



# THE LONG-TERM DECLINE IN PRIME-AGE MALE LABOR FORCE PARTICIPATION

June 2016



## Contents

Executive Summary.....	2
Introduction .....	5
I. U.S. Prime-Age Male Labor Force Participation in Historical and International Context .....	7
II. Prime-Age Male Participation by Demographic.....	11
Age and Birth Cohort .....	11
Race and Ethnicity.....	12
Education .....	13
Family, Immigration, and Other Factors .....	14
III. Assessing Explanations of the Decline in Prime-Age Male Participation Rates: Supply, Demand, and Institutions .....	16
Supply-Driven Explanations .....	17
Alternative Sources of Income.....	17
Spousal Income .....	18
Government Transfers Including Disability Insurance.....	19
Alternative Use of Time .....	23
Poverty and the Well-being of Men Not Participating in the Workforce .....	25
Demand-Driven Explanations .....	26
Demand for Less-Skilled Labor.....	27
Wages and Inequality.....	28
Institutional Explanations .....	30
U.S. Labor Market Institutions in International Context.....	30
Incarceration and Criminal Records.....	32
The Changing Pattern of Labor Markets: Rising Cyclicity and Declining Fluidity .....	34
IV. Policies that Can Boost Labor Force Participation for Prime-Age Men .....	37
Supporting Aggregate Demand in the Economy.....	37
Increasing “Connective Tissue” in the Labor Market.....	38
Reforming Federal Tax Provisions.....	39
Creating Flexibility for Workers in the Labor Market .....	40
Other Steps: Raising Educational Attainment, Reforming the Criminal Justice System and Passing Commonsense Immigration Reform.....	41
Reducing Inequality .....	42
V. Conclusion.....	43
References .....	44

## Executive Summary

For more than sixty years, the share of American men between the ages of 25 and 54, or “prime-age men,” in the labor force has been declining. This fall in the prime-age male labor force participation rate, from a peak of 98 percent in 1954 to 88 percent today, is particularly troubling since workers at this age are at their most productive; because of this, the long-run decline has outsized implications for individual well-being as well as for broader economic growth. A large body of evidence has linked joblessness to worse economic prospects in the future, lower overall well-being and happiness, and higher mortality, as well as negative consequences for families and communities.

This report documents the trend of declining prime-age male labor force participation over the last half century in both a historical and international context, examines a number of potential explanations, and discusses the policies President Obama has proposed to address it.

**Labor force participation among prime-age men peaked in 1954 and has fallen steadily since the mid-1960s, a trend that has been sharper in the United States than in other advanced economies.**

- Participation among prime-age men peaked in 1954, declined only slightly until the mid-1960s, and then began to decline in earnest in the decade between 1965 and 1975. Since then, participation has fallen persistently, with sharper declines in recessionary periods that were not fully reversed in the subsequent expansions.
- Since 1965, the prime-age male labor force participation rate has fallen by an average of 0.16 percentage point each year, totaling an 8.3 percentage-point decline as of May 2016.
- The United States has had the second largest decrease in prime-age male participation among members of the Organisation for Economic Co-operation and Development (OECD) since 1990; today, the United States has the third lowest labor force participation rate in this group.

**The fall in participation for prime-age men has largely been concentrated among those with a high school degree or less, and participation rates have declined more steeply for black men.**

- Participation rates by educational attainment, previously quite similar, have diverged since the 1960s. In 1964, 98 percent of prime-age men with a college degree or more participated in the workforce, compared to 97 percent of men with a high school degree or less. In 2015, the rate for college-educated men had fallen slightly to 94 percent while the rate for men with a high school degree or less had plummeted to 83 percent.
- Lower rates of labor force participation have affected all races and ethnicities, although participation has declined most steeply and remains lowest for prime-age black men.
- Participation at nearly every age has fallen for nearly every consecutive cohort of men, meaning that falling participation among prime-age men is largely a function of lower participation at all ages rather than shocks at a particular age or for a particular birth cohort.

**Reductions in labor supply—in other words, prime-age men choosing not to work for a given set of labor market conditions—explain relatively little of the long-run trend.**

- Less than a quarter of prime-age men who are not in the workforce have a working spouse, and that figure has actually *decreased* during the last 50 years.
- The data suggest that public assistance can explain very little of the decline in labor force participation rates for prime-age men:
  - Social Security Disability Insurance (SSDI) receipt has increased by 2 percentage points since 1967 compared to a 7.5 percentage-point decline in prime-age male labor force participation rates over that period. Moreover, not all of this increase in SSDI causally lowers participation. CEA analysis finds that increasing SSDI receipt can explain at most 0.5 percentage point of the decline over this period, under a counterfactual scenario that likely provides an upper-bound estimate.
  - Other government programs, such as Temporary Assistance for Needy Families (TANF) and the Supplemental Nutrition Assistance Program (SNAP) have become increasingly hard to access for those out of work and especially those without children.
- Nearly 36 percent of prime-age men not in the labor force lived in poverty in 2014—casting doubt on the hypothesis that nonparticipation represents a choice enabled by other personal means or income sources.

**In contrast, reductions in the demand for labor, especially for lower-skilled men, appear to be an important component of the decline in prime-age male labor force participation.**

- Participation has fallen particularly steeply for less-educated men at the same time as their wages have dropped relative to more-educated men, consistent with a decline in demand.
  - In recent decades, less-educated Americans have suffered a reduction in their wages relative to other groups. From 1975 until 2014, relative wages for those with a high school degree fell from over 80 percent of the amount earned by workers with at least a college degree to less than 60 percent.
- CEA analysis using State-level wage data suggests that when the returns to work for those at the bottom of the wage distribution are particularly low, more prime-age men choose not to participate in the labor force:
  - The correlation is strongest at the bottom of the wage distribution: at the 10<sup>th</sup> percentile, a \$1,000 increase in annual wages, or a roughly \$0.50 increase in hourly wages for a full-time, full-year worker, is associated with a 0.13 percentage-point increase in the State participation rate for prime-age men.
- This reduction in demand, as reflected in lower wages, could reflect the broader evolution of technology, automation, and globalization in the U.S. economy.

**Institutional factors also appear to be important—and may help explain some of the differences in the U.S. experience both over time and compared to other countries.**

- Conventional economic theory posits that more “flexible” labor markets—where it is easier to hire and fire workers—facilitate matches between employers and individuals who want to work. Yet despite having among the most flexible labor markets in the OECD—with low levels of labor market regulation and employment protections, a low minimum cost of labor, and low rates of collective bargaining coverage—the United States has one of the lowest prime-age male labor force participation rates of OECD member countries.
- U.S. labor markets are much less “supportive” than those in other OECD countries. The United States spends 0.1 percent of GDP on so-called “active labor market policies” such as job-search assistance and job training that help keep unemployed workers connected to the labor force, much less than the OECD average of 0.6 percent of GDP, and less than nearly every other OECD country. The contrast in participation rates reveals a flaw in the standard view about the tradeoffs between flexibility and supportive labor policies.
- Another unique feature of the U.S. experience has been the rapid rise in incarceration, especially affecting low-skilled men.
  - By one estimate, between 6 and 7 percent of the prime-age male population in 2008 was incarcerated at some point in their lives.
  - These men are substantially more likely to experience joblessness after they are released from prison and in many States are legally barred from a significant number of jobs.

**A number of policies proposed by the Administration would help to boost prime-age male labor force participation. These include:**

- Supporting aggregate demand in the economy by creating new job opportunities for less-educated prime-age men, including increased investment in public infrastructure.
- Increasing the “connective tissue” in labor markets via reforming community college and training systems to help place people into in-demand jobs; providing better search assistance as part of the Unemployment Insurance system; giving workers more flexibility to use Unemployment Insurance to integrate into a new job; and insuring workers against earnings losses.
- Reforming the U.S. tax system to make participation in the workforce easier by reducing the effective tax penalty on secondary earners and expanding the Earned Income Tax Credit for individuals without qualifying children.
- Creating greater flexibility for workers by expanding access to paid family leave and paid sick days and by increasing assistance for child care and early-learning programs.
- Systemic reforms, including investing in education and reforming the criminal justice and immigration systems.
- Increasing wages for workers by raising the minimum wage, supporting collective bargaining, and ensuring that workers have a strong voice in the labor market.

## Introduction

The share of men between the ages of 25 and 54 either working or actively seeking work, also known as the prime-age male labor force participation rate, has been falling for more than 60 years and today stands at 88 percent.<sup>1</sup> When individuals are in their prime working years, they are at their most productive; as a result, their labor force participation has outsized implications for broader economic growth, as well as for individuals' earnings prospects and well-being. These prime years are when salaries peak, allowing these men and their families to consume goods and services, invest in their children, and save for their retirement. This decline is one part of a more recent, broader set of trends in labor force participation that include more recent declines for prime-age women, increased participation at older ages, and the aging of the Baby Boom cohort—all of which are examined in an earlier report by the Council of Economic Advisers (CEA 2014a).

Some of the decline in labor force participation among prime-age men may reflect the improvement in their options outside the labor force. For example, some of these men may be happier staying home as caregivers, going to school, or retiring early. As this report discusses, however, much of the long-run decline in prime-age male labor force participation may reflect a concerning trend of reduced labor market opportunities. This includes both difficulty re-entering the labor market following recessions and a perceived or real lack of demand for the skill sets of certain prime-age men. Men who do not participate in the labor force for these more problematic reasons may experience a number of negative consequences that affect not only themselves, but also their families and communities.

While no definitive studies link nonparticipation with broader outcomes, to the extent that nonparticipating individuals have become so discouraged about the prospects of finding work that they do not participate, it is reasonable to expect that many of the documented effects of unemployment beyond the simple loss of income extend to nonparticipation. Unemployment has been found to increase mortality, largely from increased likelihood of suicide and alcohol-related deaths (Eliason and Storrie 2009; Gerdtham and Johannesson 2003). Job loss is connected to higher rates of smoking initiation for non-smokers and increased body weight (Marcus 2014; Black, Devereux, and Salvanes 2015). Unemployment is also associated with lower overall well-being and reported happiness (Winkelmann and Winkelmann 1995; Knabe and Ratzel 2011; Lucas et al. 2001) that can last even after reemployment (Lucas et al. 2004). Lack of employment has been shown to have scarring impacts on entire communities, as these phenomena have been linked to rising crime rates (Raphael and Winter-Ebmer 2001; Gould et al. 2002; Lin 2008). For parents, job loss is associated with negative consequences for children, including lower school performance in the short term and earnings losses and increased reliance on Unemployment Insurance and social assistance in the long term (Rege, Telle and Votruba 2011; Oreopoulos, Page and Stevens 2008).

---

<sup>1</sup> In this report the “labor force participation rate” and other labor market variables are all for men between the ages of 25 and 54 unless explicitly specified otherwise.

It is also important to note that the decision to participate in the labor force is not a static one. When workers are not employed, this has implications for their future employment prospects as well. One of the best predictors of future unemployment is past history of unemployment (Arulampalam et al. 2001; Arulampalam et al. 2000). Absence from the labor force may mean that critical skills atrophy or are never acquired, making work in later years less likely and less productive, ultimately lowering the trajectory of lifetime wages and earnings. Lack of labor force attachment may also sever or inhibit ties to the networks of firms and fellow workers that ease employment transitions and make higher-wage jobs easier to find.

The stark increase in nonparticipation among prime-age men and the potential consequences for these men and their families makes understanding the drivers of this development important to both economists and policymakers. Understanding prime-age male participation trends can also potentially shed light on the recent decline in participation among prime-age women given the converging roles of women and men in and outside of the workplace. After first reviewing trends in prime-age male labor force participation over time and relative to other industrialized nations, this report considers three categories of explanations for the decline in labor force participation among prime-age men.

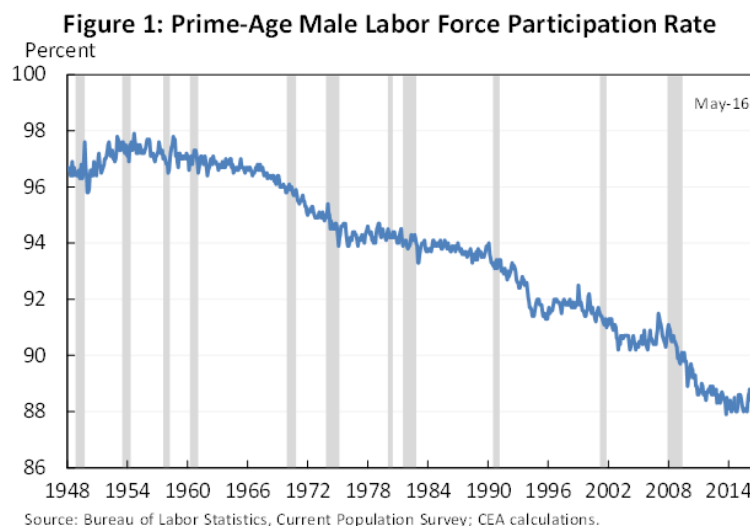
We first examine whether improved options for prime-age men outside the labor force, namely alternative sources of income and alternative uses of time, could be motivating these men to leave the labor force. These supply-driven explanations cannot fully or consistently explain the growth in nonparticipation over time. We then consider whether falling demand for the labor services of the prime-age men leaving the labor force could explain their nonparticipation, drawing on both a significant body of existing research as well as new CEA analysis. Because falling prime-age male participation rates have been accompanied by declining wages among less-educated men, who are most likely to not participate, the available evidence appears more consistent with the decline in demand for the labor services of low-skilled men rather than supply-side explanations being the net driver. Finally, we also consider institutional reasons for the decline in prime-age male labor force participation, drawing on international comparisons to understand the role of policy choices that lead to higher nonparticipation rather than higher unemployment and how the changing structure of the labor market stymies labor force participation.

Although further research is needed to more precisely understand the full set of explanations and their comparative importance, there are policy measures that can help address declining labor force participation among prime-age men both by boosting demand for their labor services—particularly those with less education—as well as enhancing their skill sets and better connecting them to work opportunities. We close by describing how some of the Administration’s policies would affect the participation of prime-age men in the workforce.

## I. U.S. Prime-Age Male Labor Force Participation in Historical and International Context

The share of men between the ages of 25 and 54 either working or actively seeking work has been falling for more than 60 years. The decline in participation has been roughly constant over much of this time horizon. As Figure 1 shows, participation among prime-age men peaked in 1954, declined only slightly until the mid-1960s, but then began to decline in earnest in the decade between 1965 and 1975, when the share in the labor force fell from 96.7 percent to 94.2 percent. Since then, participation has fallen persistently, with sharper declines in recessionary periods, such as the early 1990s, that were not fully reversed in the subsequent expansion periods. Since 1965, the prime-age male labor force participation rate has fallen by an average of 0.16 percentage point each year, totaling an 8.3 percentage-point decline as of May 2016.

