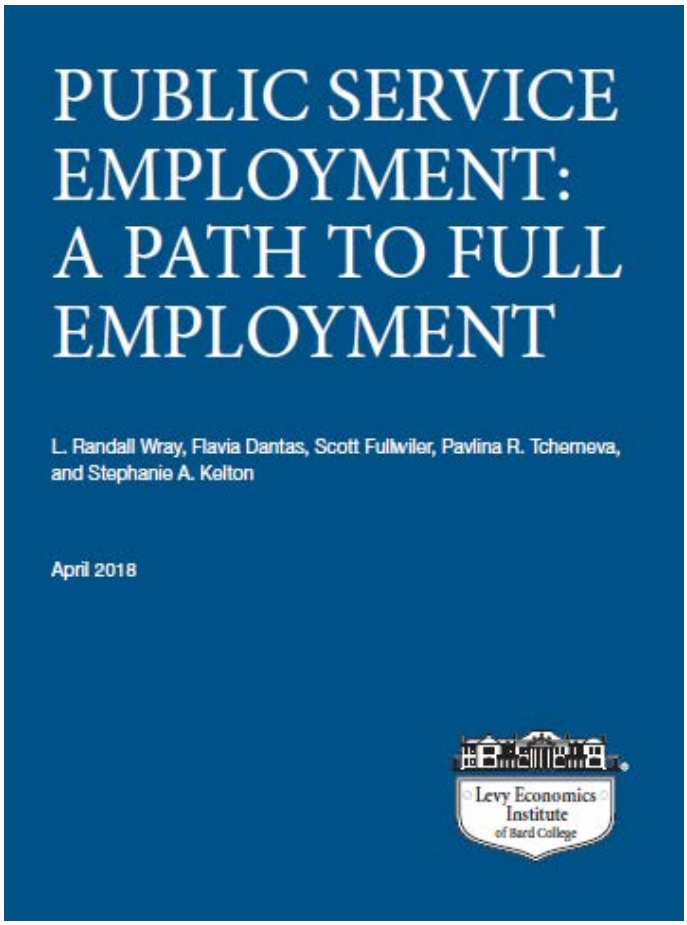
# PUBLIC SERVICE EMPLOYMENT
## A PATH TO FULL EMPLOYMENT

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*A series of Levy Institute publications (published and forthcoming) provide more detail on the topics found in each section of this report. These background papers include:*

*L. Randall Wray, Stephanie A. Kelton, Pavlina R. Tcherneva, Scott Fullwiler, and Flavia Dantas, "Guaranteed Jobs through a Public Service Employment Program," Policy Note 2018/2, Levy Economics Institute of Bard College*

*L. Randall Wray and Flavia Dantas, "Full Employment: Are We There Yet?" Public Policy Brief No. 142, Levy Economics Institute of Bard College*

*Flavia Dantas and L. Randall Wray, "The Public Service Employment Program: Projections of the Program's Size, Demographics, and Impacts on Poverty," Working Paper, Forthcoming, Levy Economics Institute of Bard College*

*Scott Fullwiler, "Simulating a Large Job Guarantee Paying Above Poverty-Level Wages Plus Benefits," Working Paper, Forthcoming, Levy Economics Institute of Bard College*

*Pavlina R. Tcherneva, "The Job Guarantee: Design, Jobs, and Implemenation," Working Paper No. 902, Levy Economics Institute of Bard College*

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# Executive Summary

Despite headline-grabbing reports of a healthy US labor market, millions of Americans remain unemployed and underemployed. It is a problem that plagues our economy in good times and in bad—there are never enough jobs available for all who want to work. The problem is most acute for women, youths, blacks, and Latinos, although research also finds a persistent lack of employment for large numbers of working-age men. This report asks a set of big questions: What if we sought to eliminate involuntary unemployment across *all* demographic groups and geographic regions, by directly creating jobs in the communities where they are needed through a federally funded Public Service Employment program? How could such a radical transformation of the labor market be implemented? What would it cost, and what would it mean for the US economy?

A number of important implications emerge from this analysis. Joblessness, defined as the inability to secure a job at a living wage ($15 per hour), can be eliminated in every corner of America for every eligible person who desires to work. With a standing job offer—a "public option"—available at all times, the US labor market would transition to a permanent state of true full employment. Millions of American families would be lifted out of poverty, and the economy would grow as the benefits of the program spill over into the private sector. Perhaps most astonishingly, this can all be done without the need to raise taxes and without creating an inflation problem.

We propose the creation of a Public Service Employment (PSE) program that would offer a job at a living wage to all who are ready and willing to work. This is a "job guarantee" program that provides employment to all who need work by drawing from the pool of the otherwise unemployed during recessions and shrinking as private sector employment recovers. Federally funded but with a decentralized administration, the PSE program would pay $15 per hour for both full- and part-time positions and offer benefits that include health insurance and childcare. In addition to guaranteeing access to work on projects that serve a public purpose, the PSE program establishes effective minimum standards for wages and benefits.

We have simulated the economic impact over a ten-year period of implementing the PSE program beginning in 2018Q1. Drawing from the unemployed, underemployed, and those who are out of the labor force, the program would attract roughly 15 million people into the PSE workforce, based on our higher-bound estimates of likely program participants. While the report also presents lower-bound estimates, the results highlighted here correspond to this higher-bound scenario:

- Real, inflation-adjusted GDP (2017Q4 dollar values) would be boosted by $560 billion per year on average, once the PSE program is at full strength (from 2020 to 2027).
- The economic stimulus generated by the PSE program would also increase private sector employment by up to an additional 4.2 million private sector jobs relative to the baseline, due to the "multiplier effects" of the program.
- Even though it boosts GDP by over $500 billion per year, adds more than 19 million private and public service jobs, and raises wages nationwide above $15 per hour, the program's impact on inflation is minor: the boost to inflation peaks at 0.74 percentage points higher than the baseline projection and then progressively falls to a negligible 0.09 percentage points higher than the baseline by the end of the simulation period.
- The program's net impact on the federal budget averages 1.53 percent of GDP in the first five years of the program (2018–22) and 1.13 percent of GDP in the last five years (2023–27). These net budgetary impacts could be significantly overestimated, since the simulation makes very cautious assumptions about offsetting reductions in Medicaid and Earned Income Tax Credit (EITC) expenditures that would result from higher employment and wages.

- State-level government budgets are improved by a total of $53 billion per year by boosting employment and growth.

- Based on the demographics of estimated PSE participants, the program would disproportionately benefit women and minorities.

- One full-time worker in the PSE program could lift a family of up to five out of poverty. With one full-time and one part-time worker, a family of eight could rise above the poverty line.

- In addition to these measured benefits, the PSE program would lower spending by all levels of government, as well as by businesses and households, on a range of costly problems created by unemployment. It is possible that the program would "pay for itself" in terms of savings due to reduced crime, improved health, greater social and economic stability, and larger reductions in Medicaid and EITC expenditures than those assumed in the simulations.

- The projects undertaken in every community would provide visible benefits, meeting specific local needs through work that involves caring for people, strengthening communities, and protecting and renewing the environment. This report develops a blueprint for the design, jobs, and implementation of the PSE proposal for the United States.

Unemployment, hidden and official, with all of its attendant social harms, is a policy choice. The results in this report lend more weight to the argument that it is a policy choice we need no longer tolerate. True full employment is both achievable and sustainable.

# Introduction

This report examines the economic effects of implementing a nationwide job creation program. In this section, we first provide a brief overview of the goals and structure of the proposal, which would create millions of new jobs at a living wage in a new program that we call Public Service Employment (PSE). We then turn to a summary of the major findings regarding the economic effects of such a program.

## Goals and Structure of the Proposed Program

We see the PSE program as part of a restructuring of the economy that represents a radical departure from the neoliberalism that has dominated national policy for the past four decades. Neoliberal doctrine has resulted in stagnant wages, chronically high unemployment, declining labor force participation among prime-age male workers, rising inequality that already exceeds the levels achieved during America's notorious "Gilded Age," and an explosion of household debt. Other key initiatives in this restructuring include calls for a national infrastructure investment plan, the movement to eliminate student debt (see Fullwiler et al. 2018), proposals to create "Medicare for All," and the push to raise minimum wages to $15 per hour.

The PSE program would play a complementary role by offering paid work at a living wage of $15 per hour with a basic package of benefits that would include healthcare provided through an expansion of Medicare. It would ensure full employment in the sense that the program would supply a job to anyone ready and willing to work. Jobs would be provided in every community—taking workers where they are, providing an economic boost to every community in the country.

In recent months, there has been a surge of interest in the creation of a national "job guarantee."[1] These proposals (rightly) recognize that our nation is failing to provide an opportunity to work for millions of Americans who want and need jobs. The authors of this report have been working on such a proposal for nearly a quarter of a century. We have examined America's experience with job creation programs, including the New Deal programs as well as those adopted in other countries. As a result of our long investigation of the successes and failures of those experiences, we have designed a program that is in some respects simpler than other proposals and yet provides greater potential for economic stabilization.

Our PSE program would pay a uniform program wage of $15 per hour for both part-time and full-time work. This ensures that anyone ready and willing to work will be able to earn at least that wage. In other words, this becomes the effective minimum wage across the country—a wage other employers will have to meet (either by paying at least that wage or by offering other benefits or opportunities in compensation for a lower wage). It also offers basic healthcare (we suggest that this be done through an expansion of Medicare) as well as other basic benefits (such as childcare). Again, this effectively establishes a minimum benefits package that other employers will have to match (or compensate for, if they do not match).

This inclusion of benefits and a generous wage was also part of the strategy that President Roosevelt attempted to pursue in his New Deal jobs programs, and his purpose was similar. By paying a living wage (with benefits), the program would provide a boost to living standards at the bottom. Unfortunately, President Roosevelt was not able to achieve that goal—he was forced by political opposition to accept a tiered wage structure, with relatively decent wages for skilled workers but poverty-level wages for low-skilled workers. States dominated by conservative politicians then ensured that most jobs created in their states through New Deal programs like the Works Progress Administration (WPA) were designated as low-skilled jobs, in order to keep wages low (NRPB 1941; Henry 2016). Radical restructuring of US labor markets to ensure that anyone who works full time will earn a living wage requires a high minimum program wage.

In addition, Roosevelt's plan for the New Deal jobs programs was to create employment that did not compete with private sector activities. The goal was to ensure full employment with decent basic wages, but to do so without putting private employers out of

business. It is important that the program of job creation does not pull workers out of existing jobs in the private sector. Our PSE program is designed to ensure that all employers pay fair (living) wages, but without competing for employees or displacing private sector undertakings.

Some job guarantee proposals would pay tiered wages, with higher wages for workers of higher skill. We see two problems with such a strategy. First, it could generate the same political fighting that we saw over the New Deal programs. States dominated by conservatives will try to exclude projects with higher wages. More importantly, higher wages for workers with greater skills will increase competition with private sector employers. Indeed, during periods of economic growth, there is already substantial competition for skilled workers. We believe that the most serious unemployment problem faced in the United States is chronic unemployment for workers with lower skills and education—they have high unemployment (and underemployment) through thick and thin of the business cycle. Our design targets job creation to this group. While workers with greater education and skills will turn to this program when jobs are scarce, PSE participation for them will be transitional: they will work temporarily in the program until conditions improve. Since their normal pay will be above the program wage of $15 per hour, they will have an incentive to return to employment outside the program. The PSE program will not try to retain them with pay above $15 per hour.

On the other hand, PSE will provide not only the opportunity to work for those with lower skills and education, it will enhance their chances to obtain work outside the program. They will gain work experience as well as on-the-job training. This should be made an explicit goal of every job created in the program. As such, when labor markets are tight, employers will recruit workers out of the PSE program.

By design, employment in the PSE program will move in a countercyclical pattern—growing in downturns and shrinking in recoveries as workers are pulled into the private sector. This helps to stabilize economic activity and household incomes. Economists call this an "automatic stabilizer." The government's budget will also move in a countercyclical manner as spending on the program cycles with the economy. This, too, helps to smooth cyclical fluctuations.

While we recognize some advantages to designs that feature a federally administered program like the WPA, we prefer a highly decentralized program. Today, the federal government directly employs only 2.8 million workers (less than 2 percent of US employment). Advocates of a universal job guarantee recognize that the program might employ five times that number of workers. We worry about the political feasibility of expanding federal employment on such a scale. We also see the advantages of decentralizing administration to the community level. Since the goal is to create jobs in every community, and to create projects that are beneficial to every community, it makes sense to involve the local communities in these projects, from the proposal stage through to implementation, administration, and evaluation.

Hence, while we would have the federal government provide the funding for the program, we would allow state and local governments as well as registered nongovernmental not-for-profits to put forth proposals. (To retain a level playing field within the private sector, we would not allow for-profit firms to participate—as they might try to replace part of their workforce with federally paid or subsidized workers.) Since federal monies would be spent, we envision that project assessment and evaluation would take place at multiple levels: community, state, regional, and federal.

We expect that most of the jobs created will provide public services in nonprofit community organizations, public schools, and state and local governments. We recommend that the federal government's role be largely confined to providing administrative services (through local employment offices), project evaluation, and funding of wages, benefits, and some materials costs. However, if state and local efforts prove to be insufficient, the federal government will need to create supplemental projects to ensure a sufficient number of jobs are made available to all seeking work. These should be targeted to underserved groups.

While some advocates of job guarantee programs would follow the New Deal in undertaking large-scale public works projects, we would limit the use of PSE workers on infrastructure projects to small-scale projects or for approved apprenticeship or other trainee positions. We do this to avoid conflicts with the Davis-Bacon Act and prevailing wage laws that require wages higher than $15 per hour. As discussed above, we do not favor a tiered wage structure within the PSE

program. Further, we do not want the program to compete with private sector employment. Virtually all public works projects today involve government contracts that are awarded to private construction firms. We would not use the PSE program to compete with private contractors or subvert prevailing wage laws. However, PSE workers could be used for very small projects (installing playground equipment), simple maintenance of infrastructure (planting vegetation as screening), and environmental retrofitting (adding insulation to housing in low-income neighborhoods or to community buildings), where such projects do not conflict with applicable prevailing wage laws or the Davis-Bacon Act.

The types of projects undertaken will vary across the country, consistent with variations in state and local labor laws and needs. We also envision experimentation with alternative approaches to employment and the provision of community services. For example, a number of proposals for the creation of workers' co-ops could be solicited. These might be supported by the PSE program for a limited time, with the federal government paying wages until the co-ops become self-supporting. Additionally, proposals can be solicited for apprenticeship programs that would train PSE workers for skilled employment outside the program after a specified term of PSE. While we want to avoid funding of programs that train workers for jobs that do not exist, training should be a part of every PSE job and some room should be made in the program for approved apprenticeship programs. Again, state and local rules will determine what kinds projects will be allowed.

While we advocate a program wage of $15 per hour, we recognize that moving immediately from the current federal minimum wage to $15 per hour would be disruptive in many regions of the country. Further, scaling up to a national program that might employ 15 million workers will take time. Hence, we recognize that the program will probably be phased in over a period of several years, both in terms of the numbers employed and the wage and benefits paid. Current proposals for lifting the minimum wage frequently allow for gradual increments, with the wage finally reaching $15 per hour in 2022. This allows employers to adjust to higher wages over a period of time. Implementation of the PSE program could follow a similar schedule.

## Economic Effects on Output, Employment, Inflation, Government Budgets, and Poverty

This report presents for the first time the results of macroeconomic simulations for our proposed PSE program (see Section 3). For the purposes of the simulation, we assume that it is implemented in the first quarter of 2018 and fully phased in by the first quarter of 2019. We then run the simulation for a ten-year period, through the fourth quarter of 2027. In other words, we use real-world data for economic output, prices, employment, and demographics as inputs to provide a baseline forecast, and then add the program in order to compare the outcome against the baseline. We obtain estimates for important economic variables such as employment, output, income, inflation, and budget deficits.

The model we use is the widely adopted Fair model, which has proven to provide a robust fit to real-world data over a long period of time. For the purposes of the simulation, we assume that the program pays $15 per hour, which equates to $31,200 annually for full-time work. We assume that the average work week is 32 hours, which includes a mix of full-time and part-time workers. The program's nonwage benefit costs are set at 20 percent. In addition, we assume that the program's materials and other costs are equal to 25 percent of wage costs. As discussed, we recognize that real-world implementation of a PSE program would be phased in over a period of years, with the wage gradually rising to $15 per hour, but for the purposes of our analysis we model a program that is implemented quickly (over four quarters) and pays $15 per hour from the beginning.

We ran four simulations, using two settings for each of two sets of scenarios: higher- and lower-bound versions of the PSE program, both simulated with and without the Federal Reserve's interest rate reaction function "turned on." The higher-bound version adopts assumptions that lead to greater participation in the program, while the lower-bound assumptions lead to a smaller program. With the Fed's reaction function "turned off," we assume that the Fed does not raise interest rates in response to faster economic growth as the program increases employment and GDP growth; with it turned on, the Fed is presumed to raise rates to "lean against the wind."

These simulations present how the economy, government budget, and the Fed will react to the PSE program, given alternative assumptions about the number of people who will accept the offer of a job. While we report the results from all four simulations, we feature the results from the higher-bound version. Not only does the higher-bound simulation result in the biggest program, but it also has the biggest impact on GDP, private sector employment, the federal budget, and inflation. We choose this simulation because we want to err on the side of assumptions that many would view as least favorable to such a program—that is, the most costly and inflationary.

We also choose to feature the results with the Fed turned off. This is the more inflationary scenario, since the Fed does not raise rates in response to inflation pressures. There is a tradeoff, however: the program is actually bigger with the Fed turned on because, by raising rates and slowing growth, the Fed's reaction reduces private sector employment—with downsized workers moving into PSE. Further, the higher interest rates produced by the Fed's rate hikes increase the government's debt service so that total federal government spending is higher. We prefer to leave the Fed turned off because of the significant uncertainty over forecasting future interest rate policy.[2] None of these effects is large, however.

We find that employment in the program at the higher bound peaks in 2022 at 15.4 million with the Fed's interest rate rule off.[3] The stimulus from PSE would also generate more than 4 million additional *permanent* private sector jobs (in the higher-bound simulation with the Fed turned off).[4] Section 2 breaks down the likely PSE workforce according to the labor market categories from which they are drawn: using data for 2017Q3, we find that 5 million to 6 million PSE participants would come from among the unemployed, 3 million to 6 million would leave involuntary part-time work for the opportunity to work full time in PSE, and about 5 million would reenter the labor force to obtain paid employment.

