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FULL EMPLOYMENT: ARE WE THERE YET?

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Preface

Almost a decade after the Great Recession began, and with unemployment now at 4.7 percent, many policymakers and commentators are beginning to lean toward the view that we have finally reached “full employment”; that any further significant improvement in the unemployment rate would lead to unacceptable increases in inflation. The Federal Reserve has signaled its resolve to continue tightening monetary policy through a series of interest rate hikes, and although the new partisan alignment of Congress and the White House has raised expectations that fiscal policy might finally be coming off the sidelines, there is an emerging conventional wisdom that tells us it is nevertheless “too late” for expansionary federal budgets.

In this policy brief, Flavia Dantas and L. Randall Wray argue that it is a mistake—and a costly one for society—to believe that this is what full employment looks like for the US economy. They contend that we are not even close to the target: Dantas and Wray estimate we are still roughly 20 million jobs short of the mark, and that reaching full employment would require, on average, gains in payroll employment of 420,000 jobs per month for the next four years—or *triple* the monthly average we have witnessed since the recovery began.

There are indications that the unemployment rate is overstating the health of the labor market. The slow rate of wage growth and labor compensation in general is indicative of how far we are from a tight labor market. And while the employment-to-population ratio has finally been showing signs of modest improvement, the authors point out that it has increased only 2 percentage points since the recovery began—leaving it well below its prerecessionary level. This continues an asymmetric trend on display since 2000, in which the employment ratio declines rapidly during recessions and grows much more slowly during recoveries, failing to recover prerecession peaks or to match the pace of the improvement in the U-3 unemployment rate. Recessions in this millennium have become occasions in which greater and greater numbers of the population disappear from the labor market, “more or less permanently,” the authors observe.

It has become common to attribute this trend to the effect of demographic or structural forces, such as the aging of the

workforce or a shift in preferences in favor of leisure over labor (or unpaid household work over paid work). However, Dantas and Wray point out that these explanations do not adequately account for the continued erosion of the labor force participation rate among prime-age workers (ages 25–54). A significant part of this worrisome trend has been the dramatic erosion of male prime-age participation rates, but the authors note that in the current cycle, even female prime-age participation rates have not recovered their prerecession peaks. The popular demographic narrative is overstated, they conclude, and has not been the most important driver of the long-term idling of the population.

The authors maintain that stagnating incomes and falling prime-age participation rates are symptoms of a structural inadequacy of aggregate demand—a problem of insufficient job creation that has plagued the US economy for some time. It is a problem, Dantas and Wray emphasize, that conventional public policy remedies are unable to address.

Their solution to secular stagnation calls for targeted job creation. Keynesian pump priming, while necessary, is nevertheless too diffuse and not sufficient to counteract the deeper forces preventing the economy from generating full employment. A program in which the federal government funds direct job creation at a uniform minimum wage for all who are willing and able to work creates the right kind of jobs for the segments of the population that have been excluded from the labor market in recent economic recoveries, while minimizing inflationary pressures.

At this moment, more skepticism is required with regard to the conventional understanding of full employment, and more ambition and innovation are needed in devising policies that ameliorate the lives of those left behind with each successive economic cycle.

As always, I welcome your comments.

Jan Kregel, *Director of Research*

February 2017

Introduction: Is This as Good as It Gets?

Labor force participation in the United States has declined continuously since reaching its historical peak in 2000. The Great Recession accelerated this downward trend as discouraged, underemployed, and underpaid workers dropped out of the labor force. While the employment-to-population ratio showed some signs of improvement from mid-2015 through mid-2016, it has recently stagnated. Nonetheless, the Federal Reserve, much of the media's pundits, and most policymakers seem to agree that labor markets have recovered. Official unemployment rates have reached the level that is conventionally believed to be the lowest that should be pursued, and falling participation has been widely attributed primarily to structural forces like age demographics and changing characteristics of the American labor force. There is no evidence that inflation has begun to raise its ugly head, but economists inside and outside the Fed generally agree that interest rates should continue to rise—to nip price pressures in the bud. In mid-December, the Fed finally resumed its tightening, and many project four more hikes over the next year.