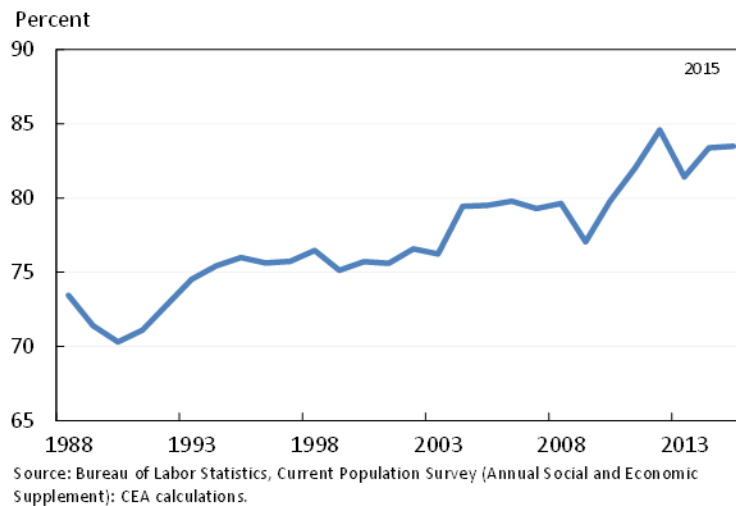
During the Great Recession, the rate of labor force participation among prime-age men fell steeply, falling from 91.5 percent in January 2007 to 87.9 percent at its trough in October 2013. Since October 2013, prime-age male participation has stabilized, remaining between 88.0 and 89.0 percent (inclusive) but like prior recessions, participation did not fully recover to pre-recessionary rates.



In addition, a large majority of the men who reported they are not in the labor force in a given month also reported that they did not work at all in the previous year. Moreover, this intensity of nonparticipation has increased over time, which indicates a decline in labor force attachment. In 2015, 83 percent of prime-age men in the Current Population Survey who were not participating in the labor force in the reference week had not worked at all in the previous year, up from 73 percent in 1988, the first year for which data on this question are available (see Figure 2).<sup>2</sup>

<sup>2</sup> Where CPS Annual Social and Economic Supplement data are used in this report, the data are presented as far back as possible given the variables used in the analysis.

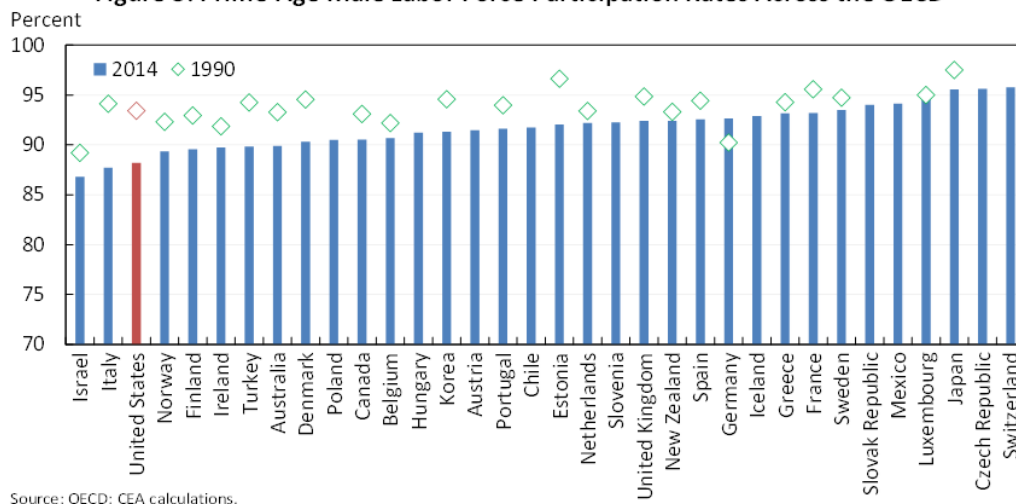
**Figure 2: Share of Prime-Age Men Currently Not in the Labor Force Who Did Not Work Last Year**



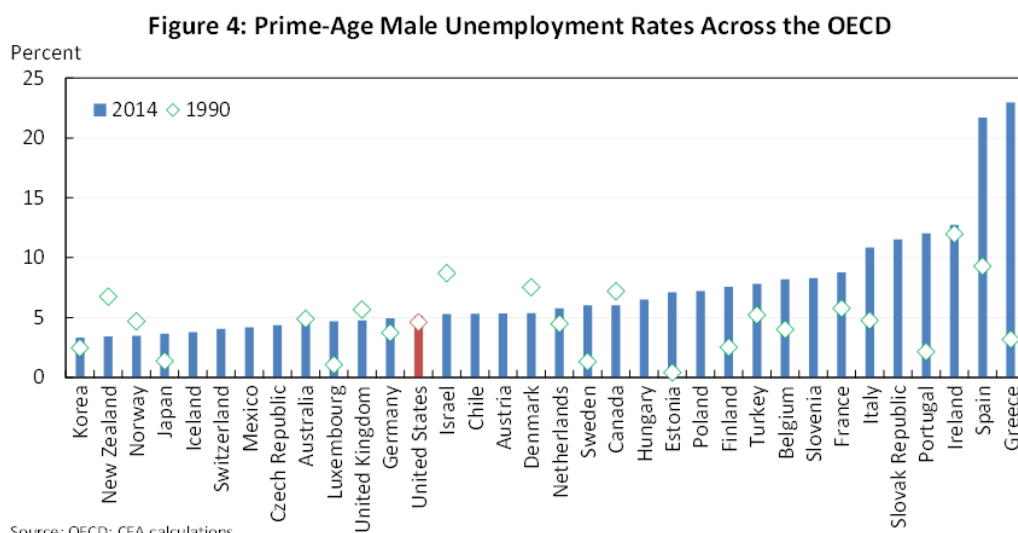
Juhn, Murphy, and Topel (2002) emphasize the large increase in male nonemployment from individuals out of work all 12 months of the year, especially for less-educated males. New work by Coglianese (2016) also shows a rise in 12-month nonemployment, in addition to an equally large rise in part-year nonemployment.

Not only has labor force participation among prime-age men declined over the past six decades, since 1990, the United States has had the second-largest decrease in prime-age male participation among member countries of the Organisation for Economic Co-operation and Development (OECD). Of the OECD, the United States now ranks 3<sup>rd</sup> lowest out of 34, as shown in Figure 3—above only Italy and Israel—in terms of prime-age male labor force participation, compared to 10<sup>th</sup> lowest out of 24 in 1990.

**Figure 3: Prime-Age Male Labor Force Participation Rates Across the OECD**

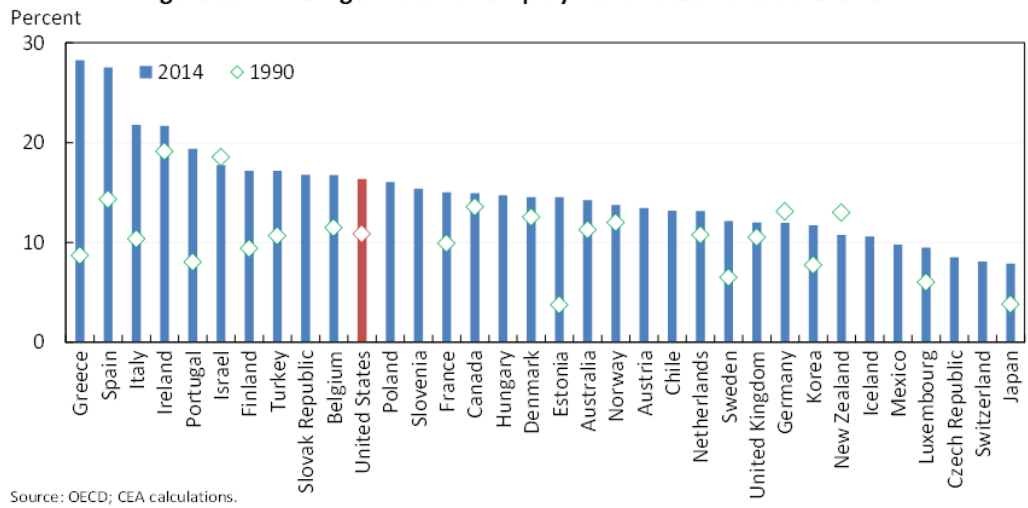


The decline in U.S. labor force participation relative to much of the OECD, however, is only part of the story, and on its own overstates the problem of nonemployment in the U.S. economy. Labor force nonparticipation is just one of two ways in which individuals can be non-employed; they can also be unemployed, which means they are currently seeking employment. More broadly, depending on the incentives created by unemployment support programs, training systems and other initiatives, workers may choose to remain attached to the labor force but unemployed, or working part time, rather than leaving the labor force. Although the United States has particularly low prime-age male labor force participation, the United States has also historically had a lower unemployment rate – the share of the labor force that is unemployed—relative to other OECD economies (see Figure 4). Moreover, our current unemployment rate is relatively similar to its past values—while in many other OECD countries it is elevated, in many cases because they are less far along in their cyclical recoveries from the Great Recession and Euro Zone crisis.



But lower rates of unemployment among prime-age men only partially offset relatively higher nonparticipation rates in the United States, leaving the U.S. prime-age male nonemployment rate—the share of prime-age males that are not employed, a potentially more comparable measure across countries—below the median of OECD member countries (see Figure 5). Moreover, the U.S. nonemployment rate has also declined, meaning that a smaller share of prime-age men are contributing directly to output today than in years before. Also, because many other OECD economies experienced slower recoveries than the United States, their nonemployment rates are potentially temporarily higher than they would otherwise be, leaving the United States higher ranked in the distribution on a structural basis. Finally, given that the unemployed report searching for work, a greater share of nonemployed who are nonparticipating rather than unemployed may predict lower reemployment rates in the future.

**Figure 5: Prime-Age Male Nonemployment Rates Across the OECD**

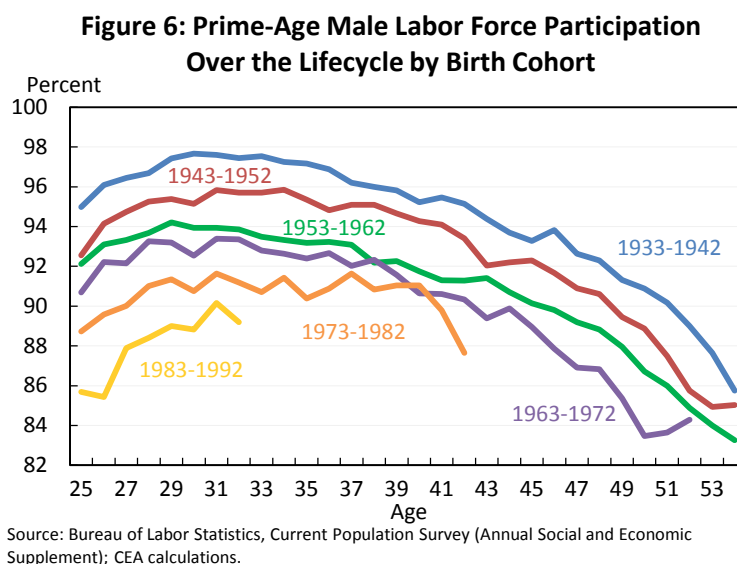


## II. Prime-Age Male Participation by Demographic

Although prime-age male labor force participation has fallen among all demographic groups, it has fallen noticeably more for those who belong to younger birth cohorts and those who are black, less educated, nonparents, native-born, living in the South, and veterans. However, as described below, the changing demographics of prime-age men do not explain the long-run decline in participation; in fact, trends such as rising educational attainment should have, all else equal, actually led to *increases* in participation.

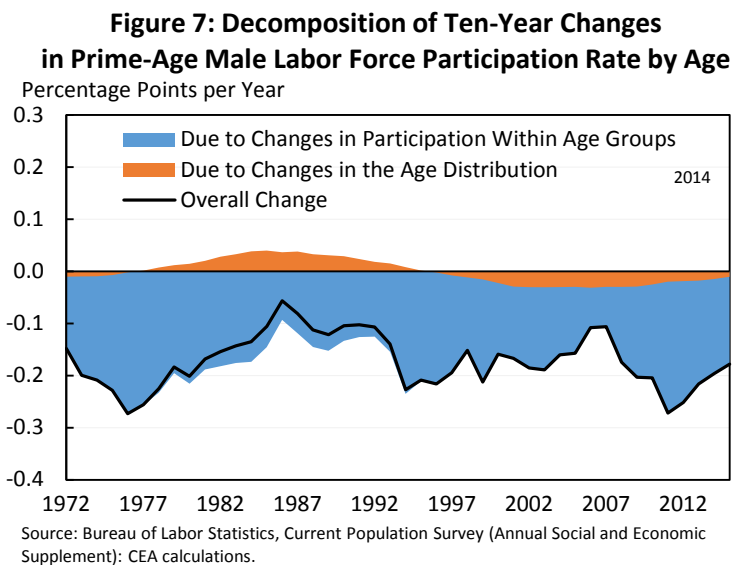
### Age and Birth Cohort

Participation changes over the lifecycle: as men of the same birth cohort age, participation rises into the early 30s, where it tends to peak and then declines steadily through age 54, as shown in Figure 6. Labor force participation rates at nearly every age has fallen for nearly every cohort of men, although the pattern of participation has changed somewhat with less of a falloff in participation rates in their 30s for men born more recently. These patterns suggest that falling participation among prime-age men is largely a function of lower labor force participation at all ages among later cohorts rather than shocks to participation concentrated at some ages for particular cohorts. Importantly, this means that no particular generation or moment in time was solely or even primarily responsible for the overall decline.