The PSE program would boost real GDP by over half a trillion dollars per year.[5] Surprisingly, even with the boost to employment (over 19 million more workers, with more than 15 million in PSE and 4 million new jobs in the private sector compared to the Fair model's baseline) and the rise of the effective minimum wage to $15 per hour nationwide, the impact on inflation would be macroeconomically insignificant: the increase of inflation over the baseline inflation rate peaks at 0.74 percentage points in 2020 (in the higher-bound version without the Fed hiking interest rates in response to inflation).[6] By the end of 2027, the PSE program's inflationary impact falls to 0.09 percentage points (higher-bound assumptions), as the economy has adjusted to the higher wages and levels of employment. In other words, moving to full employment at a living wage only minimally and temporarily boosts inflation, which then falls essentially to "white noise" as full employment is maintained through PSE.

While federal spending rises, federal tax revenue also rises, so that the net increase in the budget deficit is modest: $378 billion per year in the first five years and $415 billion per year in the second five years for the higher-bound simulations without the Fed's rule. As a percentage of GDP, the net budgetary impacts are modest even with debt service included, with averages for all simulations falling between 1 percent and 2 percent of GDP. Net budgetary impacts less interest average between 0.83 percent and 1.13 percent of GDP for the lower-bound simulations, and 1.13 percent to 1.53 percent of GDP in the higher-bound simulations. Improved economic performance would help state government budgets, improving budgets by about $53 billion per year (in the higher-bound simulation).

However, these estimates are based on very conservative assumptions regarding potential savings on a wide range of federal, state, and local programs that are targeted to low-income households. In 2015, the federal government spent $104 billion on Food and Nutrition Service programs (including $74 billion for the Supplemental Nutrition Assistance Program, $21 billion for child nutrition programs, and $6 billion for the Special Supplemental Nutrition Program for Women, Infants, and Children), $17.3 billion on Temporary Assistance for Needy Families, $50 billion on housing assistance, and $67 billion on Earned Income Tax Credits. Additionally, total direct spending by states for social services and income maintenance on public welfare was $505 billion (this does not include spending on health, policing, or corrections). It is conceivable that if we included all social and economic benefits—including reductions in poverty, indebtedness, crime, and incarceration and improvements to physical and mental health—the impact on the federal government budget would be far less (and the positive impact on state budgets would be larger) than what we are reporting.

In this report, we also estimate PSE participation and reduction of poverty rates by race and gender (see Section 2). We find that the program would have a significant effect on poverty rates, and that PSE would disproportionately benefit women and minorities. At $15 per hour, one full-time worker could lift a family of up to five out of poverty; with one full-time and one part-time worker, a family of eight could rise out of poverty. Currently, nearly 6 million families live in poverty even with a full-time worker. We find that with one full-time worker per family in the program, 9.5 million children would be lifted out of poverty. The average income gap for the 8 million families living in poverty in 2017 was $10,505—which is less than what a half-time job in the PSE program would pay.

The social and economic costs of unemployment and poverty are already "paid for" by federal, state, and local governments, private firms, charitable organizations, and American households. While it is difficult to estimate the dollar savings that the various levels of government might experience from a program that creates jobs at living wages for perhaps 15 million workers, lifts all workers' wages to at least $15 per hour, and significantly reduces poverty, there is little doubt that social safety net spending would decline and tax revenues would rise. It would be a mistake to focus on the "cost" of federal funding for a national PSE program without considering the much greater economic and social costs already borne by government and society as a whole, a large portion of which are due to inadequate work opportunities.

# Section 1
# Current Labor Force Conditions: Are We Really at Full Employment?

The Federal Reserve, many of the media's pundits, and most policymakers seem to agree that labor markets have recovered. Official unemployment rates have reached the floor that is conventionally believed to be the lowest that should be pursued. And despite core and headline inflation measures that have remained below the Federal Open Market Committee's target for the past five years, economists inside and outside the Fed generally agree that the course of normalization of the federal funds rate should continue.

While naysayers are in the minority, there is some contrary evidence that troubles at least some observers. Labor force participation rates remain well below their precrisis levels. Most workers have not seen significant wage increases. Further, a few—including Paul Krugman and Larry Summers—have warned that the nation faces secular stagnation. This is believed to be compounded by growing numbers of prime-age males who are counted as neither employed nor unemployed, but as out of the labor force. On any given day, one out of every six prime-age men has no work of any kind. In addition, growth of labor productivity has generally been disappointing throughout the recovery.

This leads many economists to a pessimistic conclusion: This is as good as it gets. We must lower our expectations for future economic performance. Growth will continue to be much lower than it was during America's golden economic age—the early postwar period. Unemployment rates will never return to their 1960s levels. Labor force participation rates will continue to fall—as those with lower educational and skill levels give up hope. Real wages will continue to stagnate. The best we can do is to deport immigrants to reduce competition for the scarce supply of jobs, and perhaps provide handouts to those Americans who fail in the competition for scarce paid work.

But does it really have to be this way? Is there really a dearth of useful things that might be done by our unemployed workers? Have we become so blind that we cannot see our failing infrastructure, our understaffed parks with their closed swimming pools and unkempt trails, the unmet needs of our seniors and our children, our polluted ponds and streams that require clean-up, and our low-income housing that would benefit from repairs and insulation? Are we really so unimaginative that we cannot think of a way to match our jobless with paid work tackling the unmet tasks surrounding us?

In the 1930s, President Franklin D. Roosevelt faced a similar situation, albeit one that was even graver than ours is today. Yet he would not accept it as unchangeable. His administration created millions of jobs through the New Deal programs to hire the unemployed and bring the country into the 20th century—with improved roads, airports, schools, and other public buildings, as well as artistic performances and guidebooks to the 48 states. New Deal workers stitched clothes, served hot meals, took care of the sick, and delivered library books to remote towns across the United States on its "nation-changing mission" (Taylor 2009, 3). As Roosevelt put it on April 7, 1932: "These unhappy times call for the building of plans that rest upon the forgotten, the unorganized but the indispensable units of economic power; for plans . . . that build from the bottom up and not from the top down, that put their faith once more in the forgotten man at the bottom of the economic pyramid" (Taylor 2009, 59).

While our unemployment numbers do not look anything like those of the 1930s, we have tens of millions Americans who have been left behind in the current recovery. Many of them do not show up in those official statistics—and too many have given up hope. There is little doubt that this is part of the explanation for the explosion of deaths related to drug addiction, and also for the growing disgust with politics as usual.

In this section we examine labor market conditions that make it clear that we—like Roosevelt in the 1930s—should not and cannot accept them as a "new normal."

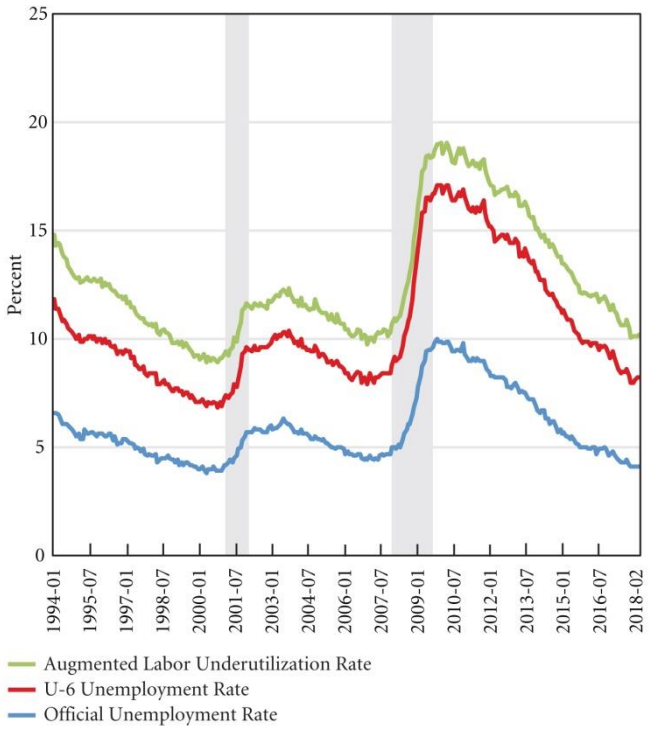
## Current Labor Force Conditions

President Obama stepped out of office with the longest uninterrupted streak of job creation on record—with 15.8 million private sector jobs added since 2010. Indeed, official unemployment rates have fallen into the 4 percent range—rates that are now commonly believed to equate to, and even surpass, "full employment."

While all these developments are welcome, a closer look at labor markets leaves us less comfortable. Part of the problem is that the official measure of unemployment does not count many of those without work who do want jobs and those with part-time work who want to work full time. After reaching its lowest postcrisis levels in October and November 2017, the broader U-6 unemployment rate[7] remained at 8.2 percent in January and February of 2018. In February 2018, there were 6.7 million people unemployed, 5.3 million people employed part time for economic reasons, and 1.6 million people marginally attached to the labor force. A large portion of the marginally attached were discouraged over job prospects (could not find a job) or out of the labor force for other factors that made participation difficult, including childcare and other family responsibilities or lack of access to the means of transportation to work. This is not surprising, given the difficulty of accessing affordable, available, and adequate childcare and public transportation in the United States.

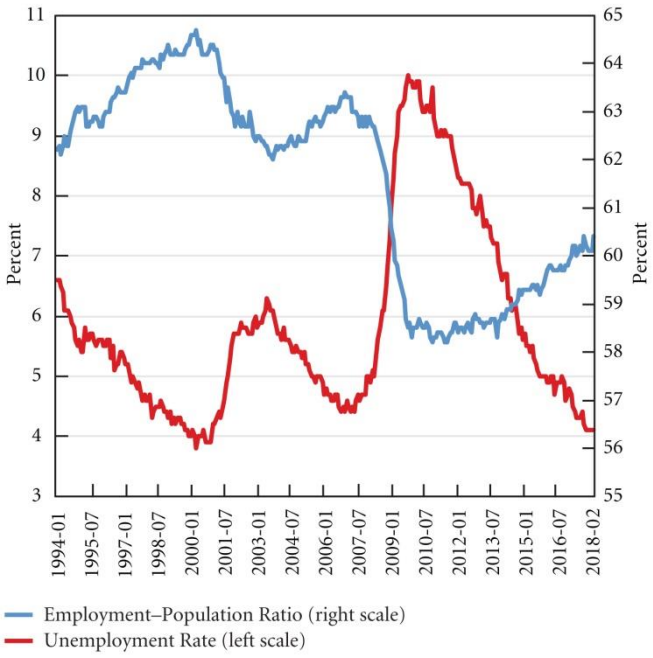
However, even the U-6 measure of unemployment is likely to understate the challenges, because the Bureau of Labor Statistics considers the "marginally attached" to include only those officially out of the labor force who want a job, are available now, and have searched for employment in the previous year. In February 2018, there were an additional 3 million people outside of the labor force who wanted a job then but had not searched for work in the previous year. Taking these people into account, a more comprehensive measure boosts the rate of idle labor to 10.2 percent, a measure labelled "Augmented Labor Underutilization Rate" in Figure 1.1. This means there were approximately 17

**Figure 1.1** Alternative Measures of Labor Underutilization




*Source:* BLS; Authors' calculations

**Figure 1.2** Employment–Population Ratio and Unemployment Rate




*Source:* BLS

million people who would have wanted a job in the United States in February 2018.

Unsurprisingly, the employment–population ratio is nowhere near its prerecessionary levels, as Figure 1.2 shows. In the six-and-a-half years since the ratio stopped falling, it has risen by only 2.1 percentage points. At this pace, it would take more than an additional dozen years of recovery to regain its prerecession peak—an unlikely scenario.

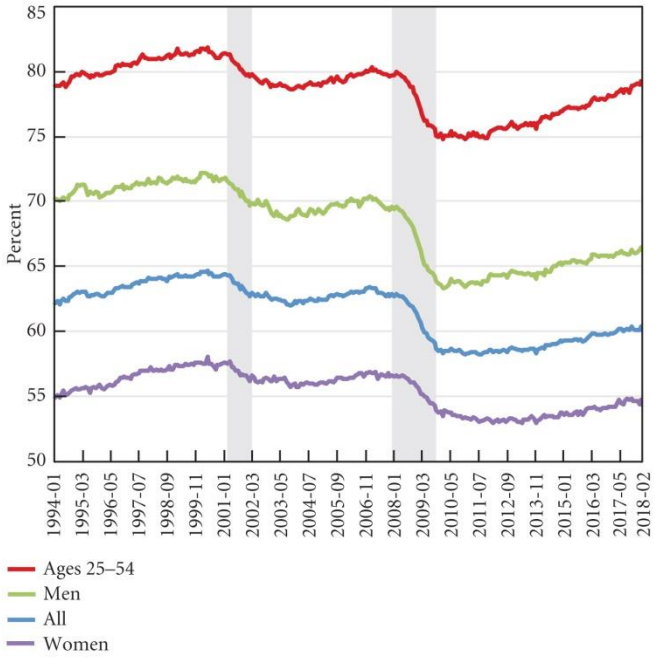
What is striking about this figure is that in recessions the employment–population ratio falls sharply and unemployment rises sharply, but recovery is typically slow. Further, there is a seeming disconnect between unemployment and the employment–population ratio in the current recovery: unemployment has fallen a great deal but the employment–population ratio recovery has barely taken hold a decade after the crisis.

The overall employment–population ratio tends to decline following recessions, but then bounces back for the population as a whole. However, the longer-term, general trend for men has been downward, as the bounce during recovery does not fully offset the fall in recession. And since the 2000s, the ratios for all prime-age workers, and even for women separately, started to exhibit the same pattern as the longer-term ratio for men: since the turn of the new century, while the employment-to-population ratio for women recovered after each recession, it never returned to prerecessionary peaks. As of February 2018, the employment–population ratio still had not returned to the pre–global financial crisis (GFC) peak for any of the groups shown in Figure 1.3. The pattern of this new millennium is that at each downturn more people become excluded—more or less permanently—from labor markets.

This pattern is particularly striking for those of prime working age (25–54 years), who have participated less and less in the labor market. Indeed, as can be seen in Figure 1.4, the labor force participation rate (LFPR) for prime-age males has been on a long-term downward trajectory since 1970. Until 2000, the strong influx of prime-age women into the labor force more than offset the withdrawal of prime-age men. However, since its historical peak in 2000, the overall LFPR continues to fall.

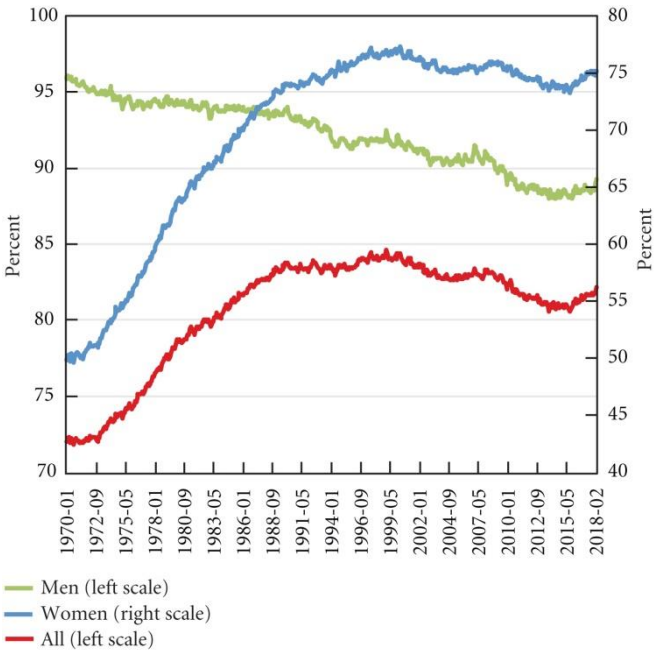
The stagnant or even falling LFPR has been commonly attributed to age demographics: aging of the population pulls down the LFPR due to lower participation (and rising population shares) of retirees over age 55. However, such age demographics cannot apply to the prime-age LFPR. Furthermore, the share

**Figure 1.3** Employment–Population Ratio for Different Demographic Groups



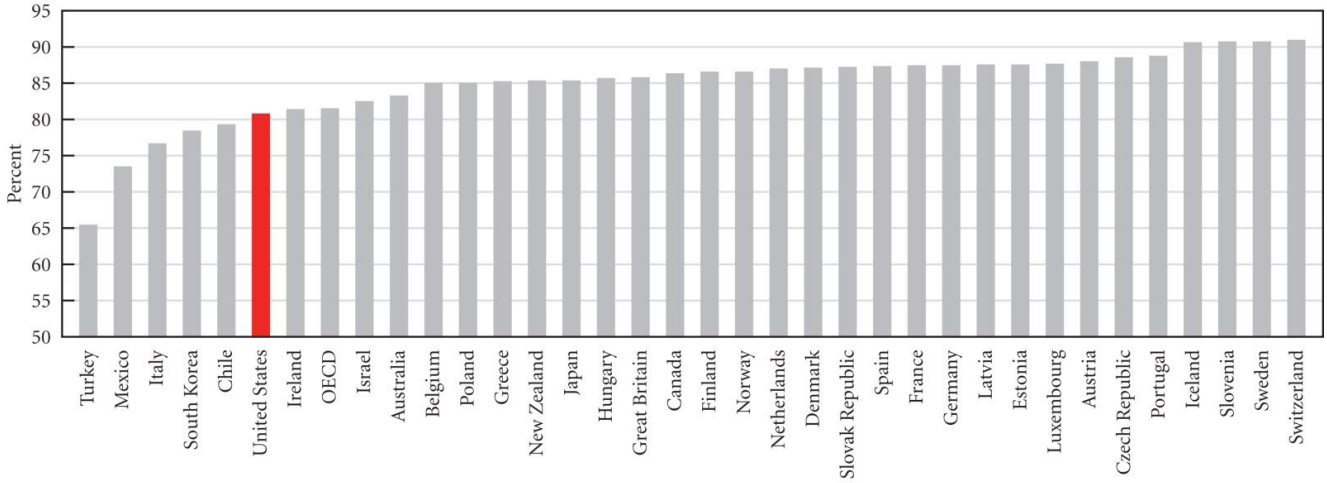

*Source:* BLS; Federal Reserve Bank of St. Louis (FRED)

**Figure 1.4** Labor Force Participation Rates, Ages 25–54




*Source:* BLS

**Figure 1.5** Prime Working Age LFPRs for OECD Countries, 2015




*Source:* OECD

of the population age 55 or older that continues to work has been rising, attenuating the negative impact of aging on the total LFPR.