While naysayers are in the minority, there is contrary evidence that troubles at least some observers. Most workers have not seen significant wage increases. And while structural shifts have partially contributed to the falling participation rate, they cannot easily explain why participation among prime-age workers remains significantly below prerecessionary levels. In particular, there is growing concern that prime-age male labor force participation is continuing a stubborn long-term downward trend. 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 men who are counted as neither employed nor unemployed, but as out of the labor force. In addition, growth of labor productivity has generally been disappointing throughout the recovery.

To be sure, the two views can be reconciled to produce an even more dismal prospective future. Our society is aging—with those at the tip of the baby-boomer iceberg already leaving the labor force as they retire. If we add to that declining participation in the labor force by the generations currently of prime age, we face an insufficient supply of workers to produce the goods and services we need. To some extent, robots are replacing humans (although it is somewhat puzzling why, if that were happening on as large a scale as commonly believed,

productivity is not booming). Redundancy of human labor keeps wage growth low—which further encourages workers to voluntarily leave the labor market. Hence, we face what looks like a slack labor market, but one that is tighter than it appears. Given a constrained labor supply plus slow growth of productivity, secular stagnation is inevitable.

Some have proposed a basic income guarantee as a solution to current labor market dynamics: just provide income to workers who have been displaced by robots, or who do not have the skills and training required in today's knowledge economy. However, that would raise aggregate demand beyond our limited ability to grow supply-constrained output. The result will be stagnation and inflation—with the specter of a late-1970s-style stagflation.

Hence, the conclusion is that this is “as good as it gets.” Even the current pace of jobs growth is probably too high. It is time to slow the economy down.

In this policy brief we challenge these views. We will argue that the slow “recovery” of labor markets, and especially of the labor force participation rate is due to a combination of insufficient job creation as well as stagnant wages. The problem is not really displacement by robots; nor is it a utility-maximizing choice made by prime-age men to leave the labor force on a quest for more desirable pursuits; nor is the answer more welfare in the form of a basic income guarantee.

While we do need more aggregate demand, we will argue that this needs to take the form of targeted job creation as well as growth of wages at the bottom of the wage ladder. Our recommendation will follow Hyman Minsky's “employer of last resort” proposal that he developed in the 1960s. This would bring workers back into the labor force without fueling the inflation that would be generated by either the basic income guarantee or the old “Keynesian” reliance on “pump priming”—even in its modern Trumpian guise of incentivizing infrastructure investment.

We first provide an overview of recovery of the labor market and then turn to longer-term trends. We focus on labor market participation, especially of prime-age workers. While female participation rates had been rising until the early 2000s, participation by prime-age workers has exhibited a long-term falling trend. Recessions cause the participation rates of all groups to fall. In recent expansions, however, the recovery of participation rates has been attenuated—and in the expansion following the global financial crisis (GFC), even rates of prime-age females

have not fully recovered. We then turn to a critique of common explanations of these trends. In that regard, President Obama's office released a June 2016 report¹ that effectively counters most of the popular views. We supplement the critique with additional data and then turn to policy solutions. While the report offers some helpful suggestions, we find them to be inadequate.

Overview of the Current State of Recovery of Labor Markets

On December 14, 2016, the Federal Open Market Committee (FOMC)—the Federal Reserve Bank's policymaking body—voted to raise the target range for the federal funds rate from 0.5 percent to 0.75 percent, resuming the “normalization” course for the Fed funds initiated the previous December. The consensus among FOMC participants is that the US economy is nearly at full employment, as the official unemployment rate has fallen below the “normal” levels expected to prevail in the long-run (some sort of policymakers' NAIRU—the so-called nonaccelerating inflation rate of unemployment).²