The age composition of the entire population 16 and older has had a large impact on the overall participation rate. For example, the majority of the decline in the overall participation rate since 2007 is explained by the higher fraction of workers over 55 years old, who are less likely to participate than younger workers. But changing age demographics do not explain the changes in the participation rate for prime-age men themselves in recent decades, as shown in the “shift-share” analysis in Figure 7. The “share” region shown in orange is what would have happened to participation rates if people at every age had the same participation rates but the age structure

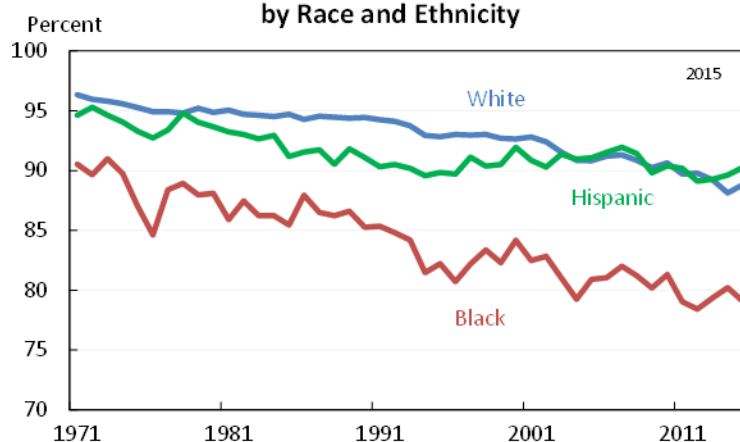
changed. As the first Baby Boomers moved into their 30s and 40s in the 1970s and 1980s this should have provided a modest boost to the participation rate of prime-age men, while the corresponding aging of the group should have resulted in a modest decline in their participation rate. These changes, however, are dwarfed by the “shift” region shown in blue that shows what happened to changes in participation rates for given age groups—in this case showing the relatively steady decline. By construction, these two regions sum to the actual changes in the participation rate, shown in the solid black line.



## Race and Ethnicity

Black prime-age men have historically participated at lower rates than white or Hispanic men, and this gap has grown, as shown in Figure 8. Although in the past Hispanic prime-age men participated at lower rates than white prime-age men, this gap has reversed in recent years. The convergence occurred as Hispanic prime-age men’s labor force participation has been roughly stable over the past 20 years, while participation among prime-age white men has declined.

**Figure 8: Prime-Age Male Labor Force Participation by Race and Ethnicity**

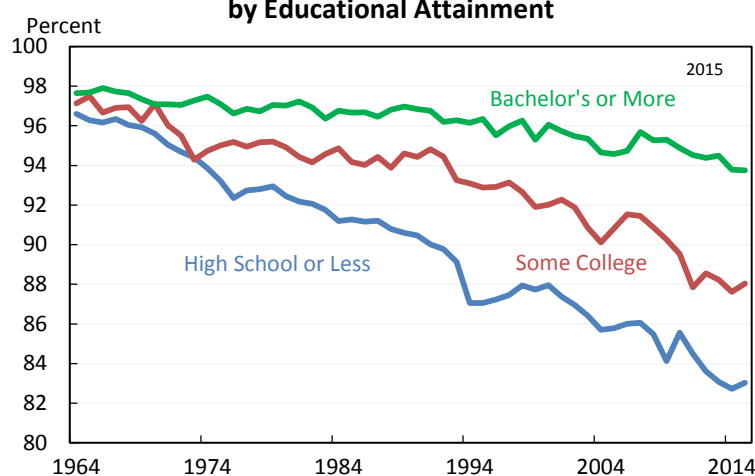


Note: 1971 is the first CPS ASEC year with race/ethnicity categories that are comparable over time. Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); CEA calculations.

## Education

In 1964 participation rates were similar for different education levels—with 98 percent of prime-age men with a college education participating in the workforce as compared to 97 percent of prime-age men with a high school degree or less, as shown in Figure 9. In 2015, every education group had lower participation rates than in previous decades, but the decline was modest for more-educated workers. In contrast, those with a high school degree or less saw their participation rates fall to 83 percent, a 14 percentage point reduction from 1964.

**Figure 9: Prime-Age Male Labor Force Participation by Educational Attainment**

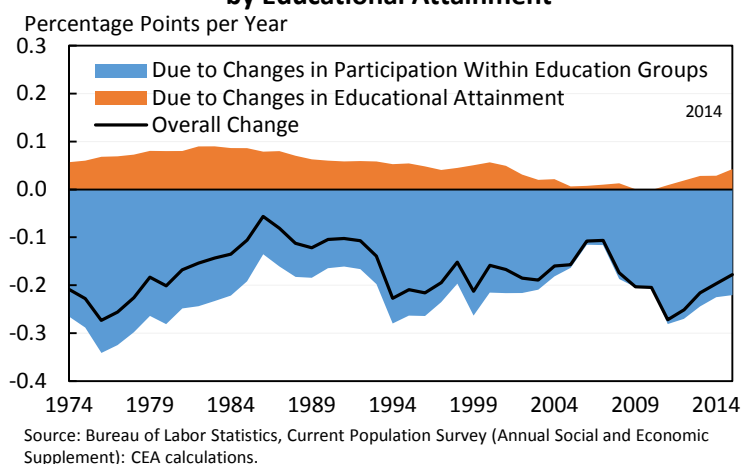


Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); CEA calculations.

This increasingly steep education gradient for participation compounds the puzzle of the long-term decline in the participation rate. Over this same period, the percentage of prime-age men with a high school degree or less fell from 76 percent to 41 percent while the percentage of

prime-age men with a college degree rose from 14 percent to 33 percent. If participation rates had stayed constant for each education group, the analysis in Figure 10 estimates that the increase in educational attainment would have resulted in a 2.5 percentage-point increase in the labor force participation rate over this period, instead of the 9.0 percentage-point decrease actually seen. The shift-share analysis in Figure 10 below generalizes this point. The “share” region in orange shows the change in labor force participation rates predicted from the increased educational attainment of prime-age men—assuming each education group had an unchanged participation rate. The “shift” region in blue shows changes in labor force participation within each education group. The solid black line tracks the actual labor force participation rate over time and by construction is the sum of the “share” and “shift” terms. As shown in the figure rising educational attainment, especially in the 1970s and 1980s, should have raised labor force participation rates—but declines in participation for each education group outweighed this and lowered them instead.

**Figure 10: Decomposition of Ten-Year Changes in Prime-Age Male Labor Force Participation Rate by Educational Attainment**



## Family, Immigration, and Other Factors

Participation rates have fallen for both parents and nonparents alike, but prime-age males without children saw a larger decline of 9.4 percentage points since 1968 compared to 4.9 percentage points among prime-age males with children. This suggests that men dropping out of the labor force to be stay-at-home fathers is likely not an important factor in the overall decline; moreover, only around a quarter of prime-age men who are not in the labor force are parents (down from around 40 percent in 1968).

Foreign-born prime-age men continue to participate at higher rates than the native-born. Their participation rate has actually risen slightly over the last two decades by 1.4 percentage point since 1994, while the native-born prime-age male participation fell by 4.4 percentage points, suggesting that increasing immigration is not a viable explanation for the decline.

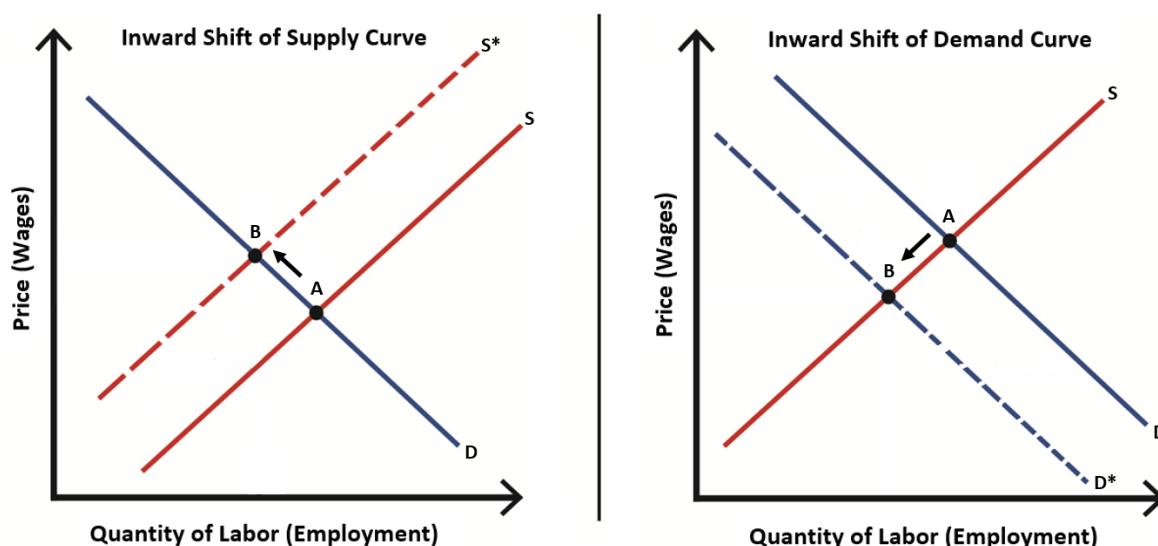
Among all groups, participation rates are generally higher in the West and Midwest regions and lowest in the South. Finally, although veteran participation has fallen by more than for the overall prime-age male population, the share of nonparticipating prime-age men who are veterans has declined, suggesting that this is not a key factor in the overall decline.

One factor we cannot assess in the data is trends in unreported or under-the-table work. Presumably some of the men classified by the Current Population Survey as out of the workforce are still earning money but not reporting it to surveyors. There is little way to tell the extent of this or if it has risen over time. Some research finds that the share of the economy comprised by the shadow economy has likely stayed constant or shrunk over time, suggesting that there has not been an increasing role of unreported income from the shadow economy for prime-age men (Schneider 2012). Moreover, a range of other data sources, including the time use surveys discussed below, corroborate that there has been an overall real and large increase in the percentage of prime-age men out of the workforce—something that could not be explained away reported measures of under-the-table work.

### III. Assessing Explanations of the Decline in Prime-Age Male Participation Rates: Supply, Demand, and Institutions

The steady decline in labor force participation among prime-age men since the 1950s has been larger than in most other OECD countries. This decline is not explained by the changing age structure of the population and is especially puzzling in light of the increased educational attainment of the population. The question then is what does explain the magnitude and timing of the decrease and why it is larger than what other countries have experienced. This report evaluates three different classes of explanations: supply driven (or an inward shift of the labor supply curve), demand driven (or an inward shift of the labor demand curve), and institutional. Figure 11 below details how inward shifts of the supply and demand curve affect both equilibrium wages and employment. In the diagram on the left, the inward shift of the supply curve moves the equilibrium up the demand curve, leading to a reduction in employment (and consequently participation if all else remains constant), but an increase in wages. In contrast, in the diagram on the right, the demand curve shifts inward and the equilibrium moves down the supply curve, resulting in less employment and lower wages. Institutional factors will determine how shifts of either curve are realized in terms of speed and ultimate impact.

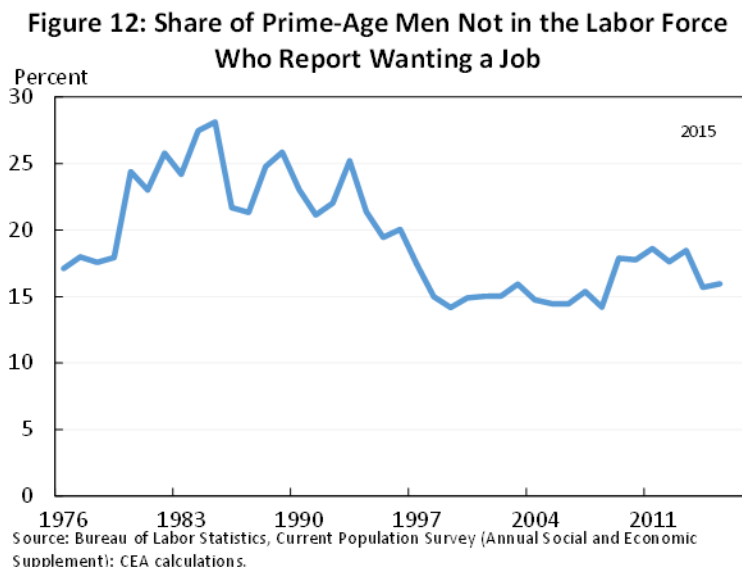
**Figure 11: Labor Supply and Demand Shifts**



Drawing on this framework and considering different forces that could shift the supply or demand curves, we find that reductions in supply, or men choosing not to work for a given set of labor market conditions, explains relatively little of the trend, while reductions in demand, especially for less skilled workers, may be an important part of the story—and also explain the decline in relative wages for this group. Finally, institutional factors appear to be important—and may help explain some of the differences in the U.S. experience both over time and compared to other countries.

## Supply-Driven Explanations

As shown in Figure 12, the share of nonparticipating prime-age men reporting they want a job has fallen over time, from a peak of 28 percent in 1985 to 16 percent in 2015. This suggests that at least a portion of the increase in nonparticipation stems from men deciding that they do not want to work, at least in the jobs available to them. This, however, could reflect a shift in the supply curve or a movement along the supply curve, depending on the underlying causes.



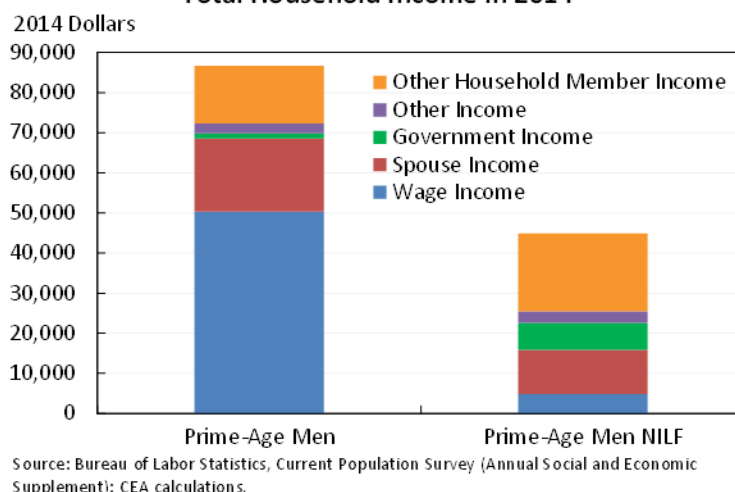
This section examines a number of factors that may be affecting the decisions of prime-age men to participate in the workforce. We first examine whether increases in the income available to prime-age men outside of work may have led them to leave the labor force—showing that prime-age men who are not in the labor force are increasingly *less* likely to have a working spouse, that disability insurance has risen much less than participation rates have declined, and that other forms of public assistance have fallen. The section then examines whether prime-age men leave the labor force to spend their time in other productive ways, such as household production or education, finding that this does not appear to explain the change.