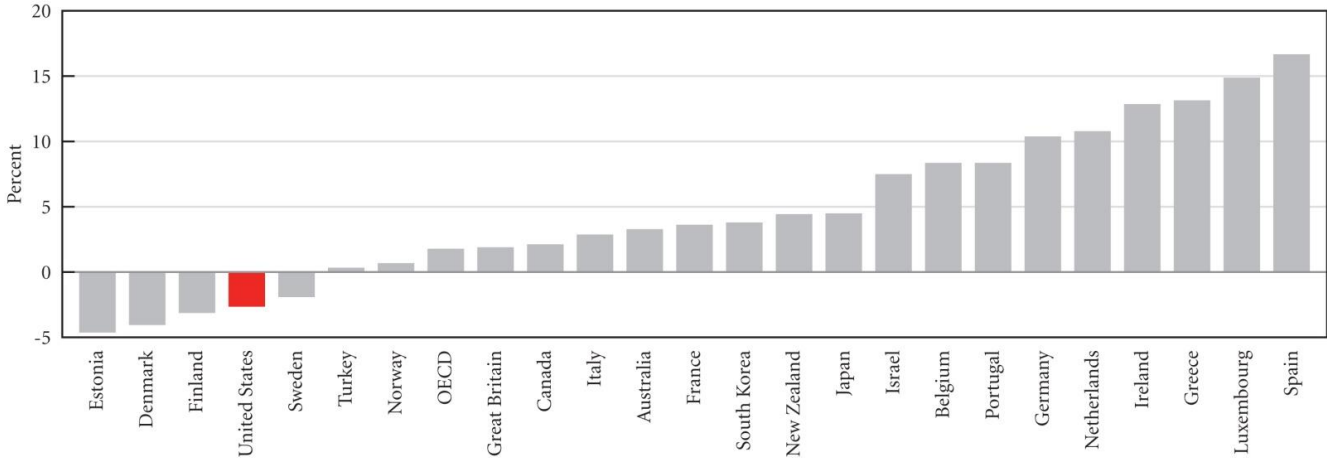
Some have emphasized other structural forces at play. John Williams, president of the Federal Reserve Bank of San Francisco, argues that a growing percentage of (relatively) younger Americans are leaving the labor force to care for children and older family members, obtain more education, or enjoy leisure (Williams 2016). The supply-side case would tell us that more generous social safety-net benefits, combined with an increase in the number of families with two working spouses, have reduced the costs associated with labor force withdrawal. Prime-age workers are more likely to drop out rather than take jobs that require lower skill levels or pay much lower wages.

The evidence suggests that depressed LFPRs for prime-age workers are more likely the result of a combination of insufficient aggregate demand, weak job creation, and stagnant wages—all of which have been persistent problems over the past three or four decades. While short-lived economic expansions have occasionally counteracted these trends, this temporary relief has been provided by unsustainable asset-price bubbles (dot-com stocks, commodities, housing prices) and excessive private indebtedness, which increases fragility and does little for those at the bottom of the income ladder. Further, once the bubbles burst, we return to secular stagnation.

In addition to demographics and "lifestyle" choices, some blame excessive government intervention in labor markets for discouraging job creation. A glance at international comparisons weakens that case. In 2015, the United States had one of the lowest LFPRs among Organisation for Economic Co-operation and Development (OECD) countries, as can be seen in Figure 1.5. It is hard to make the argument that excessive labor market regulation or generous social safety nets are the reason for the lower participation rates in the United States compared with other OECD countries, since those countries generally have labor markets that are more tightly regulated as well as social safety-net schemes that are more extensive and comprehensive. Further, since the US Congress passed the Personal Responsibility and Work Opportunity Reconciliation Act in 1996—which curtailed or imposed time limits on government assistance to those in need, in order to promote private sector work over government dependency of the able-bodied—US participation rates have actually declined in contrast with most other OECD countries (as seen in Figure 1.6). The United States is among only a handful of countries with a falling LFPR.

Furthermore, given that all of these are "aging" economies (in fact, most of them have an older workforce than the United States) and most of them face similar technological innovations that displace labor, it is not likely that these factors can explain the relatively poor performance of US labor markets.

**Figure 1.6** Change in Prime Working Age LFPRs for OECD Countries, 1990–2015




*Sources:* OECD; authors' calculations

Indeed, while the social shifts explanation sounds plausible, it is unlikely that a large number of Americans are voluntarily leaving the labor force in accordance with personal preferences. In fact, as discussed above, the number of those not in the labor force who report not wanting a job now has declined for age groups 16–24 and 25–54. Further, the historical trend for married couples with children under the age of 18 shows a significant increase in the percentage of families in which both parents are employed: from 25 percent in the 1960s to almost 61 percent in May 2016. Neither of these trends is consistent with the "lifestyle changes" argument.

The number of males of prime working age who are neither employed nor looking for a job has more than doubled over the past 50 years, but the "personal choice" to spend more time with family while a spouse works seems to explain little of this decline, as fewer than 25 percent of prime-age people who are not participating in the labor force have a working spouse and nearly 36 percent of them were living in poverty (CEA 2016). Furthermore, the decline in participation among prime-age males is twice that of prime-age males with children.

While the effect of aging on participation is not denied, deficient aggregate demand in the aftermath of the GFC has created a discouraged worker effect. This is the tendency for the long-term unemployed to be classified as being outside the labor force because, in the face of scarce employment opportunities, they cease to actively seek work. In other words, a proportion of the decline in the US participation rate since 2000 is due to a rise in such hidden unemployment.

## Conclusion

Despite the widespread belief that supply-side factors impinge on the ability of the economy to grow faster over the long run, the evidence is that the United States has typically operated with substantial labor market slack. If anything, slack has risen in the aftermath of the GFC, in part due to the discouraged worker effect. This slack, and accompanying downward pressure on wages, reduces the incentive for firms to invest in labor-saving production techniques. That, in turn, reduces the incentive to innovate in order to raise labor productivity.

In other words, lack of sufficient demand for workers—in part due to insufficient demand for US output—produces a vicious cycle of perverse disincentives that together keep employment and aggregate demand, and hence economic growth, lower than they might have been. Unfortunately, policymakers misread this as the existence of supply-side constraints on growth, since they think that depressed labor market participation is largely a supply-side phenomenon.

Although we believe that insufficient aggregate demand is a big part of the problem, general "Keynesian" pump-priming is not the answer. Stimulus needs to take the form of targeted job creation to tighten labor markets for less-skilled workers. If we are serious about improving the conditions of working America, we should revisit Roosevelt's New Deal jobs programs and Hyman Minsky's employer of last resort proposal to create jobs where they are needed while improving public infrastructure and provision of public services (Minsky 2013).

The substantial pool of idle labor in the United States could be put to work to increase aggregate demand and economic growth, which would be beneficial for productivity growth. While part of the policy solution is to encourage private demand, there is also room for more government spending. Since the private sector will hire the most employable workers first (those with more education, training, and work experience), it is necessary for the government to take up the slack that remains even in a robust expansion.

In the sections that follow, this report will discuss an alternative approach—one that creates a sufficient supply of jobs to employ everyone ready and willing to work.

# Section 2
# Projections of the Program's Size, Demographics, and Impacts on Poverty

In this section, we provide estimates of the size of a federal Public Service Employment (PSE) program by evaluating the attractiveness of the program for three different subsets of the noninstitutional civilian population aged 16 and older: those who are employed, unemployed, and out of the labor force. This section provides baseline estimates of the PSE program's size, demographics, and impacts on poverty based on US data from 2017Q3. The historical data for these subsets (as adjusted later in this section) provide the independent variables for regressions that generate the PSE pool in the simulations of the macroeconomic effects of the PSE program found in Section 3.[8]

These estimates are for a PSE program funded by the federal government and consistent with the design specification discussed above: the program wage is set at $15 per hour and nonwage compensation is set at 20 percent of wage costs. This compensation is largely for benefits, including health insurance, childcare, and the employer's portion of the payroll tax for Social Security. Both full-time and part-time work are offered.

Our estimates indicate that between 12.6 million and 17.4 million workers would have enrolled in the program in 2017Q3.[9] As shown in Section 3, the size of the program—measured by the number of participants—will continue to move countercyclically, that is, to decrease as the expansion continues and as the PSE program itself adds additional economic stimulus.

In the sections that follow, we explain how we calculated these numbers. Further, we provide a breakdown of participation in the program by race, gender, and ethnicity. We show that the program would particularly benefit racial and ethnic minorities, primarily women. We conclude by briefly examining the program's positive effects on poverty.

## Estimating the Size of PSE

The question we ask in this section is: How many people would have joined the PSE program if one had been implemented in 2017Q3? To answer this question we look at three segments of the civilian noninstitutional population aged 16 and older (CNIP 16+)—unemployed, employed, and out of the labor force—to determine how many might be expected to join the program. We examine various groups—including those who are working part time or full time at or below the minimum wage—to obtain a rough estimate of the number of people who might be expected to participate, either to secure full-time work or the higher wage of $15 per hour for work in the program.

We estimate that between 4.8 million and 6.1 million unemployed would have joined the PSE program in 2017Q3. An additional 3.1 million to 6.2 million part-time workers would have entered the program to obtain full-time jobs. Approximately 160,000 full-time workers would have left low-wage jobs to join the program at $15 per hour. Another 4.75 million to 5.1 million would have entered the labor force to work in the program. Total expected participation in the PSE program is approximately 2.5 times the official estimate of the number of unemployed for 2017Q3.[10]

In the following subsections, we provide details on these estimates.

### *Impact on the unemployed*

The PSE program would have its most obvious impact on the subset of the CNIP 16+ that is currently unemployed according to the official definition used by the Bureau of Labor Statistics (BLS).[11] Of course, not all of the officially unemployed would immediately accept a program job. Thus, we look at two factors closely related to the likelihood that an officially unemployed individual will become part of the program: unemployment duration and the reason for unemployment.

Those unemployed for shorter periods of time may wish to search for full-time employment in their usual line of work rather than immediately accepting a job in the program, while those unemployed for longer terms

**Table 2.1 Estimating Program Participants from Among the Unemployed, Not Seasonally Adjusted, 2017Q3 (in thousands)**

| Prospective PSE Participants | |
|---|---|
| **UNEMPLOYED** | |
| **By Reason** | |
| Not on temporary layoff | 2,401 |
| Job leavers | 818 |
| Reentrants | 2,161 |
| New entrants | 766 |
| **Higher Bound =** | **6,146** |
| **% of Unemployed** | **86%** |
| **By Duration** | |
| 5 to 14 weeks | 2,194 |
| 15 weeks and longer | 2,637 |
| **Lower Bound =** | **4,831** |
| **% of Unemployed** | **68%** |

*Note:* Data will not necessarily add to totals because of the BLS independent seasonal adjustment of the various series.
*Source:* BLS; authors' calculations

are more likely to transition into the program. An extensive academic literature shows that those unemployed for longer periods of time (27 weeks or more) have worse job prospects than those unemployed for shorter periods of time and are more likely to withdraw from the labor force. Further, the longer the duration of unemployment, the higher the costs associated with foregoing a job (as one loses experience and skills) and the greater the likelihood that one will join the PSE program.

In 2017Q3, there were around 7 million people officially unemployed. The vast majority of the unemployed (about 81 percent) were looking for full-time work and had been searching for work for over five weeks. Although median duration of unemployment was 10.5 weeks, average duration of unemployment was much higher at 25.4 weeks.[12] Despite the reduction in unemployment rates over the past few years, average duration was still higher in 2017Q3 than pre-2007 averages.

We assume that those on temporary layoff are less likely to join the program, as are those who only recently became unemployed and may wish to continue to search for private sector jobs while receiving unemployment compensation. We assume that individuals are increasingly likely to join the program as their duration of unemployment rises. Table 2.1 provides higher and lower bounds of PSE joiners by unemployment category. Based on our assumptions, between 4.8 million and 6.1 million unemployed people would have joined the PSE workforce.

Our higher-bound estimate is derived from the data on reasons for unemployment. It includes all those unemployed who were not on temporary layoff,[13] or 86 percent of the unemployed population in 2017Q3. Our lower bound estimates the number of program joiners based on duration of unemployment. It includes all those unemployed for five weeks or more, regardless of the reason for unemployment (job losers and those who completed temporary jobs, job leavers, reentrants, and new entrants). This represents 68 percent of the unemployed population.

### *Impact on the employed*

The PSE program is likely to be attractive to some who are currently employed—particularly those receiving low compensation (including wages, salaries, and benefits) and those involuntarily employed part time either for economic or noneconomic reasons. According to our estimates, between 3.1 million and 6.2 million full-time or part-time employed workers would likely take a PSE job if the program had been implemented in 2017Q3. We now turn to a brief discussion of the assumptions made for each subgroup of the employed population.

**Employed part time**
In 2017Q3, there were 26.5 million[14] part-time workers (working 1–34 hours); 5.2 million of whom were working part time because full-time work was not available to them (i.e., employed part-time for economic reasons). The remaining were working part time for noneconomic reasons related to childcare problems, other family and personal obligations, health limitations, school or training, Social Security limits on earnings, or lack of adequate/affordable transportation to work, among other reasons.

The program is likely to have a sizeable impact on those working part time involuntarily. We expect that a large portion of these workers would join the program, either by leaving their part-time private

**Table 2.2 Estimating Program Participants from Among the Currently Employed, Not Seasonally Adjusted, 2017Q3 (in thousands)**

| Prospective PSE Participants | Thousands | Higher Bound | Lower Bound |
|---|---|---|---|
| **PART-TIME WORKERS** | | | |
| **Economic reasons** | 5,165 | | |
| Usually work full-time | 1,407 | 1,407 | 703.5 |
| Usually work part-time | 3,758 | 3,758 | 1,879 |
| **Noneconomic reasons** | | | |
| Childcare problems | 929 | 929 | 464.5 |
| **FULL-TIME AT/BELOW MINIMUM WAGE*** | 640 | 160 | 80 |
| **TOTAL PROGRAM PARTICIPATION** | -- | **6,254** | **3,127** |

*Note:* Part-time workers refers to those who worked 1–34 hours during the survey reference week and excludes employed persons who were absent from their jobs for the entire week. Full-time refers to those who worked 35 weeks or more during the reference week. Hourly earnings refers to hourly paid workers' primary job, and excludes overtime pay, commissions, and tips received.
*Refers to wage and salary workers paid hourly rates with earnings at or below the prevailing federal minimum wage.
*Source:* BLS; authors' calculations

sector job for full-time employment in the program,[15] or by supplementing their private sector part-time employment with part-time PSE work.[16] Benefits offered by the program may be particularly attractive to part-time workers, including some working part time for noneconomic reasons (as they are less likely to receive such benefits from private sector part-time work).[17]

Table 2.2 presents the assumptions we make regarding part-time workers. Our higher bound includes all those working part time for economic reasons, and all those working part time due to childcare problems.[18] Our lower bound includes 50 percent of those employed part time for economic reasons who usually work full time or part time,[19] and 50 percent of those working part-time due to childcare problems.

**Employed full time**
In 2017, around 510,000 full-time workers were paid hourly rates below the prevailing federal minimum wage, while 130,000 worked for hourly rates at the federal minimum wage.[20] We assume that 25 percent of these private sector jobs would disappear because private employers would not raise wages in order to compete with the program wage of $15 per hour, while the remainder would continue to be employed outside the program, with their employers presumed to be able to raise wages and benefits. This means an addition of 160,000 program workers. As can be seen in Table 2.2, 25 percent of low-wage, hourly paid, full-time workers are included in our higher-bound estimates, and 12.5 percent are included in the lower bound.

### *Impact on those out of the labor force*

We expect the program to draw from among those who are currently out of the labor force but who report "wanting a job now"—some 5.7 million people in 2017Q3. Of those, around 2.2 million searched for work in the previous year, and 1.6 million were available to work. Our higher bound includes all those who report wanting a job now, except for those who were not available. In our lower bound, we assume that all of those who want a job now would join the program, except those not readily available or readily available but ill, disabled, or in school/training.[21] According to our estimates in Table 2.3, between 4.75 million and 5.1 million of those currently out of the labor force would have enrolled in the program if it had been available in 2017Q3—this represents about 5 percent of the out-of-the-labor-force population. According to our calculations, were these people to join the labor force, the labor force participation rate would have been almost 2 percentage points higher in 2017Q3: 65.1 percent instead of 63.2 percent.

**Table 2.3 Estimating Program Participants from Individuals Out of the Labor Force, Not Seasonally Adjusted, 2017Q3**

| Prospective PSE Participants | |
|---|---|
| Out of Labor Force (OLF) | 94,082 |
| Want a job (A) | 5,660 |
| Did not search for work in previous year | 3,481 |
| Searched, but not in past four weeks | 2,179 |
| Not available to work now (B) | 597 |
| Available to work now | 1,582 |
| Discouraged* | 468 |
| Other than discouraged | 1,114 |
| Family responsibilities | 202 |
| In school or training (C) | 178 |
| Ill health or disability (D) | 135 |
| Other** | 598 |
| **Higher Bound (A-B)** | **5,063** |
| **% of OLF** | **5.4%** |
| **Lower Bound (A-B-C-D)** | **4,750** |
| **% of OLF** | **5.0%** |

* Discouraged workers are persons marginally attached to the labor force who did not actively look for work in the prior four weeks for reasons such as "thinks no work available," "could not find work," "lacks schooling or training," "employer thinks too young or old," and other types of discrimination.
** Includes those who did not actively look for work in the prior four weeks for such reasons as childcare and transportation problems, as well as a small number for which the reason for nonparticipation was not ascertained.

### *Summary of projections*

Our total estimates are summarized in Table 2.4. We estimate that the program would have employed between 12.7 million and 17.4 million workers in 2017Q3.

## The Demographics of PSE Workers and Impact on Women and Minorities

The PSE program would play a progressive role in addressing certain racial, ethnic, and gender inequalities in labor markets. Blacks and Hispanics tend to face labor market conditions that are more uncertain, difficult, or unstable. These groups tend to face higher unemployment and underemployment rates, as well as a longer duration of unemployment. They are also less likely to work in the highest paying occupations (management, professional, and related), receive considerably lower median weekly earnings in nearly all occupational groups,[22] and are twice as likely to be among the working poor.