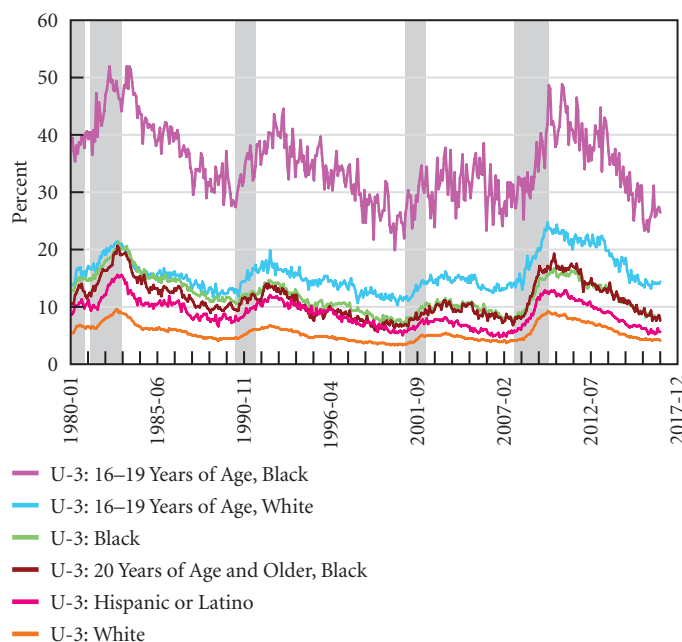
Indeed, by important measures there *has* been substantial improvement in labor market conditions. A total of 14 million

jobs have been created since the end of the recession. The official unemployment rate is now at its lowest level since the GFC, reaching 4.6 percent in November 2016. Unemployment rates across different age and demographic groups continue to fall back toward prerecessionary levels (as can be seen in Figure 1). And the employment–population ratio that had declined precipitously after the recession, and has remained unresponsive to the falling unemployment rate for most of the recovery period, is finally showing signs of modest improvement (see Figure 2).

While all these developments are welcome, a granular look at labor markets leads to some caveats to policymakers' belief that we've achieved full employment. Most importantly, Figure 2 shows that the employment–population ratio is nowhere near its prerecessionary levels. In the six-and-a-half years since the ratio stopped falling, it has risen by only 2 percentage points. At this pace of recovery, it would need more than an additional dozen years to regain its prerecession peak—an unlikely scenario.

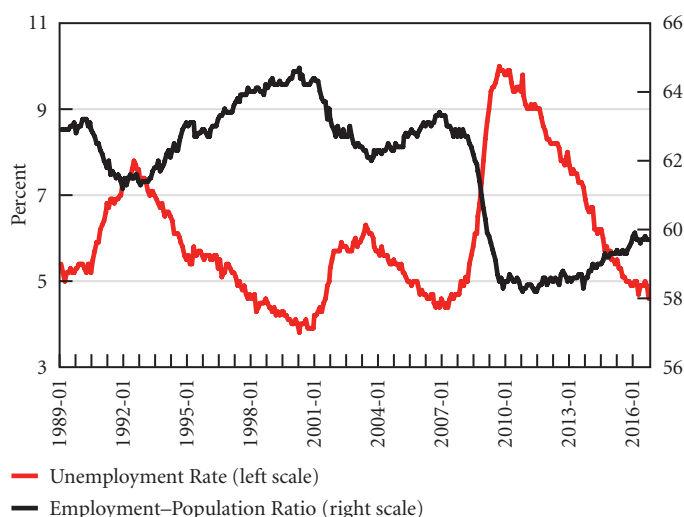
In fact, since 1990 the pace of recovery of the employment ratio has been painfully slow after each recession. Perhaps most concerning is an increasingly asymmetric response of the unemployment rate and the employment ratio over the course of the cycle: in a downturn the sharp rise of the unemployment rate is associated with a rapid decline of the employment ratio, but the relatively sharp fall of unemployment in the recovery is not

Figure 1 Unemployment Rates across Different Demographic Groups, January 1980 – November 2016



Sources: Bureau of Labor Statistics (BLS); FRED database, Federal Reserve Bank of St. Louis