## Alternative Sources of Income

The rise of nonparticipation raises the question of how prime-age men not participating in the labor force support themselves. Figure 13 compares income sources for all prime-age men and those not in the labor force over time. For prime-age men overall, the bulk of their household annual income comes from their wages and salaries. Naturally, wage income plays a minor role for prime-age men not currently in the labor force, though it is not zero, as some have

participated in the labor force at some point in the previous calendar year.<sup>3</sup> For the households of men not in the labor force, other household members' and spouses' income are the key sources of income, comprising more income than their wage income, government income, and other income<sup>4</sup> combined.<sup>5</sup> Previous research by Stewart (2006) confirms that other household members (especially family members) and unearned income from other sources are particularly important in keeping nonworking prime-age men afloat.

**Figure 13: Breakdown of Average Prime-Age Male Total Household Income in 2014**



### Spousal Income

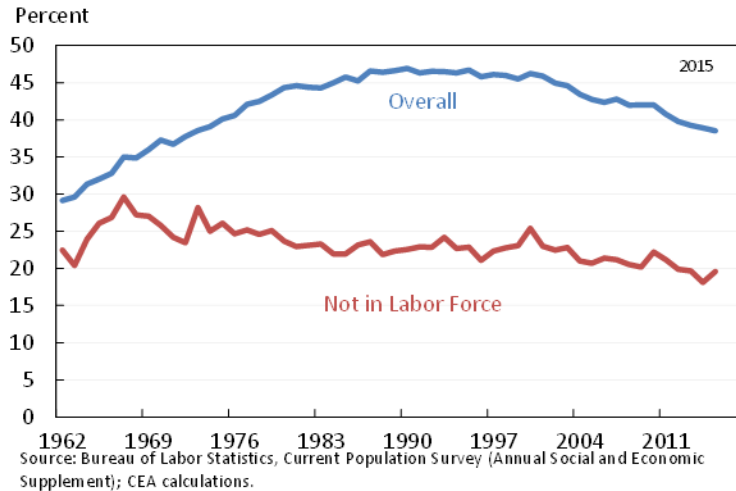
One possible explanation for the decline in prime-age male labor force participation would be if, as women's labor force participation rose over the last 50 years, and as women worked more hours at higher wages, their incomes could potentially make nonparticipation more affordable for their husbands. However, the data do not support this hypothesis: fewer than a quarter of prime-age men who are not in the workforce have a working spouse, and that figure has actually *decreased* during the last 50 years, notwithstanding the large overall increase in the number of women who work, as shown in Figure 14. Part of the reason is an increase in what economists call "assortative mating:" men and women who are successfully employed are increasingly coupling up with others who are successfully employed, rather than with partners who are not.

<sup>3</sup> Individuals are designated not in the labor force if they did not work in the previous week. However, income questions refer to the previous calendar year. As a result, individuals coded as not participating in the labor force may have income for the previous year if they had been participating in the labor force at that time.

<sup>4</sup> Other income includes income from interest, dividends, rent, alimony, retirement, educational assistance, child support, and more.

<sup>5</sup> It is also important to note that the CPS undercounts benefits. However, there is no indication that underreporting has changed over time or that it differs by participating status.

**Figure 14: Share of Prime-Age Men With Spouse  
in the Labor Force**



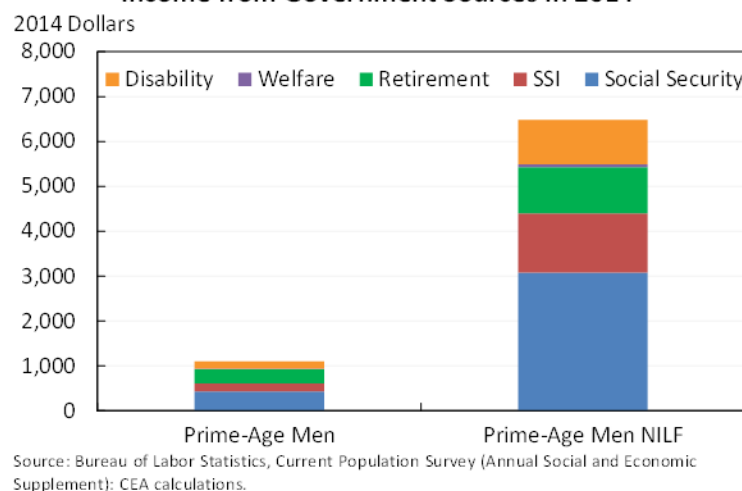
One might be concerned that falling marriage rates mean that prime-age men not in the labor force increasingly depend on the labor force participation of a significant other to whom they are not married, and that the earlier analysis may have missed this. However, even when the analysis is expanded to include all other household members, the picture is much the same: the share of nonparticipating prime-age men with a household member in the labor force has fallen over time, even as it has risen for prime-age men overall. Other researchers have similarly concluded that reliance on spousal income does not seem to be an explanatory factor in the decline of prime-age male labor force participation (Juhn and Potter 2006).

### Government Transfers Including Disability Insurance

In the early 1970s, cash welfare income was the largest source of government income, on average, for households with prime-age men not participating in the workforce, but starting in the mid-1970s cash welfare as a share of government income plummeted and Social Security<sup>6</sup> (including Social Security Disability Insurance, or SSDI) became the top income source. Figure 15 details the breakdown of government income for prime-age men and their spouses in 2014. Today, Social Security is the largest single source of government income, with 24 percent receiving benefits versus 3 percent among prime-age men overall. Supplemental Security Income (SSI), a need-based program that provides support to blind, elderly, and disabled individuals without a work history, is the second-largest government income source for the households of nonparticipating prime-age men today, with 15 percent of nonparticipating prime-age men receiving these benefits.

<sup>6</sup> Social Security income includes all benefits from Social Security, including those for retired workers, survivors, and disabled workers.

**Figure 15: Breakdown of Average Prime-Age Male and Spouse Income from Government Sources in 2014**



Disability insurance is another candidate for a supply-side explanation of the decline in prime-age male labor force participation rates. SSDI receipt rates have been rising among prime-age men for the last 50 years. Today, 3.3 percent of prime-age men receive SSDI payments. A number of research papers find that increases in the number of people receiving SSDI led to lower labor force participation among the general population, especially among veterans (Autor and Duggan 2003; Autor et al. 2015), and to lower earnings (Gelber, Moore, and Strand 2016).

However, from 1967 until 2014, the percentage of prime-age men receiving disability insurance rose from 1 percent to 3 percent, not nearly enough to explain the 7.5 percentage-point decline in the labor force participation rate over that period. Moreover, even the 2 percentage-point increase in SSDI receipt among prime-age men should not be interpreted as the causal impact of disability insurance on labor force participation for three reasons. First, 0.1 percentage point of this increase simply reflects the changing age structure of prime-age men who are older than in the past, which is associated with more SSDI receipt. More importantly, much of the increase in SSDI may be a consequence of the fact that an increasing number of men do not have jobs and thus may apply for SSDI when they might not have applied in the past. Finally, many of the men receiving SSDI would not have participated in the workforce regardless because of their disabilities.

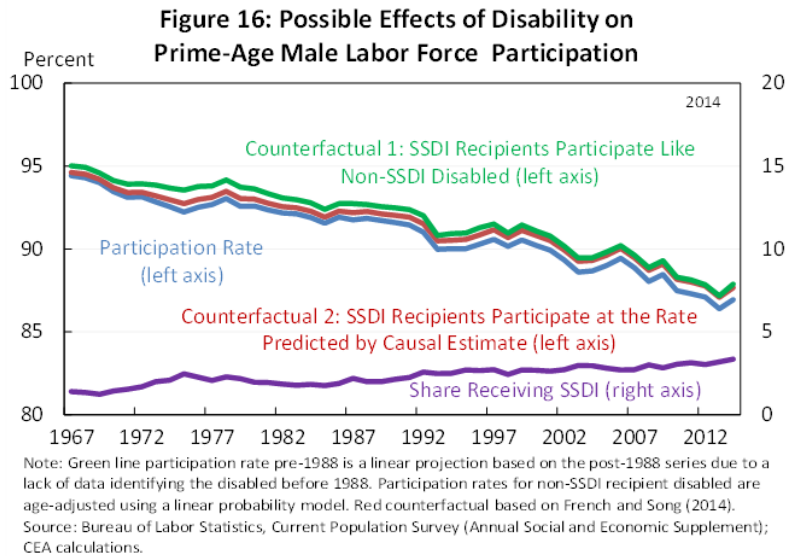
Figure 16 assesses how much the increase in SSDI<sup>7</sup> receipt could contribute to labor force participation declines among prime-age men under two counterfactual scenarios, finding that SSDI increases may have caused 0.3 to 0.5 percentage point of the 7.5 percentage-point decline in the prime-age male labor force participation rate over this period. The purple line measures the share of prime-age men receiving Federal Social Security (including SSDI) benefits each year. The blue line tracks the actual fall of participation among prime-age men since 1968. The green

<sup>7</sup> The Current Population Survey does not distinguish between types of Social Security income. We use Social Security income as a proxy for SSDI.

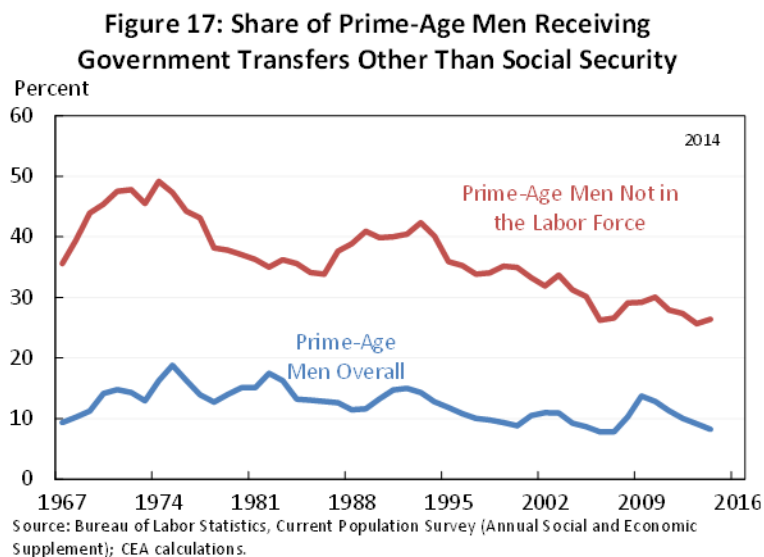
line tracks the participation rate that would have resulted if all SSDI recipients (who participated at a rate of 15 percent in 2014) participated at the same rate as the average among individuals who self-identify as disabled but who do not receive SSDI (33 percent in 2014), adjusting for changes in the age distribution. This counterfactual likely overstates the participations rates of this population in the absence of SSDI, since it implies that work ability is equal for SSDI recipients and disabled individuals not receiving SSDI. Of course, some individuals who are disabled but are not receiving SSDI may not be participating as they plan to apply for SSDI. Nonetheless, if SSDI recipients are less able to work on average than the disabled, the true counterfactual would be even lower than the green line.

The assumption underlying the green line—that SSDI recipients would participate at the same rates as disabled workers not receiving SSDI—has only a minor impact on the participation rate. Under this assumption, the participation rate among prime-age men would have fallen by 7.2 percentage points between 1967 and 2014 instead of the actual decline of 7.5 percentage points—a difference of just 0.3 percentage point. In other words, other forces besides the rise in SSDI receipt are needed to explain the decline of prime-age male labor force participation.

Another approach to quantify the potential role of SSDI in participation declines is to use economic literature to identify the causal impact of SSDI receipt on labor force participation decisions and use that to estimate the aggregate effect of changing SSDI on labor force participation. The red line assumes that SSDI reduces labor force participation rates by 26 percentage points (French and Song 2014) to better predict how many SSDI recipients not in the labor force would participate in the absence of SSDI benefits. One limitation of this estimate is that the study examined the impact of SSDI on participation overall, not prime-age men specifically. This counterfactual implies that fewer SSDI recipients would rejoin the labor force if they did not receive SSDI, particularly prior to the mid-1990s, than the green line suggests. In fact, this research-based prediction suggests the participation rate would have fallen by only 0.5 percentage point less between 1967 and 2014, leaving 7.0 percentages points of the actual 7.5 percentage-point decline over this period unexplained. So while SSDI receipt’s impact on prime-age male labor force participation is negative, under reasonable assumptions it is small and cannot explain more than a portion of the overall decline in participation.



The increase in disability insurance therefore explains, at most, a small fraction of the decline in the labor force participation rate for prime-age men. At the same time, other government programs have become increasingly hard to access. To the extent that access to benefits would reduce incentives to participate, this would suggest increasing participation over this time period. However, the opposite has been happening. Figure 17 shows the percentage of prime-age men who receive government transfers other than Social Security, with the main transfers being TANF (Temporary Assistance for Needy Families, formerly known as Aid to Families with Dependent Children) and the Supplemental Nutrition Assistance Program (SNAP, previously known as food stamps). While it is higher than prime-age men over all, it has been declining over this time period.



The decline in benefits has been particularly large for people without a job, as many State governments established stricter eligibility standards for Unemployment Insurance, and the Federal and State governments have cut spending on traditional cash welfare payments. Meanwhile, few nonworking, able-bodied adult men without children are now eligible to receive nutritional assistance. Changes in government aid thus cannot explain the drop in prime-age male labor force participation.

### Alternative Use of Time

One hypothesis described earlier is that men are choosing to stay home and participate more in household work and childcare. Academic research has documented that, in the 1980s when women's labor force participation increased dramatically, household work remained highly unevenly allocated between men and women (Blau 1998). However, time use data show that fathers are more likely to share the household task burden than in the past, with total time spent on child care and housework rising from 6.9 hours per week in 1965 to 16.4 hours per week in 2013 (CEA 2014b).

To understand how men out of labor force spend their time and whether they are staying home to help with home production, we make use of data from the American Time Use Survey. Table 1 reports the average number of minutes per day spent on various activities in 2014 by all prime-age men as well as by prime-age men not in the labor force. Based on this time use data, there is little evidence that men are staying home to care for children or to do house work. As the table shows, prime-age men not in the labor force spend about the same amount of time as all prime-age men caring for household members. Nonparticipating prime-age men also do not spend meaningfully more time caring for non-household members, an activity on which all groups spend an average of less than 10 minutes per day. Prime-age men not in the labor force do spend more time, approximately 26 additional minutes per day, engaged in household activities and services than prime-age men overall.<sup>8</sup> These findings confirm previous research describing the time use of nonworking men (Stewart 2008).