Not surprisingly, these groups stand to benefit more than proportionally from the PSE program. Using demographic data for the segments of the CNIP 16+ discussed above, we find that the share of racial and ethnic minorities participating in the program would be greater than their respective shares of both the CNIP 16+ and the labor force. This section breaks down the demographic composition of the program's potential workforce[23] for the subsections of the CNIP 16+ selected above.

### *Demographics of the unemployed*[24]

In 2017Q3, the overall unemployment rate was at 4.4 percent. Youths, blacks, and Latinos experienced the highest unemployment rates. In fact, blacks were twice as likely to be unemployed as whites—they faced an unemployment rate of 7.5 percent, compared to 3.8 percent for whites and 5.1 percent for Hispanics and Latinos. Blacks were also subject to longer average and median durations of unemployment (28 and 12.5 weeks, respectively), while black male teenagers (18–19 years of age) experienced a jobless rate of 33.9 percent—much higher than any other demographic group.

### *Demographics of the underemployed and underpaid*

The demographics of the program's projected participants will mirror the demographics of the unemployed, underemployed, and marginally attached—with greater than proportional participation by women, blacks, and Hispanics. In proportion to their shares of the CNIP 16+ and the labor force, blacks and Hispanics are also more likely to be employed part time for economic reasons. These groups are also more likely to be paid hourly for full-time employment at or below the minimum wage. Meanwhile, whites, especially women, are proportionally more likely to be working part time for noneconomic reasons. All of these groups will benefit from the introduction of the PSE program.

### *Demographics of the population out of the labor force*

Women of all races were more likely to fall out of the labor force even though they wanted a job. Men were more likely to cite discouragement as a reason for

**Table 2.4 Estimated Size of the PSE Workforce, 2017Q3 (in thousands)**

| | Potential PSE Workers from Employed | Higher Bound | Lower Bound |
|---|---|---|---|
| A | Part Time Economic Reasons | 5,165 | 2,583 |
| B | Part Time Due to Childcare | 929 | 464 |
| C | Full Time Workers at/below Minimum Wage | 160 | 80 |
| **D** | **Total (A+B+C)** | **6,254** | **3,127** |
| | | | |
| | **Potential PSE Workers from Unemployed** | | |
| E | By Reason | **6,146** | - |
| F | By Duration | - | **4,831** |
| | | | |
| | **Potential PSE Workers from Out of the Labor Force** | | |
| G | Want a job now | 5,660 | 5,660 |
| H | Not available now | (597) | (597) |
| I | In school or training | - | (178) |
| J | Ill health or disability | - | (135) |
| **K** | **Total (G-H-I-J)** | **5,063** | **4,750** |
| | | | |
| | **Total Potential PSE Workers** | **17,463** | **12,708** |

*Source*: BLS; authors' calculations

wanting a job but not searching in the previous month. Meanwhile, women were likely to cite "other reasons" for wanting a job, while being classified as only marginally attached to the labor force (note that "other reasons" include childcare problems and other family responsibilities, which are seen as traditionally female responsibilities). Further, blacks and Hispanics were more likely to be out of the labor force, even though they wanted work, than whites. Again, the program will benefit all these groups.

### *Demographics of the program's potential participants*

Table 2.5 shows the breakdown of the racial, ethnic, and gender composition of the potential program participants based on the assumptions described above. Consistent with our findings above, blacks and Hispanics will benefit more than proportionately—relative to their respective shares of the CNIP 16+ and the labor force—from the creation of the program.

## Poverty Reduction and PSE

Sustained, tight full employment through a universal job guarantee program is the most effective policy tool for fighting poverty in the United States. Poverty in this country is largely a matter of income distribution, inadequate pay, and insufficient hours of work. The PSE program tackles all three problems simultaneously by providing jobs on demand at a living wage to all who are willing and ready to work. Further, full employment at a living wage increases the bargaining power of workers in low-paying jobs and thus reduces wage disparities across industries and occupations.

### *Poverty in the United States*

In 2016, there were 40.6 million people and 27.8 million families living in poverty in the United States. Blacks and Hispanics experienced the highest poverty rates. Women were more likely to be below the poverty line than men, and teenagers and children were far more likely to be below the poverty line than those aged 18 and older. Poverty rates among the elderly were the lowest—thanks to Social Security. Families with a single female householder were almost twice as likely to experience poverty as families where the single householder was male. Also, families with related children under the age of 18 experienced poverty rates much higher than did families with no children.

The availability of jobs that pay a living wage reduces the likelihood that individuals and their families will

**Table 2.5 Demographics of Potential PSE Workforce, 2017Q3**

| Demographics of Potential Participants | CNIP 16+ | | Labor Force | | Total Participants | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Higher Bound | | Lower Bound | |
| | Thousands | Percent | Thousands | Percent | Thousands | Percent | Thousands | Percent |
| **Total** | **253,538** | | **159,187** | | **17,463** | | **12,708** | |
| Men | 122,497 | 48.3% | 84,755 | 53.2% | 8,592 | 49.2% | 5,820 | 46% |
| Women | 131,040 | 51.7% | 74,432 | 46.8% | 8,871 | 50.8% | 6,968 | 55% |
| **Race, Ethnicity, Gender** | | | | | | | | |
| White | 198,215 | 78.2% | 124,658 | 78.3% | 12,463 | 71.4% | 9,122 | 71.8% |
| Men | 96,861 | 38.2% | 67,564 | 42.4% | 6,292 | 36.0% | 4,083 | 32.1% |
| Women | 101,354 | 40.0% | 57,095 | 35.9% | 6,170 | 35.3% | 5,039 | 39.7% |
| Black/African American | 31,889 | 12.6% | 19,637 | 12.3% | 3,280 | 18.8% | 2,362 | 18.6% |
| Men | 14,525 | 5.7% | 9,315 | 5.9% | 1,573 | 9.0% | 1,116 | 8.8% |
| Women | 17,365 | 6.8% | 10,321 | 6.5% | 1,707 | 9.8% | 1,247 | 9.8% |
| Asian | 15,121 | 6.0% | 9,562 | 6.0% | 866 | 5.0% | 709 | 5.6% |
| Men | 7064 | 2.8% | 5,091 | 3.2% | 418 | 2.4% | 330 | 2.6% |
| Women | 8057 | 3.2% | 4,471 | 2.8% | 447 | 2.6% | 380 | 3.0% |
| Hispanic or Latino | 40,697 | 16.1% | 26,797 | 16.8% | 3,689 | 21.1% | 2,329 | 18.3% |
| Men | 20,266 | 8.0% | 15,396 | 9.7% | 1,846 | 10.6% | 1,025 | 8.1% |
| Women | 20,430 | 8.1% | 11,401 | 7.2% | 1,842 | 10.6% | 1,303 | 10.3% |

*Note:* Estimates do not add to totals because different ethnic groups are not broken down by race. We use 2016 annual averages for the CNIP 16+ and labor force populations.
*Source:* BLS; authors' calculations

fall into poverty. Families with no employed workers, or with only one part-time worker, were far more likely to fall under the poverty threshold (26.4 percent and 29.6 percent, respectively) than families with a full-time worker. Only 3 percent of families with at least one full-time, year-round worker fell below 100 percent of the poverty threshold. In other words, lack of access to a full-time job increases the probability of falling into poverty nearly tenfold.

The pattern is similar for individuals between ages 18 and 64. Those who worked for at least one week during 2016 experienced poverty rates much lower than those who did not work for at least one week: 5.9 percent compared to 30.5 percent.

Families with children under the age of 18 were more likely to be at or below the poverty line, and while families with no workers faced the highest poverty rates, families where members of the household worked only part time also experienced poverty rates well above national averages.[25]

### *The working poor*

The opportunity to work full time greatly reduces the incidence of poverty. In 2016, 8.75 million individuals between the ages of 18 and 64 who worked during the year lived in poverty. The poverty rate for individuals in the same age group who worked full time was only 2.2 percent, while those who worked less than full time or did not work at all faced much higher poverty rates: 14.7 percent and 30.5 percent, respectively.

The BLS (2017a) identifies three major labor market problems that prevent working people from escaping poverty: low earnings, unemployment, and involuntary part-time employment. In 2015, 82 percent of the working poor experienced at least one of these three problems. Around 40.3 percent of workers who participated in the labor market for at least 27 weeks, and experienced all three problems above, lived below the poverty threshold. Those who experienced low pay and some period of unemployment had a 41.4 percent chance of falling below the poverty line. Low earnings was by far the most common single problem for the working poor—25 percent of those who worked at least 27 weeks in low-paying jobs lived below the poverty line.

**Table 2.6 Poverty Thresholds (US$), 2016**

| Size of Family Unit | Weighted Average | Related Children Under Age 18 | | | | | |
|---|---|---|---|---|---|---|---|
| | | None | One | Two | Three | Four | Eight or more |
| One person (unrelated individual): | 12,228 | | | | | | |
| Under age 65 | 12,486 | 12,486 | | | | | |
| Aged 65+ | 11,511 | 11,511 | | | | | |
| Two people: | 15,569 | | | | | | |
| Householder under age 65 | 16,151 | 16,072 | 16,543 | | | | |
| Householder aged 65+ | 14,522 | 14,507 | 16,480 | | | | |
| Three people | 19,105 | 18,774 | 19,318 | 19,337 | | | |
| Four people | 24,563 | 24,755 | 25,160 | 24,339 | 24,424 | | |
| Five people | 29,111 | 29,854 | 30,288 | 29,360 | 28,643 | 28,205 | |
| Six people | 32,928 | 34,337 | 34,473 | 33,763 | 33,082 | 32,070 | |
| Nine people or more | 49,721 | 53,155 | 53,413 | 52,702 | 52,106 | 51,127 | 46,400 |

*Source:* US Census Bureau

The PSE program described above tackles all three problems at once, providing full-time work at a living wage. And because the program sets an effective national minimum wage of $15 per hour, with benefits that include childcare and healthcare, we expect the implementation of the program to also benefit private sector workers who are paid less than the minimum wage or who do not receive adequate benefits from their employers.[26] A study by the Economic Policy Institute (Cooper 2017) estimates that over 40 million workers would be affected by an increase of the minimum wage to $15 per hour. Even if the legal minimum wage were not raised, the existence of a PSE program that pays $15 would ensure that anyone ready and willing to work would be able to receive at least that wage.

Also, we expect that many of those employed part time for economic reasons, and noneconomic reasons related to childcare, will join the program. Even if they continue to work part time, they will receive the program's wage. This will allow many families to have an additional worker to provide supplemental income.

### *Childhood poverty*

Children under the age of 18 experience the highest poverty rates in the United States. In 2016, 80.3 percent of families with no working member and with related children under the age of 18 lived in poverty. By contrast, only 4.9 percent of families where at least one member of the household worked full time, year round were poor. If more than one member of the family worked full time, year round, the likelihood that families with children would fall below the poverty threshold is much lower: 0.7 percent.

### *The impact of the PSE program on poverty*

As discussed above, the program sets the effective minimum wage. Today, an individual who works 40 hours a week for 52 weeks (i.e., full time) at the current federal minimum wage will earn only $15,080 a year. As can be seen in Table 2.6, families with only one member of the household working full time at the minimum wage (assuming wages and salaries are the only source of family income) would fall below the poverty threshold.

By contrast, at the PSE wage of $15 per hour, a program participant employed full time, year round would earn an annual income of $31,200,[27] which is well above the poverty threshold for a typical family of four. In fact, it would take only one member of the family working full time in the PSE program to lift a family of five (with or without children under the age of 18) out of poverty.

With the program in place, families composed of up to five individuals could be lifted out of poverty if one member participated in the program full time. If a second member of the household were to work part time, year round (i.e., 20 hours per week for 52 weeks) in the program, the family income would be sufficient to lift family units containing up to eight individuals out of poverty. Finally, poverty would be eradicated if at least two members of the household in families of eight or more worked full time in the program.

**Table 2.7 People in Poverty by Size of Family and Number of Related Children, 2016 (in thousands)**

| Size of Family Unit | Children Under 18 | People in Poverty (Total) | Number of Related Children Under Age 18 | | | | |
|---|---|---|---|---|---|---|---|
| | | | None | One | Two | Three | Four or more |
| One person | -- | 12,336 | 12,336 | -- | -- | -- | -- |
| Two to four people | 7,024 | 18,266 | 5,416 | 1,967 | 3,346 | 1,711 | -- |
| Five people | 2,528 | 4,360 | 80 | 55 | 268 | 1,381 | 823 |
| Six people or more | 3,197 | 5,136 | 48 | 9 | 116 | 394 | 2,080 |

*Source:* US Census Bureau; authors' calculations

The number of adults and children in different family units who could be lifted out of poverty with implementation of the program will depend on the number of individuals in poor families that would be willing and able to take a program job. We do not know how many members of poor families would join the program, but we can estimate the number of adults and children who live below the poverty thresholds according to the family unit size (see Table 2.7).[28]

According to our calculations, 9.5 million children under 18 could be raised above current poverty thresholds if one member of their household were employed full time, year round in the program. Another 2.9 million children in families composed of six to eight individuals could be raised out of poverty if two members of the household were employed in the program, with one full-time and one part-time worker, both year round. For families with more than eight members, it would take two full-time workers to raise their families above the poverty threshold.

Clearly, families could still fall below the poverty threshold if, for any reason (including disability, illness, or age), full-time work in the program is not a possibility. A generous safety net should be in place to support or supplement incomes for families whose members cannot or should not work. The program would greatly reduce the number of families and individuals receiving such transfer payments. Further, the net size of income transfers necessary for these families would be smaller if these families could be directly and indirectly benefited by the in-kind output generated by their local PSE program. The demands on the social safety net would be far smaller if all those who wanted to work could obtain jobs at a living wage.

### *Cost of eliminating poverty*

We can estimate the cost of using employment in the PSE program to bring all poor Americans above the poverty line. Here we consider only the wage costs.

The 8.1 million families who lived below the official poverty line in 2016 had a mean deficit of $10,505 per family. In other words, poor families on average needed an additional $10,505 in income to be brought up to the poverty line. This gap could be met if one worker in the family worked part time (four hours) for 176 days per year in the program. Seen that way, the total cost to bring all families up to the poverty line would be approximately $85 billion. Additionally, there were 12.3 million unrelated individuals who lived below the poverty line. The average deficit per individual was $6,815. The total cost of bringing these individuals above the poverty line would be another $84 billion. On average, these individuals would have to work part time in the program for about 115 days annually (assuming four hours per day) to bring their incomes up to the poverty line. Thus, in 2016, the total cost of eliminating poverty through part-time employment in the program would be about $169 billion.

This estimate excludes increases in tax revenue due to higher incomes (and induced GDP) as well as potential savings on a wide range of federal, state, and local programs that are targeted to low-income households. In 2015, for example, the federal government spent $104 billion on Food and Nutrition Service programs (including $74 billion for the Supplemental Nutrition Assistance Program, $21 billion for child nutrition programs, and $6 billion for the Special Supplemental Nutrition Program for Women, Infants, and Children), $17.3 billion on Temporary Assistance for Needy Families, $50 billion on housing assistance, and $67 billion on Earned Income Tax Credits. Additionally,

total direct spending by states on social services and income maintenance on public welfare was $505 billion (this does not include spending on health, policing, or corrections). Many of these programs would be significantly reduced if everyone who wanted to work had access to a job paying $15 per hour, plus benefits.

The simulations provided in Section 3 of this report estimate the total direct spending on the PSE program at about $500 billion annually—approximately three times the spending that would be necessary to raise poor families above the poverty line. However, the PSE program is much more than an antipoverty program, as it would ensure full employment (providing a job to anyone willing to work for $15 per hour), raise private sector wages, improve working conditions and benefits, stimulate private sector job creation, and increase GDP.

# Appendix 2.1

Table A2.1 shows the difference in the initial PSE workforce if the program had been implemented in 2017Q4 instead of 2017Q3.

**Table A2.1 Estimated Size of the PSE Workforce, 2017Q3 versus 2017Q4**

| POTENTIAL SIZE OF PSE WORKFORCE | | 2017Q3 | | 2017Q4 | |
|---|---|---|---|---|---|
| | **Potential PSE Workers from Employed** | **Higher Bound** | **Lower Bound** | **Higher Bound** | **Lower Bound** |
| A | Part Time Economic Reasons | 5,165 | 2,583 | 5155 | 2,578 |
| B | Part Time Due to Childcare | 929 | 464.5 | 1025 | 512.5 |
| C | Full Time Workers at/below Minimum Wage | 160 | 80 | 160 | 80 |
| **D** | **Total (A+B+C)** | **6,254** | **3,127** | **6,340** | **3,170** |

| | **Potential PSE Workers from Unemployed** | **Higher Bound** | **Lower Bound** | **Higher Bound** | **Lower Bound** |
|---|---|---|---|---|---|
| E | By Reason | **6,146** | **-** | **5,476** | |
| F | By Duration | **-** | **4,831** | | **4,207** |

| | **Potential PSE Workers from Out of the Labor Force** | **Higher Bound** | **Lower Bound** | **Higher Bound** | **Lower Bound** |
|---|---|---|---|---|---|
| G | Want a job now | 5,660 | 5,660 | 4,962 | 4,962 |
| H | Not available now | (597) | (597) | (491) | (491) |
| I | In school or training | - | (178) | | (170) |
| J | Ill health or disability | - | (135) | | (134) |
| **K** | **Total (G-H-I-J)** | **5,063** | **4,750** | **4,471** | **4,167** |
| | | | | | |
| | **Total Potential PSE Workers** | **17,463** | **12,708** | **16,287** | **11,544** |

*Source:* BLS; authors' calculations

# Section 3
# Simulation of the Economic Effects of the Public Service Employment Program

In this section, we simulate the economic effects of a universal Public Service Employment (PSE) program that would provide a job with good pay and benefits to anyone of legal working age who wants to work. This would achieve true full employment while also improving wages and working conditions in the private sector. Moreover, it would increase demand for private sector output and hence increase employment in the private sector. We use the well-known Fair model (see Fair 1994, 2004, 2018) that is often applied to simulate economic policies. The assumptions and methodology are discussed in Fullwiler (forthcoming).[29]

## The Simulated PSE Program

The basics of the PSE program simulated here are the following:

- The wage paid to PSE workers is $15 per hour.
- Workers in the PSE program work an average of 32 hours per week.
- Nonlabor costs for materials and other purchases are an additional 25 percent above labor costs. These are purchases by the government from the firm sector.
- A benefits package including health insurance and childcare adds another 20 percent beyond labor costs. The benefits package is assumed to be split evenly between purchases from the firm sector and transfers to the household sector.
- PSE employees pay the employee portion of the payroll tax.
- Thirty-three percent of PSE income is subject to the federal income tax. The PSE wage is large enough that many households, particularly those with more than one income earner, will have sufficient income for at least a portion of the PSE wage to be taxable. The intent here is to err on the side of underestimating how much is taxable.