Figure 2 Unemployment Rate and Employment–Population Ratio, 1989–2016



Source: BLS

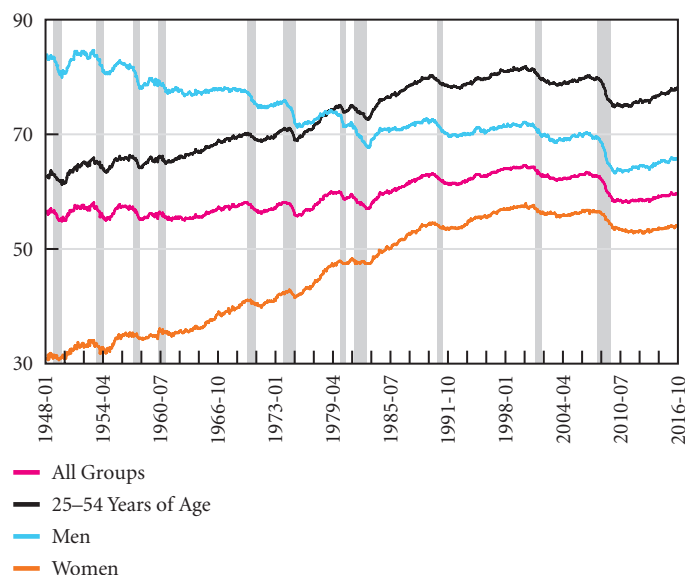
matched by a quick restoration to a higher employment ratio. All else equal, a falling unemployment rate should increase the employment–population ratio as those searching for jobs are finding them with greater success. As Figure 2 shows, however, recovery of the employment ratio is increasingly difficult. This is because a greater proportion of the unemployed are leaving the labor force rather than finding jobs, as was the case before 1990. When a smaller percentage of the working-age civilian population is participating in the labor market, falling unemployment does not necessarily increase the employment–population ratio. Figure 2 shows that while the unemployment rate has fallen by 5 percentage points over the recent recovery, the employment rate has risen by only 2 percentage points. By contrast, in the recovery of the early 1990s, the unemployment rate fell by about 3.5 percentage points, while the employment rate rose by about the same number of percentage points.

As Figure 3 shows, the employment–population ratio tends to decline following recessions, but then bounces back for the population as a whole. However, for men, the general trend of the employment ratio has been downward, as the bounce during recovery does not fully offset the fall in recession. And since the 2000s, the employment-to-population ratios for all prime-working-age workers, and even for women separately, started to exhibit the same pattern as the ratio for men: since the turn

of the century, while the employment-to-population ratio for women recovered after each recession, it never returned to pre-recessionary peaks. As of fall 2016, the employment–population ratio still had not returned to the pre-GFC peak for any of the groups shown in Figure 3. The pattern of this new millennium is that the severity of the impact of each recession on labor markets is such that at each downturn, more people become excluded—more or less permanently—from labor markets. (We will return to a detailed analysis of data on longer-term trends, in particular for prime-age men, later.)

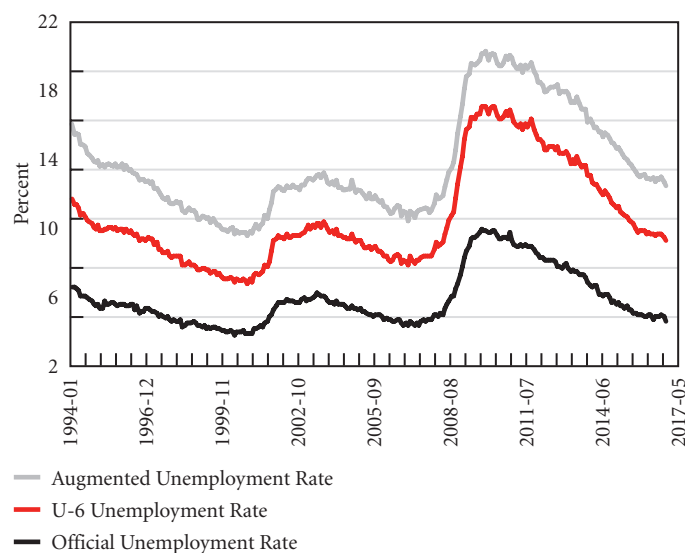
The typical discourse (e.g., Williams 2016; Fujita 2014) is that the *decoupling* of the unemployment rate and the employment–population ratio is largely a consequence of changing demographics, such as the retirement of baby boomers and younger people going to school for longer periods. An aging workforce has increased retirement rates (both normal age as well as early retirements), while extended schooling postpones movement into the labor force by the young. The combination of these factors has generated the precipitous decline in the labor force participation rate. Further, more people of working age have voluntarily left the labor force, choosing to have more time to care for family members, to obtain more education, or to enjoy leisure. The entry of women into the labor force has allowed more of their husbands to stay at home. Generous social

Figure 3 Employment–Population Ratio for Different Demographic Groups, 1948–2016



Source: BLS

Figure 4 Unemployment Rates, 1994–2016



Sources: BLS; authors' calculations

safety nets reduce the costs of exit from the labor force. Skills mismatch make such exits by prime-age men more appealing than taking a job that requires little skill and pays much lower wages.