One might expect differing patterns for married and non-married men, as married men are better able to specialize in household production while their spouse works. However, nonparticipating prime-age men spent time fairly similarly across most time use categories regardless of whether they were married or single. This includes household activities, on which unmarried men spent 108 minutes per day while married men spent 112 on average. When we examine men with children, we find that, although nonparticipating prime-age men with children spend more time caring for household members (73 minutes) than prime-age men with children overall (58 minutes), the difference amounts to less than an additional half-hour per day. Further, prime-

---

<sup>8</sup> Household activities are activities done to maintain a household, including housecleaning, cooking, yard care, pet care, vehicle maintenance and repair, and home repair and renovation. Household management activities—such as paperwork, mail, and email—are also included in this category. Household services refer to obtaining and purchasing household services provided by someone else. Household services include yard and house cleaning, cooking, pet care, tailoring and laundering services, and vehicle and home repairs, maintenance, and construction. Watching someone else perform paid household activities (cooking, cleaning, repairing, etc.) would be coded here.

age men out of the labor force with children only spent 11 additional minutes on non-child care household activities compared to non-parents. Taken together with existing literature on the subject, time use patterns suggest that substitution of husband's time for wife's time within the household does not appear to be the key to understanding recent trends in labor force participation among prime-age men (Juhn and Potter 2006; Blau 1998).

**Table 1: Time Use Breakdown in 2014 for Prime-Age Men Overall and Nonparticipating Prime-Age Men**

Time Use Category	Time Spent (Minutes Per Day)	
	Prime-Age Men	Prime-Age Men, Not in the Labor Force
Caring for Household Members	29	28
Caring for Non-Household Members	7	8
Education	8	25
Household Activities and Services	84	111
Socializing, Relaxing, Leisure	251	472
<i>Watching Television</i>	<i>154</i>	<i>335</i>
Work	316	7
Other (Including Sleep)	736	773

Note: Columns do not sum to 1,440 minutes per day because some individuals do not report all minutes of each day.  
Source: American Time Use Survey; CEA calculations.

The data also suggest that men are not choosing to leave the labor force to invest in their skills and better their future labor market opportunities. Prime-age men not in the labor force spent only 17 minutes more per day on educational activities than prime-age men overall, with the unmarried and childless accounting for much of the difference.<sup>9</sup> Interestingly, this varies by educational attainment, with nonparticipating men with at least some college education spending about 30 percent more time, or nearly an additional 45 minutes per day, on education activities than less-educated men.

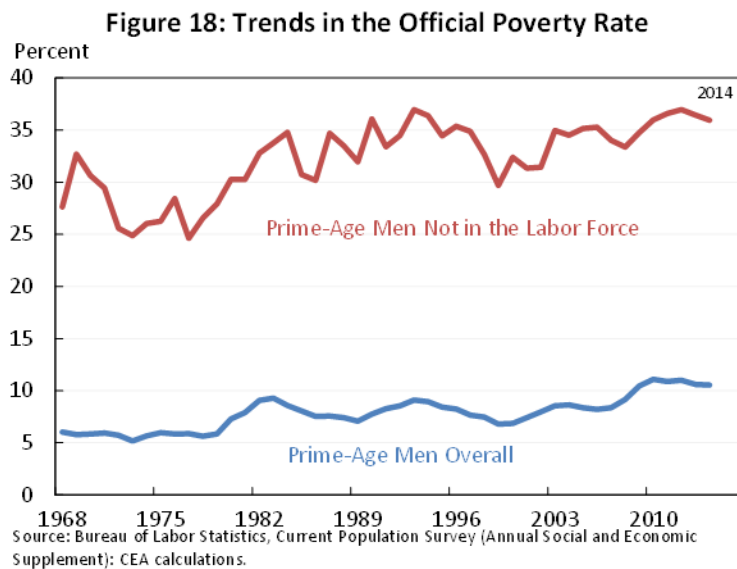
The largest difference in how men in and out of the labor force spend their time is in time spent on leisure activities—socializing, relaxing and leisure, with nonparticipating men spending almost twice as much time on these activities than those prime-age men overall, and more than twice as much time watching television. Together, these patterns suggest that men are, on average, not dropping out of the labor force to specialize in home production or to invest in skills to improve their future labor market opportunities.

---

<sup>9</sup> Education includes attending classes as well as research, homework, administrative tasks and extracurricular activities except sports.

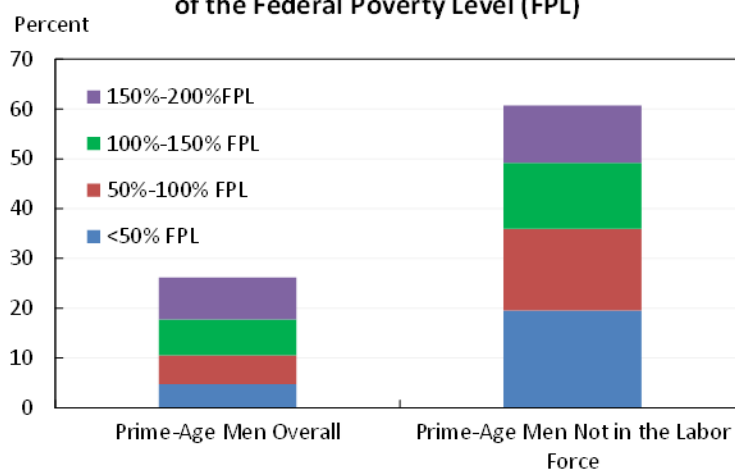
### Poverty and the Well-being of Men Not Participating in the Workforce

Given the evidence above, it does not appear that the men who are no longer participating in the workforce are choosing to do so because of better opportunities outside the labor force. Moreover, detachment from the labor force dramatically increases the likelihood that a prime-age man lives in poverty, in large part because those out of the labor force typically do not earn wage income. Prime-age men generally experience low poverty rates relative to much of the population: in 2014, 11 percent of all prime-age men lived in poverty compared to 15 percent of the population as a whole, although the rate for prime-age men has nearly doubled since the 1970s (see Figure 18). In contrast, nearly 36 percent of prime-age men not in the labor force lived below the poverty line in 2014, up from 28 percent in 1968.



As shown in Figure 19, the household incomes of nonparticipating prime-age men are notably more likely to fall below 50 percent of the Federal poverty line—more than four times as likely as prime-age men overall. More than 60 percent of nonparticipating prime-age men have incomes that are less than 200 percent or less of the Federal poverty line.

**Figure 19: Share of Population Under 200% of the Federal Poverty Level (FPL)**



Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); CEA calculations.

## Demand-Driven Explanations

In addition to the arguments outlined above, the most significant weakness of labor supply explanations is that they are inconsistent with the trend in relative wages over the last several decades. If less-educated men were simply choosing to work less, for example because of an exogenous increase in the generosity of disability insurance, this should raise the relative wages of the less-educated men who choose to continue participating in the workforce. Yet, in recent decades the opposite has happened: less-educated Americans have actually suffered a reduction in their wages relative to other groups. As shown in Figure 20, from 1975 until 2014, those with a high school degree watched their relative wages fall from over 80 percent of the amount earned by full-time, full-year workers with at least a college degree to less than 60 percent.

**Figure 20: Ratio of High School Graduate Wages to College Graduate Wages**



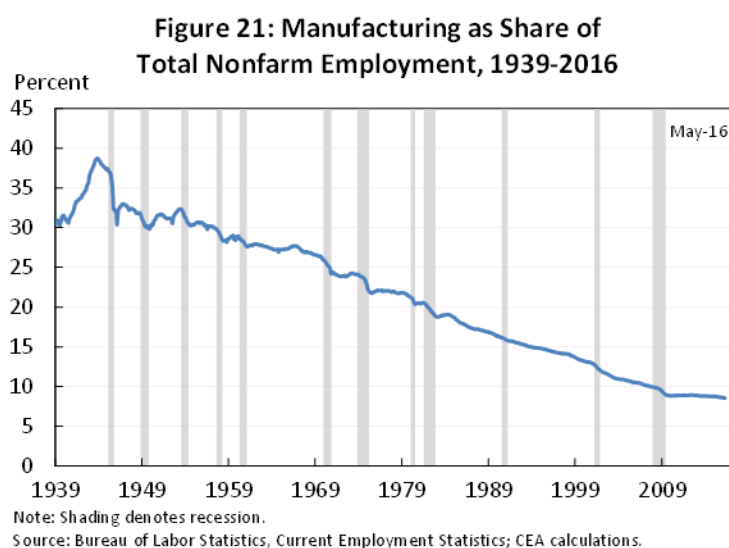
Note: The earnings ratio compares the median full-time, full-year worker over age 25 with just a high school degree to the same type of worker with at least a bachelor's degree. Prior to 1992, bachelor's degree is defined as four years of college.

Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); CEA calculations.

## Demand for Less-Skilled Labor

A number of studies have identified declining labor market opportunities for low-skilled workers and related stagnant real wage growth as the most likely explanation for the decline of prime-age male labor force participation, at least for the period in the mid-to-late 1970s and 1980s (Juhn, et al. 1991; Juhn and Potter 2006). More recently, economists have suggested that a relative decline in labor demand for occupations that are middle-skilled or middle-paying may have begun contributing to the decline in participation in the 1990s (Aaronson et al. 2014). As demand for these middle-skilled workers has fallen, they may have displaced lower-skilled workers from their lower-skilled jobs (Beaudry, Green, and Sand 2016), leading some lower-skilled workers to leave the labor force. Aaronson et al. (2014) find that, since 1985, participation rates for less-educated adults fell further in States with greater declines in middle-skilled employment shares.

Economists do not have a singular answer for why demand for lower-skilled and middle-skilled labor is falling. Possible causes include technological advances and globalization, including import competition and offshoring (Acemoglu and Autor 2011; Autor and Doran 2013). Some economists point to “skill-biased technological change:” advances that benefit workers with certain skill sets more than others (Autor, Levy, and Murnane 2003; Autor, Katz, and Krueger 1998). These forces have, among other things, eliminated large numbers of American manufacturing jobs over a number of decades as shown in Figure 21, leaving many people—mostly men—unable to find new ones. In addition, men’s falling educational attainment levels relative to women may have reduced their competitiveness for jobs and led them to opt out of the labor force (Autor and Wasserman 2013).



In addition to reducing wages, abrupt demand shifts for less-skilled workers create inconsistencies between workers’ expectations of the types of jobs they have traditionally had access to (and that were closely associated with their identity) and the realities of the jobs currently available to less-educated workers—for example, the decline in available jobs in

manufacturing. This mismatch between what workers seek and what the job market offers may lead them to leave the labor force through a separate channel from real wage declines (Babcock et al. 2012). Foote and Ryan (2015) support this, showing that these middle-skill workers who become unemployed rarely reenter employment in either low- or high-skill jobs. Relatedly, the authors find that the drop in the labor force participation rate for men over the past several decades may be explained by a decline in job opportunities for middle-skill workers and their reluctance to take jobs in other industries and skill classes.

### Wages and Inequality

A demand shock will result in a combination of firms paying lower wages to their workers, some of whom are unwilling to work at these lower wages and drop out of the labor force. This relationship broadly matches the time series pattern of the national data. CEA analysis also finds that the trends in the labor force participation rate for prime-age men are associated with other economic trends such as wages and inequality, although this analysis should not necessarily be interpreted as causal—in fact, interpreting this as a demand shift is consistent with both inequality and participation being affected by a common shock, like technological change or globalization.

These relationships are detailed in Table 2. The left-hand columns of the table report the association between a \$1,000 increase in annual wages at different percentiles of the wage distribution in a State and its prime-age male labor force participation rate, controlling for time-invariant State differences as well as national time trends. The correlation is notably strongest at the bottom of the wage distribution: at the 10<sup>th</sup> percentile, a \$1,000 increase in annual wages, or a roughly \$0.50 increase in hourly wages for a full-time, full-year worker, is associated with a 0.17 percentage-point increase in the State labor force participation rate for prime-age men.

Higher up in the wage distribution, the correlation between wages and participation becomes weaker, with a \$1,000 increase in annual wages at the median corresponding to just 0.05 percentage point higher participation rates.<sup>10</sup>

---

<sup>10</sup> This analysis shows a similar pattern of results using natural logs on both sides of the regression. We report coefficients from levels regressions for expository ease.

**Table 2: Impact of Prime-Age Male Wages and Inequality on Prime-Age Male Labor Force Participation at the State Level: 1977-2015**

<b>Wage Measure (Thousands of \$)</b>	<b>Coefficient (Standard Error)</b>	<b>Inequality Measure</b>	<b>Coefficient (Standard Error)</b>
10 <sup>th</sup> percentile	0.169** (0.043)	90/10 ratio	-0.292** (0.082)
25 <sup>th</sup> percentile	0.104* (0.045)	50/10 ratio	-0.723** (0.156)
Median	0.046 (0.031)	90/50 ratio	-0.447 (0.704)
75 <sup>th</sup> percentile	0.019 (0.020)	75/25 ratio	-0.884 (0.620)
90 <sup>th</sup> percentile	0.006 (0.012)		

Robust standard errors in parentheses, clustered by State

\*\* p<0.01, \* p<0.05

Each row is a separate specification. All specifications include fixed effects for State and year and are weighted by population. The dependent variable is the labor force participation rate of prime-age men. These measures do not include wages that are less than or equal to zero.

Source: Bureau of Labor Statistics, Current Population Survey (Annual Social and Economic Supplement); CEA calculations.

When the returns to work for those at the bottom of the wage distribution are particularly low, more prime-age men choose not to participate in the labor force. As noted above, these correlations do not necessarily support a causal relationship. These patterns may reflect how local business cycles unwind or how shifts in labor demand are realized in terms of both employment and wages. Nonetheless they show that labor force participation is more strongly correlated with wage strength at the bottom of the distribution.

In addition, average State-level participation decisions are negatively correlated with measures of wage inequality, suggesting that where wages at the bottom of the distribution are low relative to wages higher up in the distribution, fewer men participate. In the right-hand columns of Table 2, we examine how the distance between the wage percentiles reported in the left-hand columns impacts prime-age male labor force participation decisions. These regressions also suggest that inequality between the very bottom and very top of the distribution matters as well.

Inequality higher up in the wage distribution matters somewhat less than inequality at the bottom of the distribution. The robustness of this pattern makes clear that when wages at the bottom end of the earnings distribution lag further behind middle and high percentiles, prime-age men are more likely to opt out of the labor force.

The share of State jobs in some industries is also correlated with labor force participation rates among prime-age men. Specifically, when the share of State employment attributable to construction, mining and to a lesser extent manufacturing are higher, more prime-age men participate in the labor force. Again, these correlations do not imply causality, but these

statistically meaningful correlations show that employment concentration in some industries is more associated with prime-age male participation than others. Construction in particular may play an important role; a recent paper shows that the housing boom during the early- to mid-2000s and its resulting construction jobs may have masked the employment effect of manufacturing declines for less-educated workers (Charles, Hurst and Notowidigdo 2013).