The composition of the PSE workforce is analogous to the findings discussed in Section 2 regarding labor force conditions in 2017Q3, concluding that around 15 million people might be expected to accept work if it were offered beginning in 2018Q1. The methodology adopted in this section is simplified somewhat for the purposes of using the Fair model; however, the total numbers of potential PSE workers are similar.[30]

There are three categories that the pool of PSE workers are drawn from: (1) part-time workers that would like to work more, (2) the unemployed as defined by the BLS, and (3) those who are out of the labor force but want to work. Each category has a "lower bound" and "higher bound" (set here to be analogous to how these were defined in Section 2 using Current Population Survey categories). For all six scenarios (part-time/unemployed/out of labor force and lower/higher bounds for each) stochastic equations were generated using other endogenous variables within the Fair model (jobs, production, and so forth) as the explanatory variables. These stochastic equations then provide six additional endogenous variables to be determined within the Fair model simulations each period to allow the total number of PSE workers to be set according to the state of the economy.[31]

In the Fair model, the private sector wage proxies for workers at all levels and includes all nonwage, nonsalary benefits. Because the PSE wage is significantly higher than the current minimum wage, the private sector wage (which drives wages in the government sector and financial sector within the

model) would be expected to rise. The simulations assume that 20 percent of the difference between the PSE wage/benefits and the minimum wage/benefits is passed through to the Fair model's average wage. The assumptions are designed to generate results that err on the side of estimating a greater effect on private business costs due to the PSE wage and benefits.[32]

The simulated PSE program is expected to reduce certain federal- and state-level expenditures. Therefore, the following assumptions are also integrated into the simulations:

- Some PSE employees would be eligible for unemployment benefits in the absence of the PSE program. In the Fair model, unemployment benefits are an endogenous variable determined by one of the stochastic equations. In the simulations here, the benefits determined by the stochastic equation are then exogenously reduced by 25 percent.
- Medicaid expenditures should fall as PSE employees receive health insurance as part of the benefits package. Federal government spending on Medicaid is assumed to be reduced by 5 percent of the total income paid to PSE employees (that is, one-fourth of the total spending on the benefits package). State-level spending is assumed to fall by 1 percent of total income earned by PSE employees (one-twentieth of total spending on the benefits package).
- Earned Income Tax Credit (EITC) expenditures should fall, as PSE employees will usually earn enough such that they will no longer be eligible. Federal government EITC transfers are assumed to fall by 5 percent of the total income paid to PSE employees, while state-level EITC spending is assumed to fall by 1 percent of total income paid to PSE employees.

The following section on the simulation results discusses what the above assumptions imply for Medicaid and the EITC, relative to current actual expenditures.

## Simulation Results and Discussion

The simulations here assume a PSE program is implemented beginning in 2018Q1 by a phase-in process that begins at 20 percent strength and adds 20 percent each quarter. The PSE program is at full strength in 2019Q1. The PSE is simulated for the current Fair model forecast period: 2018Q1 to 2027Q4, or 10 years.

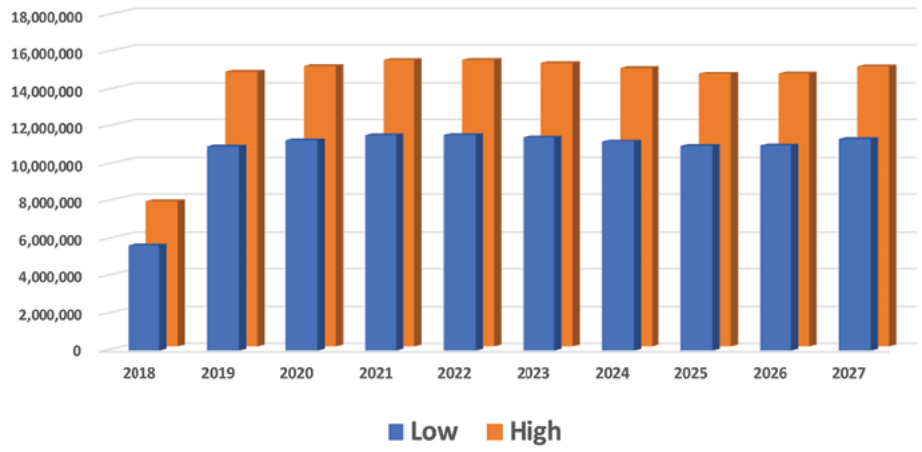
Because forecasts generated by structural macroeconometric models usually converge relatively quickly to the "trend" path set out by the coefficients of the stochastic equations, the Fair model's baseline forecasts are of interest mostly as a comparison to how the forecast's path changes when the PSE program is added. Similarly, the path of the forecasts with the PSE program is only of interest relative to the Fair model's baseline. Consequently, only the deviations of the simulations incorporating the PSE program from the Fair model's baseline forecasts are reported in this section.[33]

There are results from two PSE simulations reported here: the higher- and lower-bound versions of the PSE program. These present how macroeconomic variables and the government's budget will react to the PSE program (and vice versa) given alternative assumptions about the number of people who will accept the offer of a job.[34]

Figure 3.1 shows the number of PSE employees. After the program is at full strength, the higher bound peaks in 2022 at 15.4 million employees ("High" in the figures). The lower bound ("Low" in the figures) also peaks in 2022, at 11.6 million employees. Interestingly, the sizes of both the higher and lower bounds are similar to those estimated in Section 2. After 2022, the number of PSE employees stabilizes around 0.7 million and 0.5 million employees below the peaks for the higher and lower bounds, respectively.

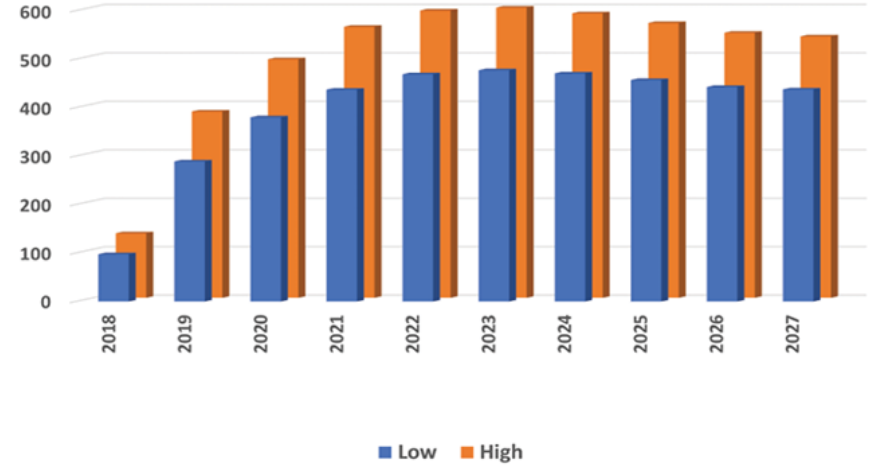
Figure 3.2 shows the additional real GDP (in $ billions) generated each year by the PSE program, relative to the baseline simulation, in the two simulations reported here. The base quarter is set at 2017Q4 (that is, the quarter in which real and nominal GDP are equal). The quantities in Figure 3.2 are thus adjusted for inflation and shown in terms of 2017Q4 dollar values. The peak additions to real GDP are in 2022–24 and average about $472 billion per year for the lower

**Figure 3.1** PSE Employees




*Source:* Authors' calculations

**Figure 3.2** Additional Real GDP from the PSE Program (2017Q4=baseline, $ billion)



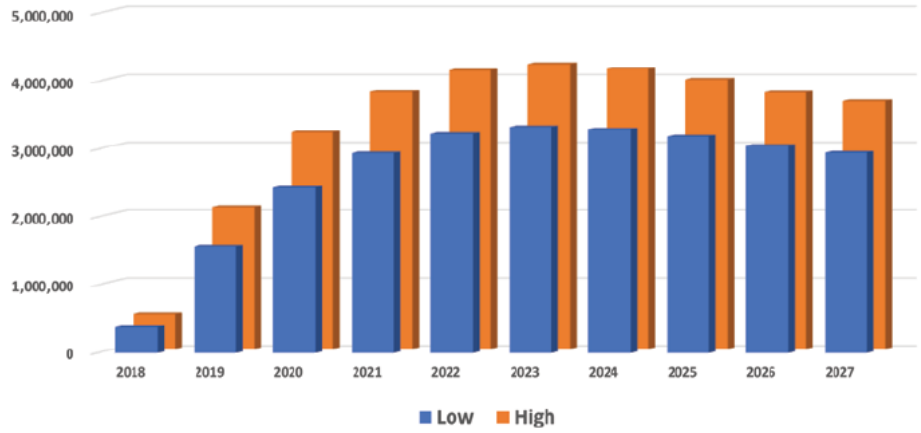

*Source:* Authors' calculations

bound and $593 billion per year for the higher bound. Thereafter, the real GDP effects decline slowly: by 2026–27, they average $440 billion per year in the lower-bound simulation and $543 billion per year in the higher-bound simulation. [35]

It is worth noting here that although the baseline simulation essentially returns to the historical trend, given the Fed's interest rate rule leaning against the macroeconomic performance, even a modest return toward trend instead results in minor oscillations around a trend path. Consequently, there is a slight decline in real GDP growth rates during 2018–21 in the baseline simulation, followed by a slight rise during 2022–25 and another slight decline during 2026–27. The simulations thereby result in the PSE program moving against all three shifts in baseline growth rates, as seen in Figures 3.1 and 3.2 (though the final growth rate decline in the baseline simulation in 2026–27 does not bring a bigger real GDP impact from the increased quantity of PSE workers over that period, since the real GDP effects occur with a short lag).

These results are consistent with decades of literature on the job guarantee. For purposes of macroeconomic stabilization, the PSE program replaces the buffer stock

**Figure 3.3** Additional Private Sector Jobs Created




*Source:* Authors' calculations

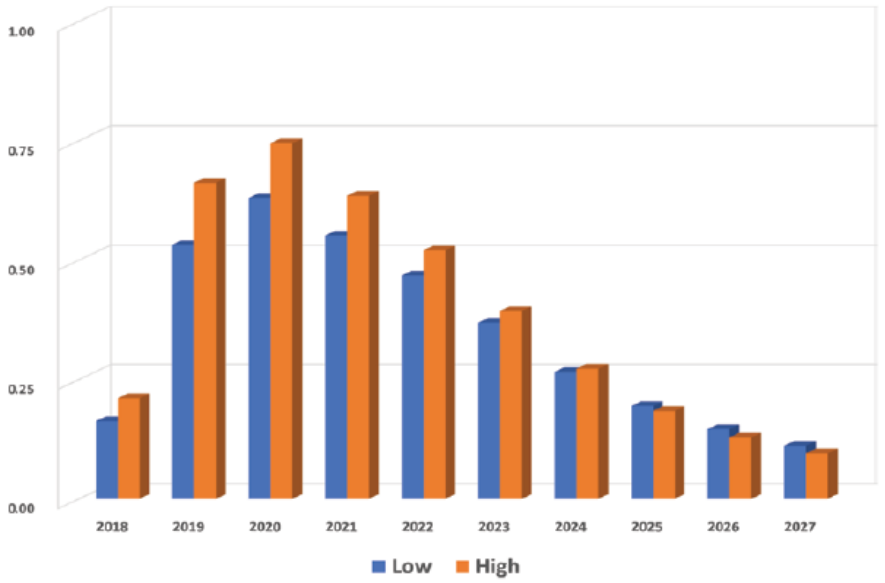
of the unemployed—whereby tightened policy moves workers from private sector jobs to the ranks of the unemployed in order to slow the economy—with a buffer stock of the *employed*. The stabilization occurs as a result of the increase and decrease in the government's budget position—which improves with a smaller PSE program and worsens with a larger PSE program—to counter the opposite moves in the private sector's hiring and spending. Whereas the current policy practice is to stabilize a buffer stock of the *unemployed* relative to the employed at some *fixed percent* to achieve an inflation target, the PSE program instead sustains true full employment—where there is a job available for everyone that is willing to work—by allowing the buffer stock of *employed* to *fluctuate*.

Figure 3.3 presents the additional jobs created in the private sector due to the additional stimulus provided by the PSE program. The peak additional private sector jobs range from about 3.3 million in the lower-bound simulation to 4.2 million in the higher-bound simulation. By the end of the simulation period, the PSE program has been fully in place for nine years and private sector jobs still range from 2.95 million to 3.65 million higher than in the Fair model's baseline simulation. The pattern of additional job creation again follows that in Figures 3.1 and 3.2, in which the PSE program counters modest shifts in the path of real GDP growth rates in the baseline simulation.

Figure 3.4 presents the inflationary effects of the PSE, shown as the percentage point difference between the annual inflation rate in the PSE simulations and the annual inflation rate in the baseline simulation.[36] The stimulus from the PSE program raises inflation only modestly. The increase peaks in 2020 for both simulations. The biggest increase of the simulations is for the higher-bound simulation, which in 2020 is 0.74 percentage points above the baseline inflation rate in that year. The peak increase for the lower-bound simulation is 0.63 percentage points above the baseline inflation rate for 2020. By the end of 2027, with the initial impact of the program's stimulus in the past, the PSE program's inflationary impact falls to 0.11 (Low) and 0.09 (High) percentage points, which is macroeconomically insignificant.

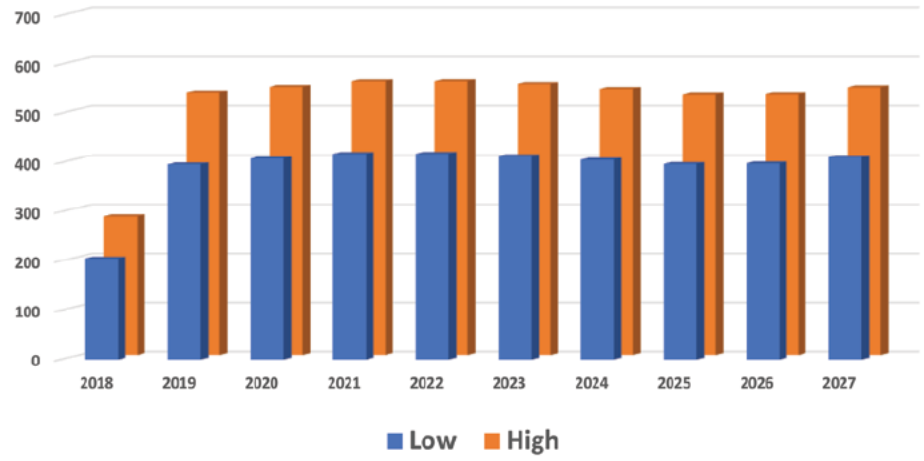
In other words, the stimulative effect of this PSE program—which pays an above-poverty-level wage plus benefits, has significant nonlabor expenses, passes through 20 percent of the increase in the effective minimum wage to the firm-sector wage (since the PSE wage becomes the de facto minimum wage in the economy), and employs 11.6 million to 15.4 million individuals at its peak—has a peak inflationary impact of just 0.63 to 0.74 percentage points (that is, less than three-quarters of a percentage point). More importantly, this increase in the inflation rate then declines to a macroeconomically insignificant level. This is consistent with the core claims in the job guarantee literature that, following a modest initial inflationary impact after implementation, the inflationary effects of such a program would be minimal.

**Figure 3.4** Inflationary Impact of the PSE Program (percentage point difference from the baseline value)




*Source* Authors' calculations

**Figure 3.5** Total Direct Spending on the PSE Program (nominal, $ billion)

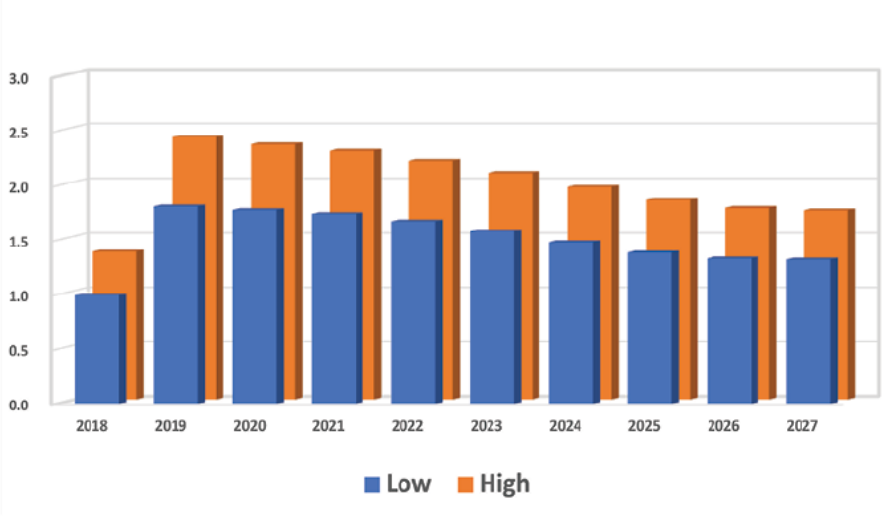



*Note:* Does not include estimates of assumed reductions in expenditures for unemployment benefits, Medicaid, and EITC.

*Source* Authors' calculations

In short, the macroeconomic effects of the PSE program shown in Figures 3.2 and 3.3 are sizeable, with very modest peak inflationary impacts. It is therefore questionable, at best, whether the Fed should react at all—sacrificing some significant, desirable macroeconomic effects to reduce peak inflationary impacts by what can be only a macroeconomically insignificant amount. This is particularly the case given that these inflationary impacts arise from two separate sources unrelated to a permanent rise in inflation: (1) the transitory effects from the program's phase-in, as decades of job guarantee literature has argued, and (2)

**Figure 3.6** Total Direct Spending on the PSE Program as a Percent of GDP




*Note:* Does not include estimates of assumed reductions in expenditures for unemployment benefits, Medicaid, and EITC.