Figure 4 plots the official unemployment rate against the “unofficial” U-6 measure provided by the Bureau of Labor Statistics (BLS),³ which includes not only those who are marginally attached⁴ to the labor force but also those who are employed part time for economic reasons (i.e., cannot find full-time employment). As of November 2016, the U-6 unemployment rate was 9.3 percent. There were still 7.4 million people unemployed, 5.5 million people employed part time for economic reasons, and 1.9 million people marginally attached to the labor force. Only 228,000 were marginally attached due to school or training, and only 176,000 were marginally attached due to illness or disability. The vast majority of the marginally attached were discouraged (could not find a job) or out of the labor force for other factors that made participation prohibitive, including childcare and transportation difficulties.⁵ This is not surprising, given the difficulty of accessing affordable, available, and adequate childcare⁶ and public transportation.

However, even the U-6 measure of unemployment is likely to understate the challenges we still face today, because the BLS statistics consider “marginally attached” only those who have searched for employment in the previous year. In November 2016, according to the BLS, there were 5.9 million people outside of the labor force who reported wanting a job now,⁷ 3.4 million of whom had not searched for work in the previous year. Taking these people into account, a more comprehensive measure boosts the unemployment rate to 12 percent, a measure labeled Augmented Unemployment⁸ in Figure 4.

Adding the number of people who were unemployed in November 2016 to the number of those who were employed part time for economic reasons, plus those in the labor force who want a job now, minus those who are not available to work now (ill, disabled, or in school), provides an estimate of 20 million potential workers who are at least partially idled.

The US economy created on average 180,000 jobs per month from January to November 2016. This represents a slowdown from the monthly average of 225,000 in 2015, and 248,000 in 2014. To achieve the same employment–population ratio that prevailed before the recession, Carnevale, Jayasundera, and Gulish (2015) estimate that the US economy would need to create on average 204,000 jobs per month over the next four years. To accommodate all those who are part of

the U-6 measure of labor underutilization, the required average job creation per month jumps to 309,000 for the next four years. And finally, to accommodate all those included in our Augmented Unemployment figure, a total of 420,000 jobs per month over the next four years would be necessary.

In sum, almost a decade after the United States’ worst downturn since the Great Depression, we still have not fully recovered. The costs to individuals and society of labor underutilization (unemployment plus underemployment) come in the form of huge net income and output losses that may be permanent. The social costs are even larger, and include: poverty, social isolation, and crime; regional deterioration; health issues, family breakdown, and school dropouts; social, political, and economic instability; promotion of violence, ethnic hostility, and even terrorism; and loss of human capital.

Many of these problems combine to push workers out of the labor market. Further, there are hysteresis effects, as the long-term unemployed (as well as those who are out of the labor force for extended periods) become unemployable—at least in the eyes of potential employers.

On the other hand, full employment provides a large number of benefits, including: production of goods and services; on-the-job training and skills development; poverty alleviation; community building and social networking; intergenerational stability; and social, political, and economic stability.

As Sen (1999) argues, full employment generates multiplier effects, as positive feedbacks and reinforcing dynamics create a virtuous cycle of socioeconomic benefits. We thus continue to incur huge costs and fail to achieve the benefits of full employment.