## Institutional Explanations

All advanced economies have faced similar changes in technology and globalization, but the United States has seen a larger decline in prime-age male labor force participation rates than just about any other advanced economy along with a larger increase in inequality. This suggests that these changes cannot be explained by supply and demand factors alone but also depend on institutional differences between different countries and how they have processed their common demand shock. Moreover, it appears the pattern of labor force participation in the United States has become increasingly cyclical, further suggesting that institutional changes in the United States matter. Although the precise institutions and policies are not yet well understood, cross-country and time series comparisons provide some suggestive clues.

## U.S. Labor Market Institutions in International Context

The United States has the types of flexible labor markets that traditional economic prescriptions recommend for a well-functioning labor market. The United States has the lowest level of labor market regulation, the fewest employment protections, the third-lowest minimum cost of labor, and among the lowest rates of collective bargaining coverage among OECD countries, according to the OECD's Going For Growth Indicators, as shown in Table 3. In the United States, governments and institutions (such as labor unions) place relatively few barriers in the way of employers who want to change who they employ and what they pay.

**Table 3: Labor Market Flexibility**

OECD Measures of Labor Market Flexibility	U.S. Percentile Rank (100 = Most Flexible)
Barriers to Entrepreneurship	62
Labor Taxation	71
Coverage of Collective Bargaining Agreements	90
Minimum Cost of Labor	92
Scope of State Intervention	94
Employment Protection for Regular Employment	100
Overall Labor Market Regulation	100

Source: OECD 2015; CEA calculations.

While the factors above provide reasons why we might expect labor force participation in the United States to be higher, other features of the U.S. labor market push in the opposite direction. U.S. labor markets are much less “supportive” than in other OECD countries (see Table 4). The United States spends 0.1 percent of GDP on so-called “active labor market policies” such as job-search assistance and job training, much less than the OECD average of 0.6 percent of GDP, and less than every other OECD country except Chile and Mexico. These policies provide better incentives for individuals in other countries to stay attached to the labor force by providing more support during unemployment (when individuals must also search for work) and making re-employment more likely through skill-building. The United States also provides fewer subsidies for child care, has a higher tax wedge on secondary earners, and is the only advanced economy not to provide paid leave.

**Table 4: Labor Market Support**

<b>OECD Measures of Institutional Labor Market Support</b>	<b>U.S. Percentile Rank (100 = Most Flexible)</b>
Nationwide Paid Leave Policy	<b>0</b>
Expenditure on Active Labor Market Policies	<b>3</b>
Net Childcare Costs, Lone Parent	<b>6</b>
Implicit Tax on Returning to Work, Lone Parent	<b>9</b>
Unemployment Benefits (1 Year)	<b>11</b>
Unemployment Benefits (5 Years)	<b>11</b>
Number of Weeks Lost Due to Sick Leave	<b>11</b>
Net Childcare Costs, Couples	<b>13</b>
Implicit Tax on Returning to Work, Second Earner	<b>13</b>
Tax Wedge: Single Earner vs. Second-Earner Couples	<b>25</b>
Public Expenditure for Childcare	<b>29</b>

Source: OECD 2015; CEA calculations.

One traditional defense of American-style labor market arrangements is that though they may result in more inequality, the labor market will function better as a result. But the U.S. participation rate is among the lowest in the OECD and even the employment-population ratio is towards the low end, especially after adjusting for cyclical downturns in other countries.

This simple comparison does not, by itself, establish the cause of the difference between the long-standing structural performance of the U.S. labor market for prime-age workers and the performance in other countries. But it does suggest that a successful labor market requires, at the very least, more than just flexibility but also policies or institutions that help connect workers with jobs or facilitate their taking jobs through subsidized childcare or flexible workplaces.

In some cases the lack of institutional arrangements to help worker’s bargaining power may even impede labor force participation. One theory of labor markets is that because matching to jobs

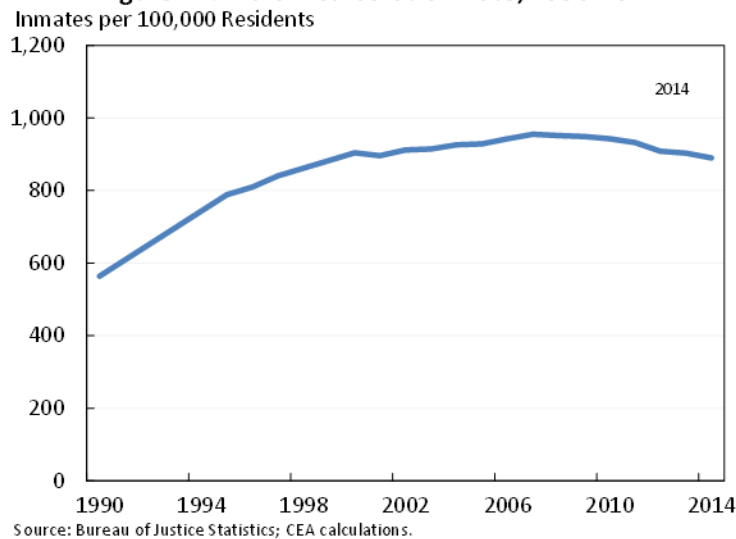
is costly, each job match generates a surplus that is divided between employers and employees. To the degree that the minimum wage or labor unions raise the wage, that will change the division of the surplus—which would potentially result in an increased supply of labor (Card and Krueger 1994). In addition, in some OECD economies institutional arrangements may help prevent wages from falling all the way to the market-clearing level, potentially leading to more unemployment in some cases but also making attachment to the labor force more attractive. In the United States, on the other hand, flexible policies may cause the market-clearing wage for some prime-age men—particularly the low-skilled, who participate in the labor force at the lowest rates—to be too low to incentivize participation. For these workers in particular, policies ensuring a sufficient minimum wage or job training that helps to find higher-paying job may be especially effective in increasing participation rates.

Many advanced economies have other labor market concerns, especially with younger workers, older workers, and women’s underrepresentation in management positions. But the difference in prime-age male labor force participation between the United States and OECD countries with less flexible labor markets suggests that the American labor market has room to improve when it comes to creating conditions for meaningful employment. Although the United States differs from other OECD countries across a variety of measures, such as demographics and industrial composition, the contrast in participation rates also reveals a flaw in the standard economic view about the tradeoffs between flexibility and supportive labor policies.

### **Incarceration and Criminal Records**

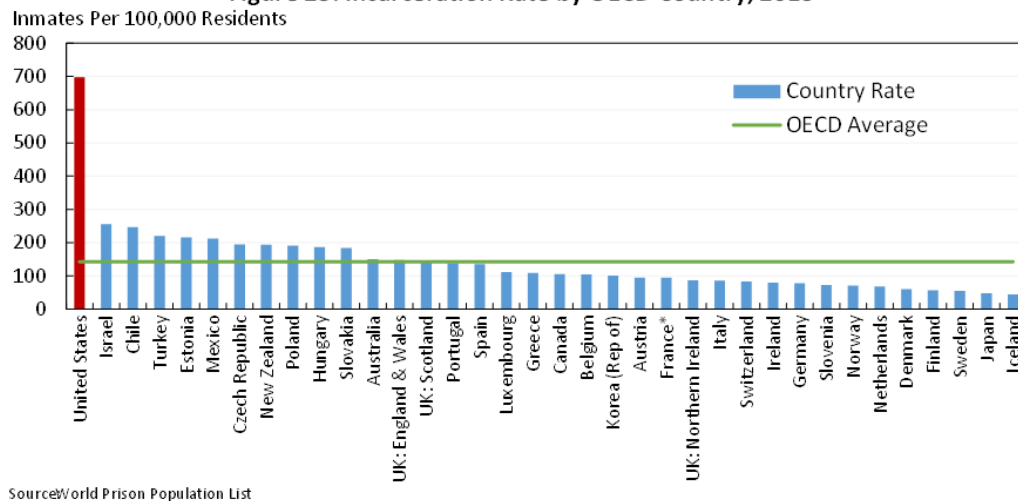
One important change in the United States over time and a major difference from other OECD countries is the rise of mass incarceration and the associated rise in the fraction of the population that was formerly incarcerated. Those who emerge from the criminal justice system suffer stigma, hiring restrictions, and potentially reduced ability to work as a result, reducing the demand for their labor. Incarceration policies affect participation rates directly by removing workers from the labor force for a period of time but also long-term as the stigma of incarceration can reduce demand for the labor services of the formerly incarcerated even years after their reentry into society. The rise of mass incarceration has likely contributed to the larger decline in prime-age male labor force participation rates in the United States relative to other countries.

**Figure 22: Male Incarceration Rate, 1990-2014**



The number of men behind bars in the United States has increased substantially, growing from 564 per 100,000 in the population in 1990 to 890 per 100,000 in 2014, as shown in Figure 22. The United States also has the highest share of its population in prison, other than the Seychelles, and is nearly five times the OECD average, as shown in Figure 23. Moreover, the United States has seen a more rapid increase in incarceration rates than other countries.

**Figure 23: Incarceration Rate by OECD Country, 2015**



The direct effect of increased incarceration is to actually increase the *reported* participation rate because the official statistics cover only the non-institutionalized population and omit prisoners, people in long-term care, and active duty members of the Armed Services. In 2014, there were almost 1.1 million prime-age men in Federal or State prison, in addition to prime-age men in local prisons. Making the extreme assumption that if these men were not in prison they would have all been out of the labor force, then adding them to the prime-age male population (the denominator of the labor force participation rate) would result in a participation rate for prime-

age men of 86.7 percent, which is 1.5 percentage point lower than the reported 88.2 percent rate (Bureau of Justice Statistics; Bureau of Labor Statistics; CEA calculations). Of course many of these 1.1 million men would actually participate in the labor force if they were not in prison. Because incarcerated men tend to have notably lower educational-levels than the overall population, limited earnings before their incarceration, have experienced extended time out of the labor force, and may face stigma and low labor demand upon their reentry, it is likely that these men would participate at lower rates than prime-age men as a whole if they were not incarcerated. Therefore, the actual effect of incarceration on the participation rate would likely be somewhere between zero and an upper-bound of -1.5 percentage point.

The indirect effect of increased incarceration rates is to reduce the participation rate, as these men tend to face substantially lower demand for their labor after they are released from prison and join the ranks of the formerly incarcerated. In many States, the formerly incarcerated are legally barred from a significant number of jobs by occupational licensing rules or other restrictions on the hiring of those who have been incarcerated. According to the American Bar Association, there are over 1,000 mandatory license exclusions for individuals with records of misdemeanors and nearly 3,000 exclusions for felony records (American Bar Association 2016). In addition, evidence shows that, even in the absence of legal restrictions, employers are less likely to hire someone with a criminal record (Holzer 2007).

The Current Population Survey and other official data do not track the share of the population that were formerly incarcerated but given the large increase in incarceration rates, this has likely risen substantially as well. Recent estimates suggest that between 6.4 and 7.2 percent of the prime-age male population in 2008 were ex-offenders (Schmitt and Warner 2010; CEA calculations), although these data should be treated as very approximate. Research suggests a potentially large fraction of this group is not participating in the workforce as a result of their incarceration, likely due to both discrimination and the degeneration of employment networks, resulting in long-term employment and earnings losses, although data are not available to quantify the size of this effect on labor force participation (Holzer, Offner, and Sorensen 2005; Holzer 2007; Pager 2003).

### **The Changing Pattern of Labor Markets: Rising Cyclicity and Declining Fluidity**

Over the past several decades, declines in participation have not taken place at a steady rate but instead tend to happen somewhat more when the economy is in recession. In addition, there is some evidence that labor force participation rates have become increasingly cyclically sensitive—with a downward ratchet when people who leave the workforce in a recession do not reenter it afterwards. Christopher Foote and Richard Ryan (2015) find that middle-skill employment has become increasingly responsive to the business cycle over the past several decades, especially for routine jobs with a cognitive, as opposed to manual, component like clerical or sales occupations. Foote and Ryan find that for middle-skill workers with these routine, cognitive tasks, the business cycle volatility of employment has worsened.

The evidence is less clear, however, that the participation rate of prime-age men has become more sensitive to downturns (and less sensitive to recoveries) (see CEA 2014a). Figure 24 plots the increase in the cyclical component of the labor force participation rate (i.e. the prime-age labor force participation rate with its long-run trend removed) for each percentage-point increase in the unemployment rate. While more recent recessions show slightly greater responsiveness, the responsiveness of the prime-age male labor force participation rate in the Great Recession was in line with its responsiveness in the 1990-91 recession and was actually less than its responsiveness in the 1980s recessions.

**Figure 24: Cyclical Component of Prime-Age Male Labor Force Participation Reduction per Percentage-Point Increase in the Unemployment Rate**

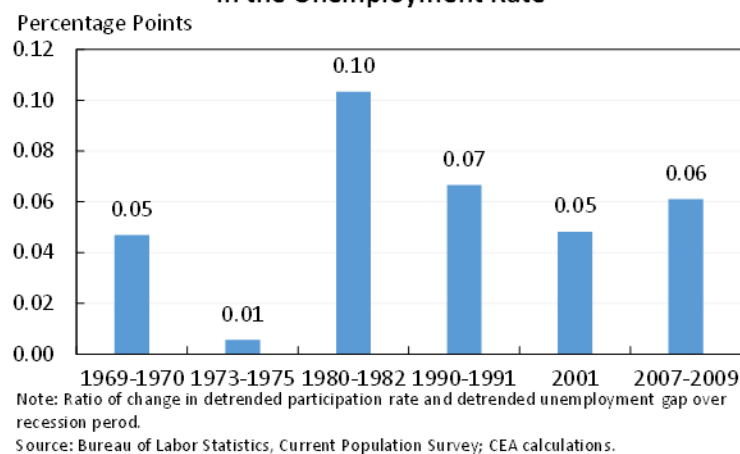
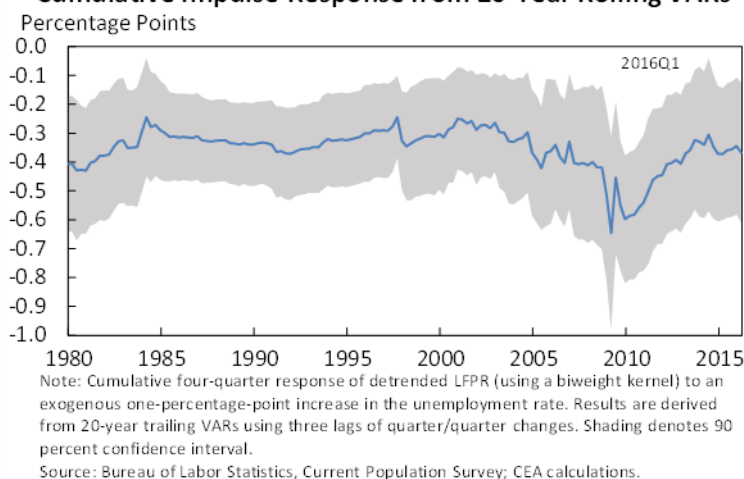


Figure 25 documents the relationship between prime-age male labor force participation and the unemployment rate over time.<sup>11</sup> The responsiveness of the prime-age male labor force participation rate did increase in the Great Recession by this measure, though these changes were not by and large statistically significant, and its responsiveness in the recovery has more or less returned to its level prior to the recession.