*Source:* Authors' calculations

the stimulative effect of the PSE program countering the macroeconomic slowdown early in the baseline simulation.[37]

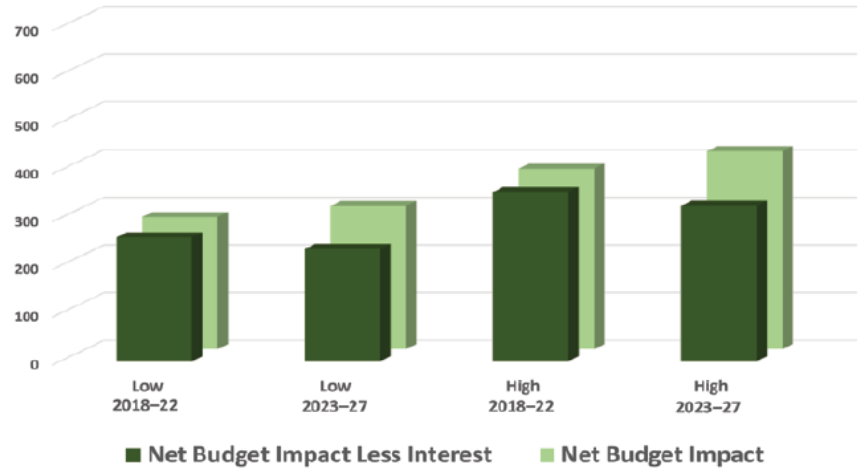
Figure 3.5 presents the direct spending on the PSE program in nominal dollar amounts (that is, these amounts are *not* adjusted for inflation and thus not directly comparable to real GDP impacts in Figure 3.2). The average annual direct costs of the PSE program during 2020–27 are $409 billion for the lower-bound simulation and $543 billion for the higher-bound simulation.[38] While the Fair model's baseline forecast does not generate an economy experiencing business cycles (as noted above, there are modest changes in the growth rates of the economy in the baseline simulation, but these are significantly smaller and not comparable to those of a typical business cycle), which would better demonstrate the PSE program's ability to stabilize the macroeconomy, Figures 3.1 and 3.5 do provide some insight into the logic of the program in this regard. The number of PSE workers, and thus the program's direct expenses, grow only until all those desiring a job have obtained one. There is no further increase in spending. The worse the economy's performance, the higher the number of PSE workers and the higher the direct spending, and vice versa. This means that over the course of a business cycle, as the economy performs better (worse), both the size of the PSE program and direct spending will fall (rise).

Figure 3.6 presents the same information as in Figure 3.5 but now as a percentage of GDP. During 2019–27, direct spending on PSE declines from 1.81 percent to 1.33 percent of GDP in the lower-bound simulation and from 2.41 percent to 1.74 percent of GDP in the higher-bound simulation.[39] Overall, the direct spending on PSE in the simulations is modest as a percentage of GDP.

The difference between the direct spending on PSE and the net budgetary effects of the program is the result of PSE workers paying taxes, receiving fewer and/or reduced EITC transfers and fewer unemployment benefits, and requiring less Medicaid expenditures than otherwise. Further, if the PSE program improves the economy, resulting in an increase in private sector jobs and firm profits, these will further reduce entitlement and safety-net spending and raise tax revenue. As a result, the net budgetary effects are significantly lower than the direct expenditures.

To put some of the net budgetary effects into context, consider the reductions in expenditures by the federal government on the EITC and Medicaid. The simulations assume an exogenous reduction in each equal to 5 percent of the income (not including benefits) paid to PSE workers, which is equal to 25 percent of the total benefits package. Thus, for the EITC and Medicaid, the average annual spending

**Figure 3.7** Net Budgetary Impact and Net Budgetary Impact less Interest for the PSE Program (averages in nominal $ billions)




*Note:* Includes estimates of assumed reductions in expenditures for unemployment benefits, Medicaid, and EITC.

*Source:* Authors' calculations

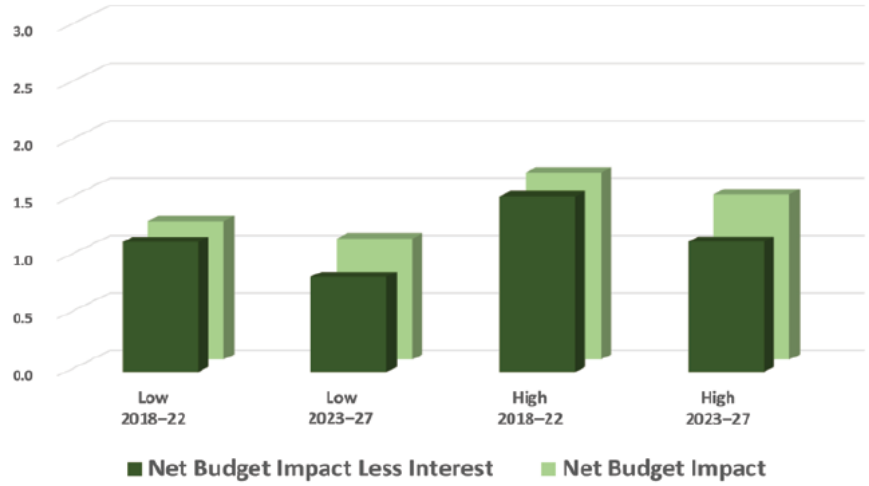
reduction during 2020–27 is about $14 billion for the lower-bound scenario and $19 billion for the higher-bound scenario.

By comparison, in 2016 federal government spending on the EITC and Medicaid were $74 billion and $349 billion, respectively. In percentage terms, EITC and Medicaid spending decline by about 26 percent and 5 percent, respectively, in the higher-bound scenario, and 19 percent and 4 percent, respectively, in the lower-bound scenario. If anything, these figures appear to underestimate (probably significantly) the savings that a PSE program (with a wage set above the poverty line and providing healthcare benefits) could generate, particularly for Medicaid.

Figure 3.7 presents the net budgetary impacts of the PSE program in nominal dollars, via averages for the 2018–22 and 2023–27 subperiods. It also presents these impacts net of the change in government debt service from the baseline simulation. Normally, the former is referred to as the government deficit and the latter as the impact on the primary government deficit. However, a PSE program does not necessarily require the government to be in deficit any more than does national defense spending (for example). But because the government's budget position is already in deficit in the Fair model's baseline simulation, adding the PSE program without any additional revenue adds to this deficit. If, on the other hand, the baseline budget position were a surplus, part or all of the additional debt service shown in Figure 3.7 would not be incurred.[40] Separating the additional debt service that results from the PSE program from the net budgetary effects without additional debt service, as Figure 3.7 does, provides a clearer picture.

In the lower-bound scenario, the net budgetary impacts without debt service average $260 billion per year in the first five years and $235 billion per year in the last five years. When debt service is included, the net budgetary impact of the lower-bound simulation remains below $300 billion on average throughout. In the higher-bound simulation, the net budgetary impact without debt service averages $354 billion per year in the first five years and $326 billion per year in the last five years. When debt service is included in the net budgetary impact, averages for the higher-bound simulations rise modestly, to $378 billion per year in the first five years and $415 billion per year in the second five years. Overall, the net budgetary impacts are significantly lower than the direct spending on the PSE program in Figure 3.5 (note that Figure 3.5 and Figure 3.7 are drawn to the same scales for easier visual comparison).

**Figure 3.8** Net Budgetary Impact and Net Budgetary Impact less Interest for the PSE Program (averages as a percent of GDP)




*Note:* Includes estimates of assumed reductions in expenditures for unemployment benefits, Medicaid, and EITC.

*Source:* Authors' calculations

While many focus on the dollar cost of the PSE program, it is the net budgetary impacts as a percentage of GDP that provide actual context for the cost of the program relative to the size of the economy, and are thus more relevant. Figure 3.8 therefore presents the same information from Figure 3.7 as a percentage of GDP. Here again, the net budgetary impacts are modest even with debt service included. Net budgetary impacts less interest average 1.13 percent of GDP in the first five years and 0.83 percent of GDP for the last five years in the lower-bound simulation. In the higher-bound simulation, the average for the first five years is 1.53 percent of GDP and 1.13 percent of GDP in the second five years. These rise modestly to 1.62 percent and 1.44 percent of GDP, respectively, when debt service is included. For comparison purposes, the scale of the vertical axis in Figure 3.8 is the same as for Figure 3.6; here again, the actual budgetary effect of the PSE program in both simulations is significantly below the direct spending.

Moreover, it is important to understand that if one or more of the following are true, then the net budgetary effects shown in Figure 3.7 and Figure 3.8 may be significantly overestimated:

1) The government is not already running a deficit prior to implementing the PSE program.

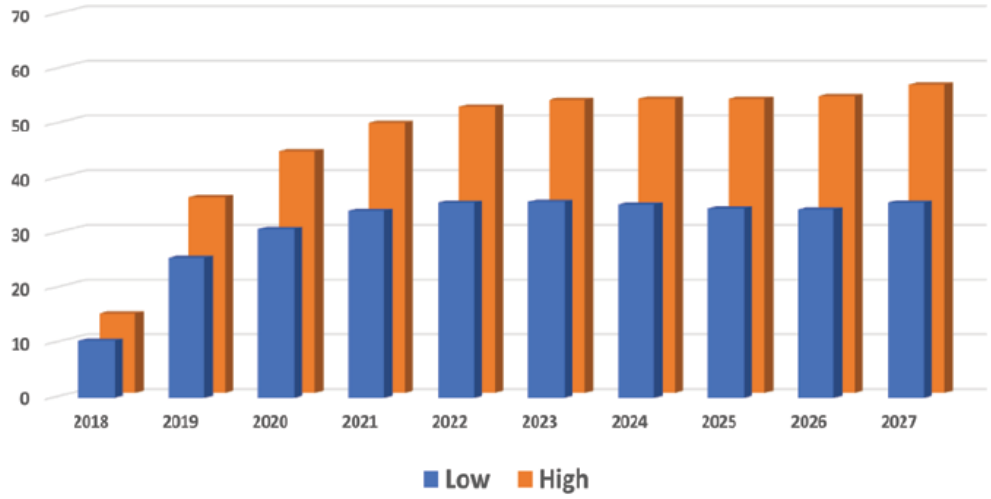
2) Medicaid and/or EITC offsets are greater than the very modest assumptions made for these simulations.

3) The government offsets program costs with additional spending cuts or taxes that were not incorporated into these simulations.

4) Interest rates on the national debt remain below those in the Fair model's baseline forecast. (The increase in government debt service would then be much smaller, or even negligible, and the more appropriate proxy for the net budgetary impact would be the net budgetary impact less interest in Figures 3.7 and 3.8.)

Of the four, (2) is particularly likely, with (4) next in likelihood, given that the Fed's target in the Fair model's baseline simulation is above the forecasts published by the Congressional Budget Office and the members of the Federal Open Market Committee (FOMC).

**Figure 3.9** Impact of the PSE Program on Aggregate State-Level Budget Positions (nominal, $ billions)




*Source:* Authors' calculations

Finally, a side benefit of the PSE program is that it will improve state-level budgets by raising incomes and macroeconomic activity (and thus tax revenues) while reducing expenditures on transfers and Medicaid. Figure 3.9 shows the simulated improvements in state-level budgets in nominal dollars. The results suggest that the average improvement in state budget positions during 2022–27 might be sustained at between $35 billion (for the lower bound) and $53 billion (for the higher bound). As with the feedback effects on the federal government's budget, this might be an underestimation. For instance, state-level Medicaid expenditures were $204 billion in 2016, but are estimated here to fall by only $2.8 billion to $4 billion per year across all four simulations (via the assumption that state Medicaid spending would fall by an amount equivalent to one-twentieth of total PSE spending on the benefits package). Also, because the size of the PSE program moves countercyclically, the positive impact on state-level budgets should be higher during recession troughs. This would make states less inclined to engage in budget cutting and tax increases to meet the balanced budget requirements (written into 49 of 50 state constitutions) that worked against efforts by the Fed and the federal government to stimulate the economy after the Great Recession.

## Conclusion

These simulations suggest that a large and generous PSE program can have substantial macroeconomic benefits while also having a modest direct cost and much smaller net budgetary impact. The overarching outcomes are the following:

- The simulations suggest that a PSE program that pays a living wage, provides healthcare benefits, and employs 11 million to 16 million workers might have an annual net budgetary effect between 0.83 percent and 1.62 percent of GDP (the range of all averages presented in Figure 3.8). Where the budgetary effect ultimately falls within this range depends on how large the program is relative to the higher and lower bounds; where the Fed would set the interest rate in the absence of the PSE program; how/if the Fed reacts to the PSE program; how much macroeconomic feedback from the program reduces transfer payments/Medicaid and raises revenues; and the resulting overall budget position of the federal government.

- Once it is at full strength, the PSE program could raise real GDP in 2017 dollars (that is, adjusted for inflation) by between $445 billion and $560 billion per year, depending on the size of the program.

- The private sector could add between 2.95 million and 3.65 million additional, permanent jobs as a result of the stimulative effect of the PSE program, depending on the size of the program.

- The impact of the PSE program on inflation is macroeconomically insignificant following a modest initial increase as the program is being phased in. Further, earlier simulations of much smaller programs within historical business cycles suggest the PSE program's inflationary effects—while still very modest—would move counter to the economy's cycles. Thus, the PSE program is consistent with the policy goal of price stability.

- State-level budgets would improve as a result of several PSE effects. First, the stimulative effect of the PSE program raises revenues and reduces transfers. Second, unrelated to the stimulative effect, the PSE program will enable additional reductions in unemployment benefits, reductions in EITC transfers, and reduced Medicaid expenditures. Third, these benefits move against the economy's cycles, reducing the need for states to raise taxes and/or decrease spending to meet balanced budget requirements (which typically exacerbates recessions).

# Appendix 3.1

In simulations run with the Fed's interest rate rule turned on (see Fair [2018, 106–08, 397] and Fair [2001] for more on the Fed's reaction function in the Fair model), the Fed increases its target rate in the lower-bound simulation by a peak of 0.8 percentage points above the baseline simulation rate of 2.77 percent in 2021; the difference then declines slowly to 0.64 percentage points in 2026–27 as the target rate ends the lower-bound simulation at 4.6 percent (while the baseline simulation is just below 4 percent). For the higher-bound simulation, the peak in the Fed's rate in 2021 is at 3.77 percent (1 percentage point above the baseline simulation); at the end of the simulation, the rate is about 4.75 percent (that is, the difference between the higher-bound and baseline simulation falls to about 0.8 percentage points). The rise in the Fed's target rate is because the interest rate reaction function in the Fair model "leans against" a stronger economy and higher inflation, both of which peak within the first few years after the PSE program's phase-in.

The effect of the increase in the Fed's interest rate is to slow the economy, as the annual increase in real GDP in these simulations averages $310 billion to $395 billion (about $135 billion to $165 billion less than in the simulations without the Fed's rule in effect). The slower economy leads to an increase in the number of PSE workers compared to the simulations without the Fed's rule, peaking at an increase of about 600,000 to 900,000. Similarly, with the Fed's rule in effect, during 2021–27 the number of private sector jobs averages between 2.15 million and 2.75 million more than in the baseline simulation (which is about 0.9 million to 1.1 million fewer than in the simulations without the Fed's rule in effect).

The slower economy combined with the larger number of PSE workers, relative to the simulations without the Fed's rule in effect, means the PSE program has a larger net budgetary impact, which on average ranges between 0.13 and 0.19 percentage points of GDP larger without debt service included, and between 0.25 and 0.6 percentage points of GDP larger when debt service is included. (In the latter case, the greater difference when debt service is included results from the Fed's interest rate target moving above nominal GDP growth, thus accelerating debt service increases. It is important to recall, though, that the Fed's target in the baseline simulation is already greater than the FOMC is currently forecasting.)

Finally, the benefit of the Fed's efforts to slow the economy is a 0.14 to 0.17 percentage point reduction in the peak inflationary impact of the PSE program, which falls to less than 0.1 percentage point by 2023 and is negative by 2025 (that is, the simulations without the Fed's rule in effect have a smaller impact on inflation at this point than the simulations incorporating the Fed's rule). These differences are always macroeconomically insignificant. In other words, for the Fed to generate this minor, macroeconomically insignificant reduction in inflationary impact, the cost to the economy is on average between $130 billion and $160 billion in annual real GDP and 0.9 million to 1.1 million private sector jobs, all throughout the final eight years of the simulation. Thus, while the PSE program still provides large net gains for the macroeconomy in terms of real GDP and private sector jobs even with the Fed reacting as it has historically done, it is at best questionable whether the benefits—in terms of very slight reductions in peak, temporary inflation rates—are worth the macroeconomic costs, relative to the Fed instead not reacting to what is in essence a temporary increase in inflation in the early years of the PSE program.

Budgetary outcomes further suggest that the Fed's reactions would significantly raise the cost of the PSE program while (1) pushing more workers from private sector jobs into PSE, and (2) raising government debt service if the government is running a deficit. The PSE program can be both significantly less expensive and have greater macroeconomic impact, all while having a macroeconomically insignificant impact on inflation (aside from a modest increase during the phase-in period), if the Fed *does not* raise interest rates in reaction to it. This result is consistent with Fullwiler's (2007, 2013) simulations within historical business cycles that show that a well-functioning PSE program on its own has a stabilizing effect on inflation within business cycles. Fullwiler's (2007) stochastic simulations further show that a range of PSE programs differentiated by assumptions for business cycle response and worker productivity on their own all have stabilizing effects on inflation and real GDP in response to a wide variety of shocks drawn from historical data.

# Section 4
# Design, Jobs, Implementation

The Public Service Employment (PSE) program is a public option for jobs. It is a permanent, federally funded, and locally administered program that supplies voluntary employment opportunities on demand for all who are ready and willing to work at a living wage. While it is first and foremost a jobs program, it has the potential to be transformative by advancing the public purpose and improving working conditions, peoples' everyday lives, and the economy as a whole.

This section provides a blueprint for operationalizing the proposal. It presents the core objectives and expected benefits of the program, and suggests an institutional structure, funding mechanism, and project design and administration.

## Objectives of the Public Service Employment Program

### *Core policy objective*

- To provide decent jobs at decent pay on demand to all individuals of legal working age who want to work, irrespective of labor market status, race, gender, color, or creed.