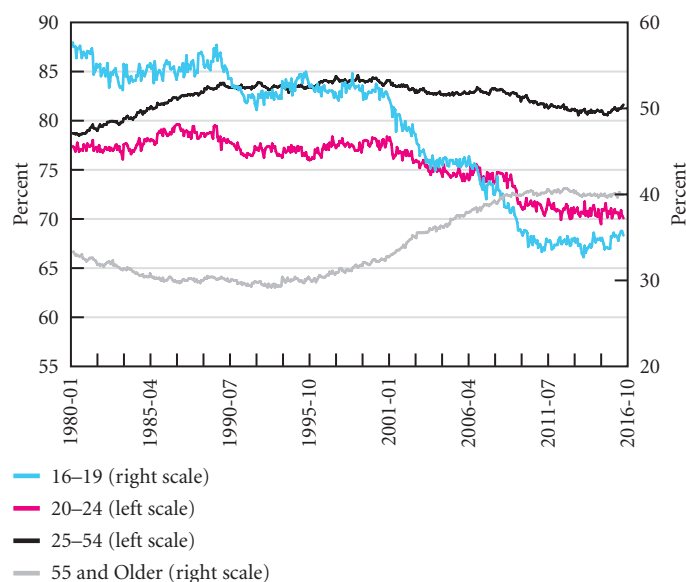
As we will argue in the next section, longer-term trends have made it much more difficult to achieve anything close to full employment.

Longer-term Trends in Labor Force Participation Rates

Falling Participation by Prime-age Men: Demographic Reasons

As workers who still want jobs leave the labor force (stop actively searching for employment in the previous four weeks), the labor force participation rate (LFPR)⁹ is depressed. The LFPR (and also the employment–population ratio) has been declining since it reached its historical peak in 2000. By 2015, the ratio

Figure 5 LFPRs for Different Age Groups, 1980–2016



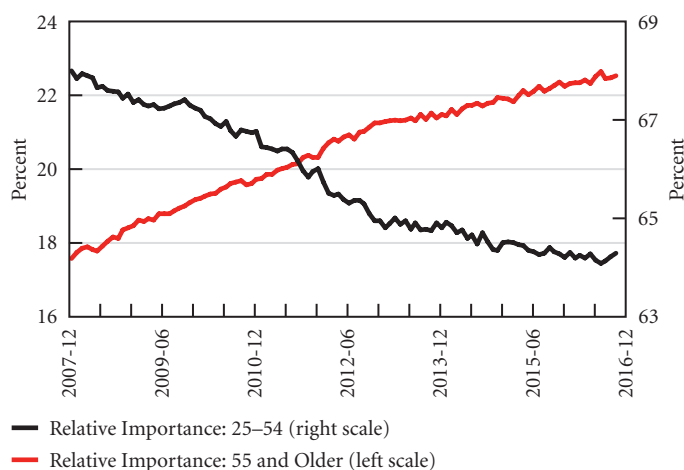
Source: BLS

reached its lowest level since 1977—62.4 percent. The recession accelerated the downward trend as discouraged and underemployed workers dropped out of the labor force, but it cannot easily explain why this ratio has been falling since the start of the new millennium.

The typical explanation for declining labor force participation is age demographics, combined with changing characteristics of the American labor force and other structural forces (see, e.g., Aaronson et al. 2006; Eberstadt 2016). For example, as the American population gets older, all else equal, overall labor force participation naturally declines, pulled by the lower participation rate for those aged 55 and older, at the same time that their share of the population increases. Similarly, as the percentage of the population of prime working age (typically an age group with a higher LFPR) declines, so does overall labor force participation.

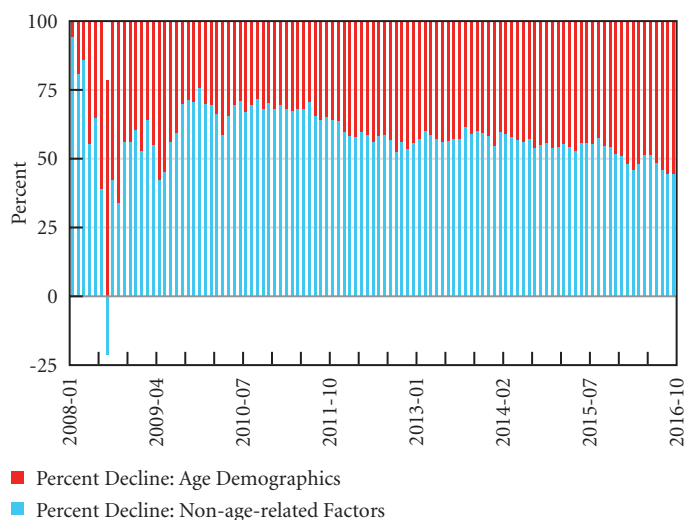
However, as can be seen in Figure 5, labor force participation for those 55 and older has actually been rising (although the rate might have leveled off in the past few years), partially counteracting the negative impact of an aging population on the overall LFPR.¹⁰ A puzzling trend is that labor force participation has been declining since 2000 for those of prime working age, that is, those between 25 and 54 years of age.¹¹ Participation rates have also fallen for younger age groups.