<sup>11</sup> Specifically, Figure 25 plots the cumulative four-quarter response of the detrended prime-age male labor force participation rate to an exogenous one-percentage-point increase in the unemployment rate from a vector autoregression (VAR) model using three lags of quarter/quarter changes.

**Figure 25: Detrended Prime-Age Male LFPR: Four-Quarter Cumulative Impulse-Response from 20-Year Rolling VARs**



The United States has seen clear increases in the cyclicity in other labor market metrics, including rates of working part-time for economic reasons and in long-term unemployment—which provide more indicators that labor market slack has continually risen in successive recessions without fully recovering (see CEA 2015a for a fuller discussion of these phenomena). This may be because U.S. labor markets are becoming less “fluid”: we now see fewer job openings and closings and fewer workers moving from job to job than we did in prior decades. Overall efficiency of matching job seekers to available jobs has fallen over time (Hall and Schulhofer-Wohl 2015). This means that the people who lose their jobs when the economy is hit by a shock cannot cycle back into employment as quickly, potentially leading them to become long-term unemployed, take involuntary part-time jobs, or exit the workforce entirely—all three of which happened during the Great Recession.

## **IV. Policies that Can Boost Labor Force Participation for Prime-Age Men**

A higher labor force participation rate is not an objective of economic policy in and of itself. Expanding the number of people going to college could, for example, remove more young people from the workforce, lowering the overall labor force participation rate. And one benefit of a productive, prosperous country is that people can afford to retire when they get older. Moreover, in any given year people may want the flexibility to pursue training or care for a child or other family member.

Nevertheless, as documented in this report, much of the decline in the labor force participation rate for prime-age men has been considerably more costly, concentrated among less-skilled men and associated with an increase in poverty for this group. Moreover, a range of other evidence suggests this nonparticipation reduces well-being in ways beyond income losses alone. In addition to reducing well-being for these individuals, the declining labor force participation rate for prime-age men is one factor that has lowered the overall growth rate of the U.S. economy—with implications for long-term fiscal sustainability, the rate of return to the pay-as-you-go Social Security system, and a broader range of issues.

The good news is that there are a number of actions that the Federal government can take to help address declining prime-age male participation. The fact that the widespread decline in labor force participation has played out differently in different countries only underscores the extent to which economic policies and institutions can make a difference. The long-term decline in the labor force participation rate, coupled with a continuously aging population, suggests that absent a policy change, one may expect this decline to continue going forward; in fact, unless we take action, the underlying trajectory for the overall labor force participation rate could fall faster than would be predicted by the aging of the population alone.

President Obama has outlined a range of policies that would help boost participation in the workforce among prime-age men. Some of these policies are directly aimed at supporting greater participation, while others have a different primary goal but would have important secondary effects on participation. In all cases, increasing labor force participation is an important part of the strategy to help more prime-age men obtain higher-paying jobs.

### **Supporting Aggregate Demand in the Economy**

As noted above, historical decreases in prime-age male labor force participation have tended to be concentrated in recessions and have been concentrated among less-educated men. One way to mitigate this aspect of the decline in participation would be to expand aggregate demand in the economy, both today, when some slack remains in the labor market, and going forward to ensure that additional demand is helping to counter economic recessions. Maintaining or improving automatic stabilizers—such as Unemployment Insurance and SNAP—would also limit

the severity of future recessions and would help prevent further exit of prime-age men from the labor force during cyclical downturns.

While a range of policies could increase demand and thus support greater labor force participation, investing in public infrastructure can also help directly address the lack of demand for lower-skilled prime-age men (Kane and Puentes 2014). Given low borrowing costs and weak global demand, now is a particularly good time for such investments (IMF 2014; Elmendorf and Sheiner 2016). To this end, President Obama has proposed ambitious new investments in clean infrastructure to build a 21<sup>st</sup>-century transportation system nationwide.

Public policy can also help foster demand for the less-skilled workers who have had a particularly hard time finding work. Programs like the subsidized employment program created under the TANF Emergency Fund during the Great Recession can encourage employers to hire workers they may not have otherwise hired, helping workers reattach to the labor force. Due to the success of this program during the Great Recession, the President proposed a reinstatement of this important countercyclical measure in his Fiscal Year 2017 budget proposal.

In addition, the President has proposed to make the Work Opportunity Tax Credit (WOTC) permanent, which rewards employers for hiring workers from groups that are particularly likely to leave the labor force, including veterans, the long-term unemployed, TANF and SNAP recipients, formerly incarcerated individuals, and SSDI recipients.

### **Increasing “Connective Tissue” in the Labor Market**

The analysis in this report has also shown that simply making labor markets more “flexible” is, at least, not sufficient for effective functioning and that making labor markets more “supportive” is essential. One aspect of this is strengthening the “connective tissue” in the U.S. labor market—institutions and programs that help link workers to jobs. To improve pipelines into well-paying jobs, the President has proposed reforming community college and training systems to help place people into in-demand jobs, providing better search assistance as part of the Unemployment Insurance system, giving workers more flexibility to use Unemployment Insurance to integrate into a new job, insuring workers against earnings losses associated with job loss, and improving educational outcomes.

Reforms to the Unemployment Insurance system could help prevent people from losing their jobs in the first place. Currently, in most States workers are only eligible for Unemployment Insurance when they are laid off, but not when their hours are reduced. This means employers have an incentive to choose layoffs over job sharing and hours reductions. In 2012 the President signed into law incentive payments to expand the number of States offering compensation for hours reductions and as of today 26 States do so. The President’s Fiscal Year 2017 budget proposal includes additional implementation grants and incentives for States to create work-sharing programs. By removing the incentives for firms to cut jobs rather than hours, these programs would help prevent job losses during an economic downturn, as a similar program did in Germany during the most recent recession (Abraham and Houseman 2014).

To further protect the unemployed during future economic downturns, the President has also proposed establishing an automatic extension of the amount of time that people can claim Unemployment Insurance during a recession, from 26 weeks to 52 weeks in States suffering rapid increases in unemployment. This extension would also keep the unemployed more attached to the workforce since job search is a requirement for receiving Unemployment Insurance, preventing some people from dropping out of the workforce when it is harder to find jobs (Farber, Rothstein, and Valletta 2015).

In addition, the President has also proposed a system of wage insurance that would replace up to 50 percent of lost wages (up to a limit of \$10,000) for two years for workers who are laid off and who take new, lower-paid jobs at less than \$50,000 per year. Such a system would offer protection against reduced earnings and create an incentive for the unemployed to get back into employment quickly and remain in the workforce (Bloom et al. 1999; Kletzer and Rosen 2006; Brainard, Litan, and Warren 2006). It could also help smooth consumption during the estimated five-to-six years after job loss that workers face lower wages (Jacobson, LaLone, and Sullivan 1993). In addition, wage insurance could help workers move into new jobs and industries that they may not have otherwise entered (Babcock et al. 2012).

### **Reforming Federal Tax Provisions**

Several changes to Federal tax policy could help to promote work for those who want it. While tax credits like the Earned Income Tax Credit (EITC) and the Child Tax Credit (CTC) reduce taxes for workers with qualifying children and increase labor force participation, the tax system could do more to build on their success. A large body of research shows that the EITC and CTC encourage work (Eissa and Leibman 1996; Hotz, Mullin, and Scholz 2006; Hungerford and Thiess 2013; Marr et al. 2015). Expanding the EITC for low-income childless workers and noncustodial parents, who currently receive only a small EITC or are ineligible altogether, would make work more rewarding for lower-skilled individuals, encouraging participation in the workforce (EOP 2014). This may be especially important for prime-age men, who have become less likely over time to have children.

The President's proposal to expand the childless worker EITC would directly reduce poverty and hardship for more than 13 million low-income workers. Among the groups that would benefit most from the EITC expansion are a number of groups with low or declining labor force participation rates or for whom there are other compelling reasons to subsidize work. These groups include men without a college education, especially minority men; women working at low-wage jobs; young adults not enrolled in school; workers with disabilities; and older workers.

In addition, secondary earners are more responsive to tax rates than primary earners (McClelland, Mok, and Pierce 2014), and they face higher tax wedges on average in the United States than in most advanced countries because we largely base taxes on household, rather than individual, income. The President has proposed creating a new tax credit that would reduce the effective penalty imposed on some secondary earners, which research suggests will increase labor supply and support low- to middle-income families (Kearney and Turner 2013).

## Creating Flexibility for Workers in the Labor Market

Policy changes are also needed ensure that the United States has labor markets that are flexible not just for employers but for employees, since a large body of economic research finds that flexible workplaces provide benefits for workers, businesses, and the economy as a whole. Some important steps along these lines would be to expand access to paid family leave and paid sick days, and to provide greater assistance for child care and early-learning programs—both proposals that the President has supported.

Recent research by Francine Blau and Lawrence Kahn (2013) finds that the labor force participation rate for American women would be around 4 percentage points higher if the United States adopted family-friendly labor market policies comparable to those of other OECD countries. Flexible workplace policies could also help boost participation for men, given that men are increasingly likely to face conflicts between work and caregiving. Partners in two-parent families are increasingly sharing caregiving responsibilities more equally, meaning that both parents have responsibility for both caregiving and work. Work-family conflict can also affect co-workers and employers as conflicts lead to greater absenteeism, lower productivity, and greater turnover (CEA 2015b).

Lessening the constraints families face as they seek to balance work and family can benefit more than just individual families, but also the U.S. economy as a whole. By expanding family-friendly workplace policies, caregivers have more options to make the right choice for them. For example, when workers must choose between spending the first few months at home with a new baby or keeping their job, families are put in a difficult position and the economy potentially loses a worker who would prefer to stay in the labor force if only they had access to paid leave. Similarly, policies that encourage workplace flexibility can help more families meet both their family and professional goals—something that is good for both them and the overall economy.

Additionally, a number of barriers to employment stand in the way of certain groups of prime-age men who are especially likely to not participate in the labor force, including low-income men and those who were formerly incarcerated. Public policy can help remove some of these onerous barriers to help the men who want to work find work.

One such obstacle is the fact that around a quarter of jobs now require an occupational license, up from just 5 percent in the 1950s (CEA 2015c). Although licensing can play an important role in protecting consumer health and safety, in many cases licensing particular professions is unlikely to improve consumer welfare. For example, in some States, an occupational license is necessary to work as a florist or an interior decorator. These unnecessary licensing requirements create a burden for workers, particularly for those with fewer means (Kleiner 2000; 2015; Carpenter et al. 2015). State-level reforms of occupational licensing would help make it easier for people who lose one job to move to a new one, possibly in a new location, and a number of States have begun to take action in this area. Licensure can also bar the formerly incarcerated from a large range of professions, making it harder for this group to find employment in the industries in which they want to work.

In July 2015, the White House put out a set of best practices for State policymakers to enact reforms to reduce the prevalence of unnecessary and overly broad occupational licenses that are hurting workers and consumers. Since then, Congress appropriated the first ever Federal funding to reduce licensing barriers for people moving across State lines and State legislators in 11 States have proposed 15 reforms in line with these recommendations, and 4 bills have passed so far.

### **Other Steps: Raising Educational Attainment, Reforming the Criminal Justice System and Passing Commonsense Immigration Reform**

The Administration has worked intensively on access to high-quality education, criminal justice reform and immigration reform. In addition to their other merits and motivations, all three of these would also help expand labor force participation for prime-age men.

Labor force participation for prime-age men is increasingly a function of education, compounding the long-standing and growing differences in earnings between college graduates and men with less education (see Figure 20 earlier). This is yet another reason that strengthening the U.S. educational system and helping more Americans to finish high school and college have become more important than ever. Building on progress over the past seven years, the Administration has continued to work to improve educational outcomes by expanding high-quality early education, supporting successful teachers, maintaining rigorous standards for students, making college more affordable, and holding institutions of higher education accountable to their students. The President has also proposed making two years of community college free for responsible students.

Reforms to the criminal-justice system could help mitigate the negative effects of mass incarceration on labor force participation (Schmitt and Warner 2011). The most important steps supported by the President include reducing mandatory minimum sentences (especially for nonviolent offenders), passing “ban-the-box” legislation to promote hiring, improving inmates’ prospects for reentry into the workforce by providing them with better education and training opportunities while in prison, and placing fewer restraints on hiring formerly incarcerated individuals.

Comprehensive immigration reform would also help alleviate some of the broader macroeconomic challenges associated with an aging population. Although it would not directly boost the labor force participation rate of native-born workers, immigration reform would raise the overall participation rate by bringing in new workers of prime working age, offsetting some of the macroeconomic challenges associated with the long-run decline in prime-age male participation. Immigration reform would also have broader economic benefits, increasing the productivity and wages of native-born workers and creating more opportunities for high-paying jobs for those born in the United States.

## Reducing Inequality

Finally, while nearly all major advanced economies have seen increases in inequality over the past several decades, inequality both is higher and has increased more quickly in the United States than in other countries. This suggests at a minimum that the United States has substantial room for policies to address inequality without diminishing labor market prospects. Moreover, some steps to reduce inequality may also improve labor force participation. To fight the long-run trend of increasing inequality, the President has proposed raising the minimum wage, giving greater support to collective bargaining, and helping ensure that workers have a strong voice in the labor market. New research confirms previous work showing that the minimum wage in the United States has reduced inequality at the lower end of the wage distribution (Autor, Manning, and Smith 2016), and research shows that union workers do have higher wages relative to their nonunion counterparts and that unionization can reduce wage inequality (CEA 2015d; Card, Lemieux, and Riddell 2004). These policies to reduce inequality would help level the playing field for workers, increasing the incentives to participate in the work force.

