Joo Ahn and James Hamilton, "Measuring Labor-Force Participation and the Incidence and Duration of Unemployment," FEDS Working Paper No. 2019-035, May 6, 2019.

307. Ylan Mui, "All You Need Are 24 Indicators to Understand the Labor Market," *Washington Post*, August 29, 2014.

308. "The Employment Situation: Table A-15. Alternative Measures of Labor Underutilization," Bureau of Labor Statistics, updated monthly.

309. David Harrison, "For Decoding Labor Market, Unemployment Rate May Not Do the Job," *Wall Street Journal*, July 14, 2019.

310. Craig Hakkio and Jonathan Willis, "Background Information for the KC Fed's Labor Market Conditions Indicators," Federal Reserve Bank of Kansas City, August 27, 2014.

311. "Federal Reserve Board of Governors Labor Market Conditions Index," FRED, accessed on July 12, 2019.

312. For example, since 2008, The Conference Board Employment Trends Index™ has aggregated eight different labor market indicators to try to capture underlying trends and predict where employment is headed. By design, it is a short-term, forward-looking measure that helps forecast employment rather than a tool for evaluating relative labor market health over an extended period.

313. Maximiliano Dvorkin, "Assessing the Health of the Labor Market: The Unemployment Rate vs. Other Indicators," Federal Reserve Bank of St. Louis, January 2015.

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ASIA | +65 6325 3121 | service.ap@conferenceboard.org
EUROPE, MIDDLE EAST, AFRICA | +32 2 675 54 05 | brussels@conferenceboard.org
COMMITTEE FOR ECONOMIC DEVELOPMENT
OF THE CONFERENCE BOARD | +1 202 469 7286 | www.ced.org
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PUBLISHING TEAM
Sara Churchville, Peter Drubin,
Pam Seenaraine, Ray Vella