### *Additional objectives*

- To guarantee a basic human right to a job, as outlined in the UN Declaration of Human Rights and President Franklin D. Roosevelt's call for an economic bill of rights.
- To implement an employment safety net.
- To create job opportunities in close proximity to the unemployed.
- To create suitable work opportunities for people of varied skill levels.
- To serve the public purpose.
- To operate as an "employment buffer stock" in stabilizing the business cycle.
- To establish an effective minimum wage for the economy as a whole.
- To enhance price stability by using its buffer stock mechanism and minimum wage feature.
- To serve as a preventative policy that inoculates against the vast economic, social, and political costs of unemployment.
- To be used as a vehicle for addressing other social ills—urban blight, environmental concerns, etc.
- To put people and their needs at the forefront of public policy, in order to empower and support them.

## Key Program Features

- **Permanent but voluntary:** The program is permanent. It offers employment opportunities in the community performing socially useful work.
- **A living wage**: The jobs pay $15 per hour plus benefits.
- **Local:** The program takes the contract to the worker, creating jobs where the people are.
- **Targeted**: By design, the program creates the greatest number of jobs in communities with the greatest number of unemployed people.
- **Federally funded**, **locally administered**: Since it is an employment safety net, and for sustainability reasons, the program is funded by the federal government but primarily administered by local, municipal governments as well as nonprofits and/or social enterprises and cooperatives.

- **An "add on" program**: This program is designed to offer individuals an alternative to existing income-support programs *without displacing them*. For instance, people will have a choice between continuing to receive unemployment insurance (UI) or enrolling in the program. If they choose the former but still have trouble finding conventional private or public sector work once UI benefits have been exhausted, they will still have the option of enrolling in the PSE program.

- **Not a workfare program**: The introduction of the PSE program does not require people to work for their existing benefits (e.g., UI, Medicare, Supplemental Nutrition Assistance Program)

- **A Community Jobs Bank**: The program serves as a repository of various employment opportunities. It is a program that does not displace conventional public sector work. It is authorized as a separate program under the Department of Labor (DOL) and provides employment opportunities on standby.

- **A safety net and a transitional jobs program**: As a safety net, it serves all who desire to work at the base wage-benefit package. As a transitional work option, it is designed to serve as a stepping-stone to other private or public sector work opportunities.

- **Fits PSE jobs to people:** It meets people "where they are" in terms of ability and finds suitable, useful work opportunities for anyone, with jobs designed to be appropriate to their education or skill level.

- **Provides working day options**: The PSE program offers part-time and flexible work arrangements, as needed, for caregivers, students, retirees, etc.

- **Jobs for all**: The program does not exclude any individual or groups of people who want to work. Design must be sensitive to the needs of special groups, such as veterans, at-risk youth, ex-convicts, and people with disabilities.

- **Invests in people**: It offers training, education, and apprenticeship opportunities.

- **Invests in communities:** It aims to match unfilled community needs with unemployed workers who could work to meet them.

- **Invests in the public good**: It separates the offer of employment from the profitability of employment. Projects are created to serve community needs, rather than prioritizing whether the projects are deemed profitable in the narrow sense.

- **Invests in the environment**: The program focuses on addressing environmental concerns.

## Expected Benefits

- **Full employment:** The program eliminates involuntary unemployment and significantly reduces the associated human hardships and social afflictions.

- **Anti-poverty:** It raises incomes at the bottom of the income distribution, both for workers within and outside the program, by establishing a genuine living wage of $15 per hour (see Section 2 for estimated anti-poverty impacts).

- **Alternative to bad jobs:** It displaces "bad" labor practices and helps to eliminate "bad" jobs. If the public employment option offers a decent job at decent pay, employers who pay poverty wages with difficult working conditions would have to match the PSE pay and conditions to retain workers.

- **Inflation stabilization:** The program serves as a superior inflation control and macroeconomic stabilization tool. Currently, the pool of the unemployed fluctuates countercyclically. The PSE program expands and contracts with recessions and expansions, never allowing individuals and the economy to suffer the full consequences of job loss and unemployment. As such, it continues to stabilize economic growth and prices, using a

pool of employed individuals for the purpose rather than a reserve army of the unemployed.

- **Improving income distribution**: This is achieved in three ways: 1) the PSE program raises incomes at the bottom faster than incomes at the top; 2) the PSE program supports labor income, thus improving the income distribution between labor and capital; 3) the PSE program improves the within-labor income distribution, by supporting the income and employment opportunities of those who have been left behind (see Tcherneva 2011).

- **Disrupts vicious labor market cycles:** It breaks the vicious unemployment and income cycles experienced by those at the bottom of the income distribution.

- **Cure**: The program improves the physical and mental health of the previously unemployed, their spouses and children, and improves children's educational performance and labor market prospects (Tcherneva 2017).

- **Prevention**: It reduces suicides and mortality, as well as the so-called "deaths of despair," due to an overall improvement in labor market conditions (Tcherneva 2017).

- **Economic, social, and environmental benefits:** It reduces homelessness, recidivism, and economic crimes; increases the availability of public goods and services, which are provided through the PSE program; and invests in the environment, people, and community (Tcherneva 2017).

## Program Design and Implementation

The above features and objectives represent the core of the PSE proposal. Program objectives and specific design features would be reevaluated and adapted to observed structural and institutional changes in labor market and other economic conditions. Indeed, this blueprint does not and cannot provide a one-size-fits-all proposal. Any PSE program must be suited to the cultural, developmental, institutional, and macroeconomic context for the country that contemplates adopting it.

### *Short- vs. long-run design and operation*

A PSE program implemented today will be different from a program that evolves over the long run.

If a PSE program were launched today, in conditions of mass hidden unemployment and strong pent-up demand for decent well-paying jobs, the program might grow to 15 million workers. Once the program is up and running, it will improve *private* sector employment conditions and the overall health of the economy; at that point, it will settle to a smaller size. Employing everyone who is ready, willing, and able to work today is more challenging than making employment offers to those who will become unemployed once the program has been in place for a while.

Given the current labor market problems, including the drop in the labor force participation rate detailed in Section 1, it is possible that the program will initially need to absorb 15 million PSE workers, which is approximately 10 percent of the labor force. Experience with large-scale jobs programs of this sort (e.g., Argentina's Plan Jefes) suggests that the program will provide a large boost to private sector activity, generating strong GDP growth and private sector employment. The macroeconomic simulations in Section 3 corroborate this expectation, showing that the PSE program would boost GDP growth and add millions of new private sector jobs.

With the PSE program in place, which operates as an employment buffer stock, the economy can operate at a higher level of non-inflationary output and employment than with an unemployed buffer stock.

Over the long run, it is likely that the program will settle down to a smaller size. Other programs, such as help with job transitioning or macroeconomic management policies (e.g., tax cuts or government spending increases), can help shrink the pool of the PSE workers further if desired.

Because the program operates countercyclically by creating full employment at all stages of the business cycle (recession or expansions), it stabilizes total *employment,* meaning that *private* sector employment will not fluctuate as violently as it does today. In sum, *once the program is in place*, economic fluctuations will be reduced—meaning that employment in the PSE will also be more stable.

### *Preparedness response: Community Jobs Banks*

The program is to be designed as a comprehensive preparedness response. A period of planning will be required to set up the project-executing organizations and a protocol for registering the unemployed, supply the needed jobs, and design Community Jobs Banks—which warehouse the "on-the-shelf" jobs that can be supplied to the jobless on short notice.

The PSE program can be designed as a detailed local preparedness response to joblessness, using much of the existing institutional infrastructure. It will maintain a repository of jobs and places of work that can quickly accommodate new entrants into the program and let them go without disruption, should they find alternative employment. The ability to absorb or shed employees is not a unique challenge for the PSE program. Indeed every labor market segment within the private, nonprofit, or public sectors deals with new entrants and job leavers on an ongoing basis.

Furthermore, the creation of jobs relatively quickly need not be a tall task. Experience has shown that large-scale employment programs can be up and running in a matter of months (e.g., the New Deal and Argentina's Plan Jefes). Once the program is in place, finding work for any additional entrants is an easier task. Experimentation will be needed initially, as well as continued evaluation to improve program performance over the long run.

### *Preventative features*

Because the program complements private sector employment by fluctuating countercyclically (expanding when private employment shrinks and shrinking when private employment expands), it ensures, by design, that mass unemployment does not develop and accelerate as rapidly as it does under the status quo. It thereby restrains the contagion effect from an initial onset of private sector mass layoffs and serves a preventative function. While it will not eliminate business cycle swings, it will attenuate them.

### *Administrative agencies, project-executing organizations*

**Department of Labor**
The PSE program would be under the jurisdiction of the DOL, as UI is today. Similar to UI, states will participate in the program's administration.

Congress would appropriate funding for the PSE program through the DOL. The DOL budget would fluctuate countercyclically in a manner consistent with hiring anyone who wants work over the course of the business cycle.

The DOL would supply the general guidelines for the kinds of projects authorized under the PSE program. Municipalities would conduct assessment surveys, cataloguing community needs and available resources. In consultation with the DOL, states, and municipalities, One-Stop Job Centers (discussed below) create Community Jobs Banks—a repository of work projects and employers that offer employment opportunities.

In addition to providing funding to specific agencies, the DOL will issue "requests for proposals" indicating that it will fund employment initiatives by community groups, nonprofits, and social entrepreneurial ventures for projects that serve the public purpose. Grants are approved contingent on (1) the usefulness of activities performed, (2) the creation of employment opportunities for the unemployed, and (3) there being no displacement effect for existing workers.

**States and municipalities**
States and municipalities assist in the administration of the program. They not only help in the disbursement of funds but are also responsible for the design and implementation at the local level. As discussed above, they conduct community assessment surveys and design the Community Jobs Banks.

**One-Stop Job Centers**
The PSE program need not reinvent the wheel in terms of administrative infrastructure. Local unemployment offices have already been rebranded as local job centers, also called One-Stop Career Centers or American Job Centers. They are already charged with providing many services to the unemployed, from making payments (UI checks) to job search assistance; referrals, training, GED completion, resume building, and instruction in English-as-a-second-language, math,

and reading training; and other one-on-one services, such as stress and financial management.

One possibility is that these unemployment offices be converted to genuine employment offices by also offering employment opportunities. Due to a chronic shortage of jobs, current attempts to match unemployed workers with employers are largely ineffective. While some outfits may do better than others, in the absence of readily available and abundant job opportunities, going through an unemployment office can often be a stressful and even punitive experience.

These outfits can become fully functional One-Stop Job Centers by providing the needed PSE opportunities, while continuing to assist the enrollees with training, education, and transitioning to private sector employment opportunities. Under the PSE program, they essentially become the hubs for the Community Jobs Bank that links interested individuals with PSE positions.

**Public institutions, non-governmental organizations (NGOs), social enterprises**
These are the project-executing organizations. As discussed above, during the design phase of the program, a number of organizations can be identified in each community that will supply opportunities on demand. Others can be added over time. The opportunities at these organizations are inventoried with the Community Jobs Banks. Once the unemployed have been registered at the One-Stop Job Centers, they are placed in positions with these organizations.

Identification of project-executing organizations is contingent on the general guidelines provided by the DOL, which are in turn informed by the mission statement of the PSE program. Both the types of jobs and organizations that will employ the unemployed will be contingent on what is defined as the "public purpose."

### *Types of jobs*

The PSE program will help fill specific community needs that pertain to: (1) care for the environment, (2) care for the community, and (3) care for the people.

**Care for the environment**
We propose a revival of FDR's Tree Army and the creation of a 21st century version of the Civilian Conservation Corps (CCC) that creates PSE jobs in every community. Since all communities have acute environmental needs, the camp-based CCC model from the New Deal era is not what we propose. Instead, jobs will be created where the workers live.

The Community Jobs Banks will include a list of monitoring, rehabilitation, and public investment programs.

The jobs will tackle: soil erosion; flood control; environmental surveys; species monitoring; park maintenance and renewal; removal of invasive species; sustainable agriculture practices to address the "food desert" problem in the United States; support for local fisheries; Community Supported Agriculture (CSAs); community and rooftop gardens; tree planting; fire and other disaster prevention measures; weatherization of homes; and composting.

**Care for the community**
Communities are best rebuilt from within. Many communities throughout the United States experience urban blight, poverty, and crime. The PSE program can employ existing best practices to mobilize the human capital within a community to revive it and make it more resilient.

Jobs can include: cleaning up vacant properties, reclaiming materials, restoration, and other small infrastructure investments; setting up school gardens, urban farms, co-working spaces, solar arrays, tool libraries, classes and programs, community theaters, and oral history projects; building playgrounds, pedestrian areas, and bike lanes; and organizing carpooling, recycling, reuse, and waste collection programs.

**Care for the people**
Projects would include elder care, afterschool programs, and special programs for children, new mothers, at-risk youths, veterans, former inmates, and people with disabilities. One advantage of the PSE program is that it also provides job opportunities to people from these groups who are seeking work. In other words, the program gives them agency. For example, the at-risk youths themselves would participate in the execution of the afterschool activities

that aim to benefit them; veterans can work for and benefit from different veteran outreach programs.

Such jobs can include: organizing afterschool activities in schools or local libraries; facilitating extended day programs; shadowing teachers, coaches, hospice workers, and librarians to learn new skills and assist them in their duties; organizing nutrition surveys in schools and health awareness programs for young mothers.

The PSE program will also organize urban campuses, co-ops, afterschool programs, adult skill classes, apprenticeships in sustainable agriculture, and all of the above-mentioned community care jobs, training a new generation of urban teachers, artists and artisans, makers, and inventors.

All of these tasks are already being done in one form or another. And all of them are in short supply. What is missing are enough helping hands and a budget to employ them. That is the function of the PSE program. In other words, the program can benefit from already existing best practices in these areas and simply scale up the production of these public goods and investments in human capital.

The jobs will be locally administered, helping to ensure they meet local needs and that they do not violate local labor practices, including prevailing wage laws. PSE workers will not displace labor subject to prevailing wage laws where wages are required to exceed $15 per hour.

## Conclusion

This section provides one blueprint for operationalizing the PSE program. The principles that guide this design are (1) that the PSE should be a program available to all who wish to work at a living wage, (2) that the work has to be meaningful to the workers and the community, and (3) that the budget must be flexible to accommodate employment fluctuations over the business cycle.

Since unemployment is largely invisible, the enormous social costs it produces are not normally recognized. These costs are already borne by society and indeed produce large, negative, and seemingly intractable externalities. Therefore, supplying jobs for their own sake is a worthy goal. However, the blueprint offered herein suggests the multiple ways in which the PSE program could improve the lives of the unemployed, their families and communities, and the economy in general.

## Appendix 4.1: Project Examples

### *Example 1*

The city mobilizes men and women with varied skill levels for a cleanup of vacant lots and abandoned public spaces, rehabilitation of infrastructure, and reclamation of materials. People with disabilities who may have difficulty with physical work but have basic computer skills create a database, documenting the cleanup efforts, cataloguing the reclaimed materials, and offering office-based logistical support. At-risk youth help with park cleanup and apprentice with skilled workers in building, painting, and landscaping skate parks and basketball courts.

### *Example 2*

A former coal-mining community experiences city blight, mass unemployment, and a high incidence of health problems. The PSE program organizes a comprehensive project for restoring the natural habitat based on existing best practices. Workers are employed to plant appropriate tree species that restore the ecosystem, stem soil erosion, and reintroduce important lost wildlife to the region. The municipalities organize food insecurity, water quality, and malnutrition surveys. They launch a comprehensive community garden program.

### *Example 3*

Local CSAs organize and set up community gardens throughout the city. They employ local residents to set up and run the gardens. Produce is distributed to local members, sold in local farmers markets, or delivered free of charge to low-income families. In addition to building community gardens, the CSA employs people to build greenhouses and aquaponics operations and to run sustainable agriculture classes for adults and youth. Local CSAs can offer full- and part-time work opportunities and flexible working arrangements.

### *Example 4*

A local green nonprofit institute has long experience in creating, protecting, and expanding the network of public trails. It absorbs PSE participants on short notice to work on trail maintenance and construction (where locally permitted). In addition, the nonprofit works on removing foreign invasive species from local areas. The species removal includes soil erosion prevention efforts, which need to be staffed. The institute also runs an eel- and herring-monitoring program.

People with different skills are employed to perform the different tasks. Workers with appropriate skills can assist in creating maps, documenting the species, and performing research, if needed. The nonprofit also offers courses, seminars, and hands-on environmental conservation experience for youths and adults. It provides flexible working arrangements for those with child- or elder-care responsibilities.

### *Example 5*

A local artist collective employs painters, actors, musicians, and stage hands to run year-round productions for the community. They organize school outreach programs, run summer camps, and offer free art, music, and literacy classes for disadvantaged/special needs youths. They collaborate with local schools in offering art enrichment programs.

### *Example 6*

The local public schools enroll in the Community Jobs Bank, providing an inventory of projects and programs that can be staffed with PSE workers. Some involve expanding, repainting, and weatherization of school playgrounds. Others request a greater variety of afterschool activities. Many need teachers' aides to assist with low-performing students, lesson plan preparation, and in-class activities.

The tasks require various degrees of skill and experience. New labor market entrants—such as college students who are having trouble finding a job—enroll as teachers' assistants through the PSE program. They gain valuable training and hands-on experience should they wish to enter the field. Former stay-at-home parents, who are ready to return to work, assist in running new afterschool programs. Unemployed construction workers assist with infrastructure and weatherization projects.

## Appendix 4.2: Lessons from Similar Programs from Around the World

There have been countless direct employment programs around the world that can be used as examples from which to learn. Often these have been targeted or time-limited programs. In this section, we briefly look at three programs. One was implemented in Argentina during its serious economic crisis in the early 2000s; it was phased out as the economy recovered. The other, in India, has been implemented over the past decade as a permanent program. In addition, the United States created the New Deal jobs programs during the Great Depression to deal with its employment crisis; however, like Argentina, it shut down those programs when the economy recovered.

**National Rural Employment Guarantee Act (NREGA), India**

As discussed above, we propose a permanent, universal program that provides jobs to all in good times or bad. The program in India comes close to such a program. The NREGA guarantees at least 100 days of wage work to each household per year. The program enshrines the right to paid work into law—a right that has been written into the constitutions of many countries, inspired by the United Nations Declaration of Human Rights. However, signatory countries have yet to meet that mandate, and the NREGA only guarantees work to households—not to individuals as we are proposing with the PSE program.

Though the social and economic conditions of India are profoundly different from those in the United States, the significance of the NREGA lies in the fact that it has created a rights-based framework for wage employment programs and has charged the government with the legal responsibility for providing employment to those who ask for it.