## V. Conclusion

The prime-age male labor force participation rate has been falling in the United States for more than half a century. This long-term trend is worrisome, since it indicates that American men between the ages of 25 and 54 are increasingly disconnected from the labor market, lowering potential gains in productivity and economic growth. Although many higher-income economies have also experienced long-term declines in prime-age male labor force participation, the decline in the United States has been noticeably steeper, leaving our labor market—a crucial engine of growth—operating below its potential. Absent policy changes, this long-standing decline could continue, as more Baby Boomers move into retirement, and as younger cohorts enter the labor force at lower rates.

No single factor can fully explain this decline, but analysis suggests that a reduction in the demand for less skilled labor has been a key cause of declining participation rates as well as lower wages for less skilled workers. While increasing receipt of SSDI income may have played a very minor role, it has occurred alongside reductions in other public programs. In all cases, however, there is a large, important, but not fully understood role for institutions—including ones that provide “support” for the functioning of labor markets and fluidity to facilitate labor market transitions.

Although we do not fully understand the long-term decline in prime-age male participation, there are some clear policy solutions to raise labor force participation for this group, many of which would not only support more jobs but also higher paying and better quality jobs. These policy solutions include supporting aggregate demand by investing in infrastructure, improving connective tissue in the labor market by creating a wage insurance system and reforming Unemployment Insurance, reforming the tax code to expand work incentives such as the EITC, encouraging workplace flexibility, increasing access to higher education, reforming the criminal justice system and improving reentry into the workforce for the formerly incarcerated, and much more. The Obama Administration is committed to working towards these goals to help stem the decline in participation and improve our economic potential.

## References

- Aaronson, Stephanie, Tomaz Cajner, Bruce Fallick, Felix Galbis-Reig, Christopher Smith, and William Wascher. 2014. "Labor Force Participation: Recent Developments and Future Prospects." *Brookings Papers on Economic Activity* (Fall 2014): 197-275.
- Abraham, Katharine G., Susan N. Houseman. 2014. "Proposal 12: Encouraging Work Sharing to Reduce Unemployment." *Improving Safety Net and Work Support*. The Hamilton Project.
- Acemoglu, Daron and David H. Autor. 2011. "Skills, Tasks, and Technologies: Implications for Employment and Earnings." In *Handbook of Labor Economics* 4b, eds. David Card and Orley Ashenfelter.
- Arulampalam, Wiji, Paul Gregg and Mary Gregory. 2001. "Unemployment Scarring." *The Economic Journal* 111 (475): 577-584.
- Arulampalam, Wiji, Alison L. Booth and Mark P. Taylor. 2000. "Unemployment Persistence." *Oxford Economic Papers* 52 (1): 24-50.
- Autor, David H., Alan Manning, and Christopher L. Smith. 2016. "The Contribution of the Minimum Wage to US Wage Inequality over Three Decades: A Reassessment." *American Economic Journal: Applied Economics* 8 (1): 58-99.
- Autor, David, David Dorn, and Gordon H. Hanson. 2011. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review* 103 (6): 2121-68.
- Autor, David H. and Mark H. Duggan. 2003. "The Rise in the Disability Rolls and the Decline in Unemployment." *The Quarterly Journal of Economics* 118 (1): 157-206.
- Autor, David H., Frank Levy, and Richard J. Murnane. "The Skill Content of Recent Technological Change: An Empirical Exploration." *The Quarterly Journal of Economics* 118 (4): 1279-1333.
- Autor, David H., Mark H. Duggan, Kyle Greenberg, and David S. Lyle. 2015. "The Impact of Disability Benefits on Labor Supply: Evidence from the VA's Disability Compensation Program." [NBER](#) Working Paper No. 21144.
- Autor, David H., Lawrence F. Katz, and Alan B. Krueger. 1998. "Computing Inequality: Have Computers Changed the Labor Market?" *The Quarterly Journal of Economics* 113 (4): 1169-1213.
- Autor, David H., Lawrence F. Katz, and Melissa Kearney. 2008. "Trends in U.S. Wage Inequality: Revising the Revisionists." *Review of Economics and Statistics* 90 (2): 300-23.
- Autor, David H. and Melanie Wasserman. 2013. "Wayward Sons: The Emerging Gender Gap in Labor Markets and Education." *Third Way*.
- Babcock, Linda, William J Congdon, Lawrence F. Katz, Sendhil Mullainathan. 2012. "Notes on behavioral economics and labor market policy." *IZA Journal of Labor Policy* 1 (2): 1-14.
- Beaudry, Paul, David A. Green, and Benjamin M. Sand. 2016. "The Great Reversal in the Demand for Skill and Cognitive Tasks." *Journal of Labor Economics* 34 (1): s199-s247.
- Black, Sandra E., Paul J. Devereux, and Kjell G. Salvanes. 2015. "Losing Heart? The Effect of Job Displacement on Health." *ILR Review* 68 (4): 833-61.
- Blau, Francine. 1998. "Trends in the Well-Being of American Women, 1970-1995." *Journal of Economic Literature* 36 (1): 112-65.

- Blau, Francine and Lawrence Kahn. 2013. "Female Labor Supply: Why is the US Falling Behind?" *American Economic Review* 103 (3): 251-256.
- Bloom, Howard, Saul Schwartz, Susanna Lui-Gurr, and Suk-Won Lee. 1999. *Earnings Supplement Project (ESP) – Testing a Re-employment Incentive for Displaced Workers*.
- Brainard, Lael, Robert E. Litan, and Nicholas Warren. 2006. A fairer deal for America's workers in a new era of offshoring. In *Brookings Trade Forum 2005: Offshoring White-Collar Work*, Susan M. Collins and Lael Brainard, eds. Washington, DC: Brookings Institution Press, 427–56.
- Card, David and Alan B. Krueger. 1994. "Minimum Wages and Employment: A Case Study of the Fast Food Industry in New Jersey and Pennsylvania." *American Economic Review* 84 (4): 722-94.
- Card, David, Thomas Lemieux and W. Craig Riddell. 2004. "Unions and Wage Inequality." *Journal of Labor Research* 25 (4): 519-62.
- Carpenter, Dick M. II, Lisa Knepper, Angela C. Erickson, and John K. Ross. 2015. "Regulating Work: Measuring the Scope and Burden of Occupational Licensure Among Low- and Moderate-Income Occupations in the United States." *Institute of Economic Affairs*.
- Charles, Kerwin K., Erik Hurst, and Matthew J. Notowidigdo. 2013. "Manufacturing Decline, Housing Booms, and Non-Employment." NBER Working Paper No. 18949.
- Coglianesi, John. 2016. "Shrinkouts versus Dropouts: Explaining Declines in Labor Force Participation." Working Paper. [http://scholar.harvard.edu/files/coglianesi/files/Coglianesi\\_2016.pdf?m=1466104918](http://scholar.harvard.edu/files/coglianesi/files/Coglianesi_2016.pdf?m=1466104918).
- Council of Economic Advisers. 2014b. *Eleven Facts About American Families and Work*.
- Council of Economic Advisers. 2014a. *The Labor Force Participation Rate Since 2007: Causes and Policy Implications*.
- Council of Economic Advisers. 2015a. "Chapter 3: Achievements and Challenges in the U.S. Labor Market." *Economic Report of the President*.
- Council of Economic Advisers. 2015b. "Chapter 4: The Economics of Family-Friendly Workplace Policies." *Economic Report of the President*.
- Council of Economic Advisers. 2015c. *Occupational Licensing: A Framework for Policymakers*.
- Council of Economic Advisers. 2015d. *Worker Voice in a Time of Rising Inequality*.
- Eissa, Nada and Jeffrey B. Liebman. 1996. "Labor Supply Response to the Earned Income Tax Credit." *Quarterly Journal of Economics* (May 1996): 605-37.
- Eliason, Marcus and Donald Storrie. 2009. "Does Job Loss Shorten Life?" *The Journal of Human Resources* 44 (2): 277-302.
- Elmendorf, Douglas and Louise Sheiner. 2016. "Federal Budget Policy with an Aging Population and Persistently Low Interest Rates." Hutchens Center on Fiscal & Monetary Policy at Brookings Working Paper #18.
- Executive Office of the President and the U.S. Treasury Department. 2014. "The President's Proposal to Expand the Earned Income Tax Credit."
- Farber, Henry S., Jesse Rothstein, and Robert G. Valletta. 2015. "The Effect of Extended Unemployment Insurance Benefits: Evidence from the 2012-2013 Phase-Out." *American Economic Review: Papers and Proceedings* 105 (5): 171-6.
- Foote, Christopher L. and Richard W. Ryan. 2015. "Labor Market Polarization over the Business Cycle." NBER Working Paper No. 21030.

- French, Eric and Jae Song. 2014. "The Effect of Disability Insurance Receipt on Labor Supply." *American Economic Journal: Economic Policy* 6 (2): 291-337.
- Gelber, Alexander. Timothy Moore, Alexander Strand. 2016. "The Effect of Disability Insurance Payments on Beneficiaries' Earnings." NBER Working Paper 21851.
- Gerdtham, Ulf-G. and Magnus Johannesson. 2003. "A Note on the Effect of Unemployment on Mortality." *Journal of Health Economics* 22 (3): 505-518.
- Gould, Eric D., Bruce A. Weinberg and David B. Mustard. 2002. "Crime Rates and Local Labor Market Opportunities in the United States: 1979-1997." *The Review of Economics and Statistics* 84 (1): 45-61.
- Hall, Robert E. and Sam Schulhofer-Wohl. 2015. "Measuring Job-Finding Rates and Matching Efficiency with Heterogeneous Jobseekers. NBER Working Paper 20939.
- Holzer, Harry J. 2007. "Collateral Costs: The Effects of Incarceration on the Employment and Earnings of Young Workers." IZA Discussion Paper No. 3118.
- Holzer, Harry J., Paul Offner, and Elaine Sorensen. 2005. "Declining Employment among Young Black LessEducated Men: The Role of Incarceration and Child Support." *Journal of Policy Analysis and Management* 24(2): 329- 350.
- Hotz, V. Joseph, Charles H. Mullin, and John Karl Scholz. 2006. "Examining the Effect of the Earned Income Tax Credit on the Labor Market Participation of Families on Welfare." National Bureau of Economic Research Working Paper No. 11968.
- Hungerford, Thomas L. and Rebecca Thiess. 2013. "The Earned Income Tax Credit and the Child Tax Credit." Economic Policy Institute Policy Brief 370.
- International Monetary Fund. 2014. "Is it Time for an Infrastructure Push? The Macroeconomic Effects of Public Investment." *World Economic Outlook: Legacies, Clouds, Uncertainties*: 75-114.
- Jacobson, Louis, Robert LaLonde, and Daniel Sullivan. 1993. *The Costs of Worker Dislocation*. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Juhn, Chinhui and Simon Potter. 2006. "Changes in Labor Force Participation in the United States." *Journal of Economic Perspectives* 20 (3): 27-46.
- Juhn, Chinhui, Kevin M. Murphy, and Robert H. Topel. 2002. "Current Unemployment, Historically Contemplated." *Brookings Papers on Economic Activity* 50 (1): 79-136.
- Juhn, Chinhui, Kevin M. Murphy, Robert H. Topel, Janet L. Yellen, and Martin Neil Baily. 1991. "Why has the Natural Rate of Unemployment Increased over Time?" *Brookings Papers on Economic Activity* 22 (2): 75-142.
- Kane, Joseph and Robert Puentes. 2014. "Beyond Shovel-Ready: The Extent and Impact of U.S. Infrastructure Jobs." *Brookings Institution*.
- Kearney, Melissa S. and Lesley J. Turner. 2013. "Giving Secondary Earnings a Tax Break: A Proposal to Help Low- and Middle-Income Families." The Hamilton Project Discussion Paper 2013-07.
- Kleiner, Morris. 2000. "Occupational Licensing." *Journal of Economic Perspectives* 14 (4): 189-202.
- Kleiner, Morris. 2015. "Reforming Occupational Licensing Policies." The Hamilton Project Discussion Paper 2015-01.
- Kletzer, Lori G. and Howard Rosen. 2006. "Reforming Unemployment Insurance for the Twenty-First Century Workforce." The Hamilton Project Discussion Paper 2006-06.

- Knabe, Andrea and Steffen Ratzel. 2011. "Scarring or Scaring? The Psychological Impact of Past Unemployment and Future Unemployment Risk." *Economica* 78 (310): 283-293.
- Lin, Ming-Jen. 2008. "Does Unemployment Increase Crime? Evidence from U.S. Data 1974-2000." *The Journal of Human Resources* 43 (2): 413-436.
- Lucas, Richard E, Andrew E. Clark, Yannis Georgellis, and Ed Diener. 2004. "Unemployment Alters the Set Point for Life Satisfaction." *Psychological Science* 15 (1): 8-13.
- Marcus, Jan. 2014. "Does Job Loss Make You Smoke and Gain Weight?" *Economica* 81 (324): 626-648.
- Marr, Chuck, Chye-Ching Huang, Arloc Sherman, and Brandon DeBot. 2015. "ETC and Child Tax Credit Promote Work, Reduce Poverty, and Support Children's Development, Research Finds." Center on Budget and Policy Priorities.
- McClelland, Robert, Shannon Mok, and Kevin Pierce. "Labor Force Participation Elasticities of Women and Secondary Earners within Married Couples." CBO Working Paper 2014-06.
- Oreopoulos, Philip, Marianne Page, and Ann Huff Stevens. 2008. "The Intergenerational Effects of Worker Displacement." *Journal of Labor Economics* 26 (3): 455-83.
- Pager, Devah. 2003. "The Mark of a Criminal Record." *American Journal of Sociology* 108(5): 937-975.
- Raphael, Steven and Rudolf Winter-Ebmer. 2001. "Identifying the Effect of Unemployment on Crime." *The Journal of Law and Economics* 44 (1): 259-283.
- Rege, M., K. Telle, and M. Votruba. 2011. "Parental Job Loss and Children's School Performance." *The Review of Economic Studies* 78 (4): 1462-1489.
- Schmitt, John and Kris Warner. 2011. "Ex-offenders and the Labor Market." *The Journal of Labor and Society* 14: 87-109.
- Schneider, Friedrich. 2012. "The Shadow Economy and Work in the Shadow: What Do We (Not) Know?" IZA Discussion Paper Series No. 6423.
- Stewart, Jay. 2008. "Chapter 5: The Time Use of Nonworking Men." *How Do we Spend Our Time?: Evidence from the American Time Use Survey*.
- Stewart, Jay. 2006. "Male Nonworkers: Who Are They and Who Supports Them?" *Demography* 43 (3): 537-552.
- Winkelmann, Liliana and Rainer Winkelmann. 1995. "Happiness and Unemployment: A Panel Data Analysis for Germany." *Applied Economics Quarterly* 41 (4): 293-307.