The NREGA, just like the PSE program, not only guarantees employment on demand, but also aims to create specific productive public assets in communities (wells, ponds, roads, parks, etc.) and provide needed public services (like water conservation, horticulture, flood prevention, drought proofing, and other environmental projects). Apart from the NREGA's documented environmental benefits, the program has reduced the pay gap between men and women amongst the poor and has helped raise wages at the bottom for the private sector.

**Program for Unemployed Heads of Household (Plan Jefes y Jefas), Argentina**

Argentina created the Plan Jefes y Jefas in the depths of the 2001 economics crisis in Argentina. It guaranteed four hours of daily work paid at the minimum wage to an unemployed (male or female) head of household. While the program was not a universal job guarantee, its significance lies in the fact that it was explicitly modeled after a PSE-like proposal developed in the United States (aka the employer of last resort).[41]

The program quickly grew to 2 million workers (5 percent of the population and 13 percent of the labor force participated) but it also shrunk as the economy recovered. Though the program was discontinued as the economy recovered, it exhibited key features of the PSE proposal that were discussed above: it showed countercyclical features (the Jefes wage served as a base wage), it produced valuable public goods and services, and it had a significant positive impact on the workers, their families, and communities.

**The New Deal, United States**

In many ways, the US New Deal invented the model of large-scale direct employment during the Great Depression. An estimated 13 million workers participated in the Works Progress Administration (WPA)—the largest of the jobs programs. As Taylor (2009) argues, the WPA can be credited not only with providing income to its workers, but also with creating the infrastructure that supported the war effort as well as the postwar boom. Indeed, Taylor (2009) argues that the WPA brought the United States into the 20th century.

In the United States, the New Deal was up and running in four months. Plan Jefes y Jefas was up and running in six months. These programs were similar in size (relative to the national populations) to the PSE program we are proposing.

While the PSE program deviates significantly from these three other direct employment models, our research into each of them has informed our proposal.

# Appendix 4.3: Rising Popular Support for a PSE Program in the United States

Despite decades-long research on the job guarantee (JG), the program was only recently introduced in the popular press. Today it has entered the mainstream conversation, prompting a number of candidates for Congress to run on a job guarantee platform. Recent polls show that Americans overwhelmingly support it. One polling firm (Civis Analytics) called it "one of the most popular issues we've ever polled" (McElwee, McAuliffe, and Green 2018).

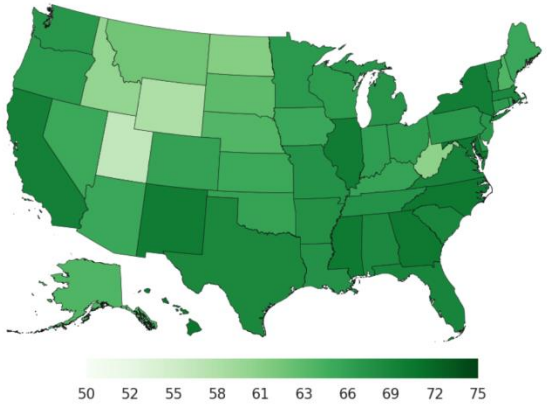
They also found that the JG is very popular with young and low-income voters, and especially voters of color. The program is also more popular with Republican low-income voters than with wealthy Democratic voters. Furthermore, 58 percent of people who voted for Barack Obama but later voted for Donald Trump supported the idea. Data for Progress modeled state-level support for the JG (Figure A4.1) and found that there is strong support in "deep red" states as well: West Virginia (62 percent support); Indiana (61 percent); Kansas (67 percent); Mississippi (72 percent); and Georgia (71 percent). Though these results may seem surprising, these are also states with higher–than-average unemployment and poverty rates and where the JG can make a big impact.

In general, the American public believes that it is the government's responsibility to solve the unemployment problem. A recent study on the policy preferences of Americans (Table A4.1) found that 68 percent of the general public believed that the government should "see to it that everyone who wants work should find a job," and 53 percent supported the idea of the government itself providing jobs to the unemployed as a last resort (Page, Bartels, and Seawright 2013, 57).

A 2013 Gallup Poll (Jones 2013) reports even stronger support (72 percent to 77 percent of respondents) for government employment programs and job creation *laws* that would employ the unemployed (Table A4.2).

In sum, a majority of Americans support not just government employment programs but the employer of last resort and JG in particular. The JG is an idea whose time has come.

**Figure A4.1 State-Level Popular Support for the Job Guarantee (percent)**




*Source*: Reproduced by permission of Data for Progress (using data from Center for American Progress).

**Table A4.1 Support for Government Job Creation and Employer of Last Resort Policies**

| | % of general public in favor |
|---|---|
| The government in Washington ought to see to it that everyone who wants to work can find a job | 68% |
| The government should provide jobs for everyone who cannot find a job in private employment | 53% |

*Source:* Page, Bartels, and Seawright (2013)

**Table A4.2 Support for Government Employment Programs and Job Creation Laws**

| | March 2–3 % vote "for" (gov't spending not mentioned) | March 4–5 % vote "for" (gov't spending mentioned) |
|---|---|---|
| A federal government program that would (spend government money to) put people to work on urgent infrastructure repairs | 77% | 72% |
| A federal job creation law (that would spend government money for a program) designed to create more than one million new jobs | 75% | 72% |

*Source:* Jones (2013)

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## Notes

[1] See, for example, Austin et al. (2018), Paul et al. (2018), Dayen (2018), McElwee, McAuliffe, and Green (2018), Spross (2017), and Rubin (2017).

[2] The Fair model's baseline projection of the Fed's interest rate target has it rising to nearly 4 percent by 2025 (and staying there through 2027, the final year of our simulation)—above baseline GDP growth rates, and above the growth rates produced by our simulation. Interest rates above economic growth rates generally cause debt ratios to rise. We are skeptical of this projection, although it is in line with the Fed's own forecasts, because it would also raise private sector debt service, increasing financial instability and the probability of another financial crisis.

[3] The higher bound peaks at 16.3 million with the Fed's rule on. The lower bound also peaks in 2022 at 11.6 million employees with the Fed's rule off and 12.2 million with the Fed's rule on.

[4] Peak additional private sector jobs in the lower-bound simulations range from about 3.3 million without the Fed's reaction function to just 2.2 million with the Fed turned on.

[5] For the higher-bound simulation with the Fed's rule turned off, the peak additions to real GDP are in 2022–24 and average about $593 billion per year. Thereafter, the real GDP effects decline slowly, averaging $440 billion per year in the lower-bound simulation and $543 billion per year in the higher-bound simulation over the period 2026–27. Including the Fed's response results in a reduced real GDP impact that averages $130 billion per year in the lower-bound simulation and $160 billion per year in the higher-bound simulation compared to the simulations that do not include a Fed reaction.

[6] With the Fed turned on, the boost to inflation is only about half a percentage point.

[7] The U-6 labor underutilization rate is a broader measure of the unemployment rate that includes discouraged workers (those marginally attached to the labor force) and part-time workers who would like full-time employment.

[8] We also updated the estimates using data from 2017Q4—reported here in notes and Appendix 2.1. The regressions used in the simulation exercise in Section 3 very closely replicate these results for the third and fourth quarters of 2017, with the PSE program phased in beginning in 2018Q1. This section reports only direct impacts of the PSE program on employment and poverty—there is no "multiplier" impact on private employment or GDP. The simulation in Section 3 includes those indirect multiplier effects. An extended version of this section will be published as a Levy Institute working paper.

[9] If the program had been implemented in 2017Q4, we estimate participation at between 11.5 million and 16.3 million in 2017Q4. This reduction is due to improvement in labor market conditions between 2017Q3 and 2017Q4. In Section 3, the program's size at implementation is smaller due to continued improvement.

[10] These numbers would have changed slightly if the PSE program had been implemented in the subsequent quarter. We estimate that between 4.2 million and 5.5 million unemployed would have joined the PSE program in 2017Q4. An additional 3.1 million to 6.2 million part-time workers would have joined the program to obtain full-time jobs. Approximately 160,000 full-time workers would have left low-wage, hourly paid jobs to join the program at $15 per hour. Finally, another 4.2 million to 4.5 million would have returned to the labor force for a PSE job. See Appendix 2.1 for a breakdown of 2017Q4 numbers.

[11] To be officially unemployed, one must first be part of the CNIP, which excludes those 16 years of age and older who are in correctional facilities, the military, hospice care and other health care

institutions, and so on. One must also be available and have been actively seeking employment for the four weeks prior to the survey reference week. For a detailed explanation of how the government measures unemployment, see BLS (2014). For a glossary of BLS terms and definitions, visit https://www.bls.gov/bls/glossary.htm#U

[12] A high proportion of the unemployed population is unemployed for 15 weeks or longer (39.7 percent in 2017Q3), and the distribution within this group tends to be more heavily skewed toward longer-duration subgroups (64 percent of those in the "unemployed for 15 weeks and longer" category in 2017Q3 had been unemployed for 27 weeks or longer).

[13] Because not all temporary layoffs are voluntary (or paid), we expect that some workers in this subgroup will join the program—most likely those on involuntary leave for longer periods. At the same time, we expect that the likelihood that some job leavers, new entrants, and reentrants will join the program will increase with their duration of unemployment. If we include all those on temporary layoff and exclude job leavers, new entrants, and reentrants who have been unemployed for less than five weeks, our higher bound would have similar magnitudes to those shown above: around 5.9 million people.

[14] Not seasonally adjusted.

[15] Reasons for leaving involuntary part-time private sector employment for full-time employment in the program may include convenience: for example, transportation to one versus multiple work locations, reporting to one set versus multiple sets of supervisors, dealing with one versus multiple social and work environments. Further, public work at local projects created by the program may be more fulfilling than private sector employment, and PSE might provide better access to a benefits package.

[16] It is also easy to envision reasons why some involuntary part-time private sector employees would decide to remain in private sector employment: due to higher hourly pay, career advancement opportunities, desiring private sector experience, networking, etc.

[17] According to the BLS, employer-sponsored benefits were available to 70 percent of civilian workers in March 2017. However, access varied significantly across occupations, compensation, and work schedules. Those in service-related occupations, receiving lower wages, or working part time had significantly less access to benefits. For example, only 19 percent of private sector part-time workers had access to employer-sponsored medical care benefits, compared to 95 percent of full-time workers. Paid sick leave was available to only 36 percent of part timers, compared to 84 percent of full-time workers, while only 4 percent of those in the lowest 10 percent average wage group had some form of paid family leave, compared to 26 percent of those in the highest 10 percent.

[18] In other words, the higher-bound estimate incorporates all those working part time for noneconomic reasons due to childcare responsibilities on the assumption that, if there were free, reliable childcare made available through the PSE program, these workers would choose to work full time in a PSE job.

[19] The idea is that those working part time for economic reasons who usually work full time have an easier time returning to full-time hours than do those who usually work part time.

[20] According to the Fair Labor Standards Act, employees exempt from the federally mandated minimum wage include workers with a disability, tipped workers, student-learners, full-time students, and youths under age 20 (in their first three consecutive months of work). Clearly, not all those would be attracted to the program. Tipped workers may find that they are better off receiving the legislated minimum wage and keeping their tips than joining the program. Some may decide to join the program if the benefits package (including healthcare) is generous enough, or if they find a program job that they perceive as more meaningful, fulfilling, or beneficial to their communities.

Also, student-learners may be willing to accept lower pay in the private sector in exchange for networking, training, and job experience. People with disabilities who are currently employed full time at low wages may choose to join the program for higher pay—unless their employers match the program wage.

[21] Note that our lower bound is different from the BLS's definition of "marginally attached to the labor force." We exclude a segment of the "marginally attached": those who want a job now, are available to work, but who were in school or training or were ill or disabled. The reasoning is that these people would have been less likely to *readily* join the program—although it is certainly plausible that some would, especially those with a long-term disability who want a job.

[22] See, for example, BLS (2017b).

[23] Our study is limited by the availability of demographic characteristics of the subgroups in the set of CPS tables released by the BLS each month, quarter, or year. For each subset, data is readily available only for selected characteristics. While detailed monthly data is available for the unemployed by duration and involuntary part-time workers, annual averages were used to estimate the demographic composition of other groups, notably the unemployed by reason, the employed part time by economic and noneconomic reasons, those employed full time but who are paid at or below the minimum age, and those who are not in the labor force but who report wanting a job now. For these groups, gender, racial, and ethnic composition had to be estimated indirectly using BLS annual averages.

[24] The data for this section comes from the following CPS tables: A-36 (available at www.bls.gov/web/empsit/cpseea36.htm) and E-16 (available at www.bls.gov/web/empsit/cpsee_e16.htm).

[25] For instance, the poverty rate for families with children under the age of six where only one member of the household worked but was employed part time (or part year) was as high as 58 percent. The poverty rate dropped to 23 percent for families where a second or more members of the household also worked part time (data is available at www.census.gov/data/tables/time-series/demo/income-poverty/cps-pov/pov-08.html).

[26] BLS data on employers' assistance with childcare reveals that both full-time and part-time workers had limited access to such benefits: in 2016, only 13 percent of civilian full-time workers and 5 percent of civilian part-time workers enjoyed such access. Workers in higher-earning occupations were more likely to have access to childcare. Ranking workers by their occupation's average wage shows that 4 percent of the civilian workers in the lowest wage quartile had access to childcare, compared to 19 percent of civilian workers in the top quartile.

[27] Here the assumption is that the PSE worker will be paid for 40 hours a week at a $15 per hour wage for 52 weeks, so the annual income is calculated as: $15/hour x 40 hours x 52 weeks = $31,200. (The working year might be set at 50 weeks, with two weeks of paid vacation; however, for the purposes of this study we are not including paid vacation as a benefit. Note that just as the PSE wage will become the effective minimum, any additional benefits, including paid leave, would also become the effective national minimum. By increasing paid vacation time in the program, this would place pressure on other employers to do the same.)

[28] Calculations are based on the proportion between adults and children in different family units. For example, in 2016 there were 2,281 people in poverty in families of four with three children. Hence, 1,711 (or 75 percent) of the people in family units of four with three children were under 18 years of age.

[29] Fullwiler (forthcoming) also discusses the advantages and possible shortcomings of the Fair model.

[30] In this simulation, the number of participants is endogenously determined within the model by wages and economic performance; see Fullwiler (forthcoming). Importantly, the simulation includes effects of the relatively high pay in the program ($15 per hour) that will place pressure on private sector employers. The issue is discussed further in this section.

[31] For details on the stochastic equations that generate the numbers for the PSE workforce in the simulations, see Fullwiler (forthcoming).

[32] The minimum wage for the simulations is $8.43, which is a weighted average of all 50 states. The simulations assume only 10 percent of minimum wage workers earn benefits, and that their benefits package is, on average, half as large as the PSE benefits package. Note that the lower are the assumed benefits and proportion of minimum wage workers receiving benefits, the greater the effect of the higher PSE wage-plus-benefits package on the private sector wage, and thus the higher the cost to private business.

[33] Some minor changes have been made to the Fair model's baseline. First, the unemployment benefits in the Fair model are paid only at the state level, while the baseline and PSE simulations presented here divide these evenly between the federal government and the states. Second, the federal government's debt service in the Fair model is the gross debt service, which includes interest paid by the government to the government itself, while the simulations presented here use only net debt service, that is, actual transfers to the nongovernment sectors. Third, assumptions for growth rates of exogenous variables during 2018–27 have been reduced by 40 percent from default forecasts to be more in line with historical paths; the exceptions are the growth rates of exports and transfers from the federal government to state governments, which remain at their default rates of growth. Fourth, because the Fair model's forecast ends at 2025, the exogenous variables and demographic assumptions through 2025 were simply extended through 2027. The resulting path of the Fair model's baseline simulation is consistent with those of the Federal Reserve and the CBO, with nominal GDP and real GDP growing at 4 percent and 2 percent per year on average, respectively. The resulting target rate of the Federal Reserve—set by a stochastic equation in the Fair model—rises to 4 percent by the end of 2025 and remains in that range or slightly below through 2027.

[34] The Federal Reserve's interest rate rule has been "turned off" for the PSE simulations. This means that there is no reaction by the Fed to the PSE program in the simulations. Instead, the Fed's target rate remains at the levels set by its reaction function in the baseline simulation, which is to rise slowly from 2 percent in 2018 to 3 percent by the end of 2022, then to about 4 percent by 2025, where it remains through 2027. Simulations with the Fed's rule "turned on" were run and are reported in Fullwiler (forthcoming); some of these results are outlined in Appendix 3.1.

[35] The reason the PSE program is having this essentially one-time, permanent effect is due to the macroeconomic context of the simulation, which is a 10-year forecast. As noted above, baseline forecasts of this sort simply return to the macroeconomy's trend without significant exogenous changes imposed upon the model. When the simulations instead incorporate business cycles similar to those that real-world economies experience, then the simulated PSE program's macroeconomic effects are far more countercyclical. See Fullwiler (forthcoming, 2007, 2013).

[36] Inflation in the baseline simulation averages 1.9 percent per year.

[37] As Fullwiler (forthcoming, 2013, 2007) shows, the countercyclical path of the PSE workforce provides a modest countercyclical impact on inflation consistent with a stable inflation target for macroeconomic policy.

[38] Fullwiler (forthcoming, 2013, 2007) simulates the PSE program in an economy with business cycles to illustrate this, albeit with a much smaller and less generous version of the PSE program than proposed here.

[39] The simulations assume PSE workers are paid a wage of $15 throughout, which contributes to the steady decline in direct spending on PSE as a percentage of GDP in Figure 3.6. If the wage instead increased at any point in the simulation—for cost of living adjustments and so forth—this would increase the results shown in Figure 3.6. However, this is not a certain outcome. Given the way PSE spending has feedback effects on the macroeconomy's performance, which then in turn affects the size of the PSE workforce, spending as a percentage of GDP might actually decrease if the macroeconomic impact brought a large enough decline in the PSE workforce.

[40] How much debt service would be incurred in the case of a baseline simulation in which the government's budget is in surplus depends on (1) the size of the PSE program's net budgetary effect less interest relative to the size of the government's budget in the baseline simulation, and (2) the level of the interest rate on the government's debt relative to the growth rate of the economy.

[41] Based on a proposal developed at the Center for Full Employment and Price Stability, University of Missouri–Kansas City, by L. Randall Wray, Mathew Forstater, Pavlina Tcherneva, and Warren Mosler.