Figure 6 Weighted Contribution for Selected Age Groups (as a percentage of the overall LFPR), December 2007 – October 2016



Sources: BLS; authors' calculations

Figure 7 Decomposing Causes of the Decline in the LFPR, January 2008 – October 2016



Sources: BLS; authors' calculations

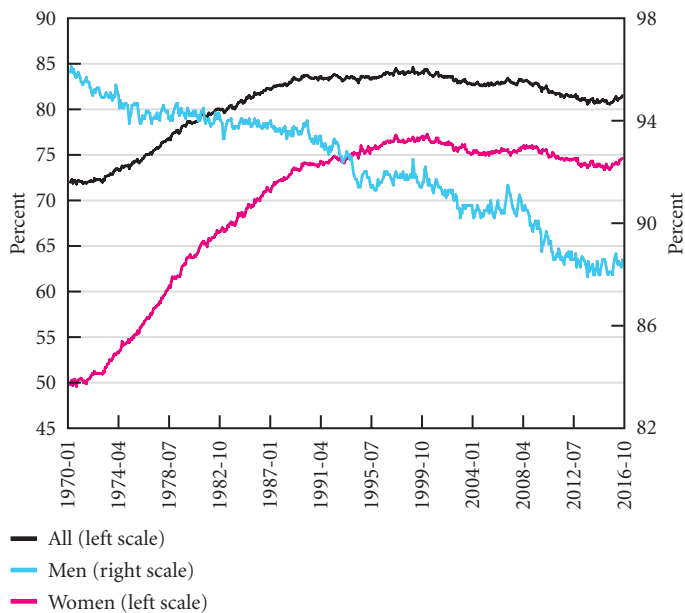
Figure 6 shows the weighted contribution of prime-age workers and older workers as a percentage of the overall LFPR. As can be seen below, the relative importance of workers aged 55 and older in the total LFPR has been increasing, while the relative importance of the prime-age group to the total LFPR has actually declined.

While many attribute the falling participation rate to aging of the population (as the average age of workers rises, the

participation rate falls), that effect is overstated. Following Mitchell (2014), a simple exercise can provide a rough estimate of the percentage of the decline in the overall LFPR over the period January 2008 to October 2016 that can be attributed to aging. The results are plotted in Figure 7. Briefly, the time series is constructed by holding constant the proportion of the different age groups in the CNIP (civilian noninstitutional population) as of January 2008 (the month following the official start of the recession), and allowing the LFPR for each age group to vary over time. As the population ages, the overall LFPR tends to fall because of the increase in the relative weight of the CNIP of workers above 55 (who have a lower LFPR). Keeping the CNIP constant allows one to estimate what the LFPR would have been had age demographics not changed over that time period.

Using the constructed time series, Figure 7 shows the percent of the cumulative decline in the LFPR from January 2008 that was due to changes in age demographics (red bars) and to all other factors (blue bars). For example, in October 2016 the actual LFPR was 62.8 percent, representing a total decline of 3.4 percentage points from January 2008, when the LFPR was 66.2. Our constructed LFPR series tells us that in the absence of changing age demographics, the LFPR would have been 64.7 percent. In other words, 44 percent of the total decline in the labor force from January 2008 was due to non-age-related factors. This represents a decline of 3.8 million people in the labor force for non-age-related reasons. From the official end of the recession (June 2009) to today, the non-age-related decline in

Figure 8 Prime Working Age LFPRs: Men vs. Women, January 1970 – October 2016

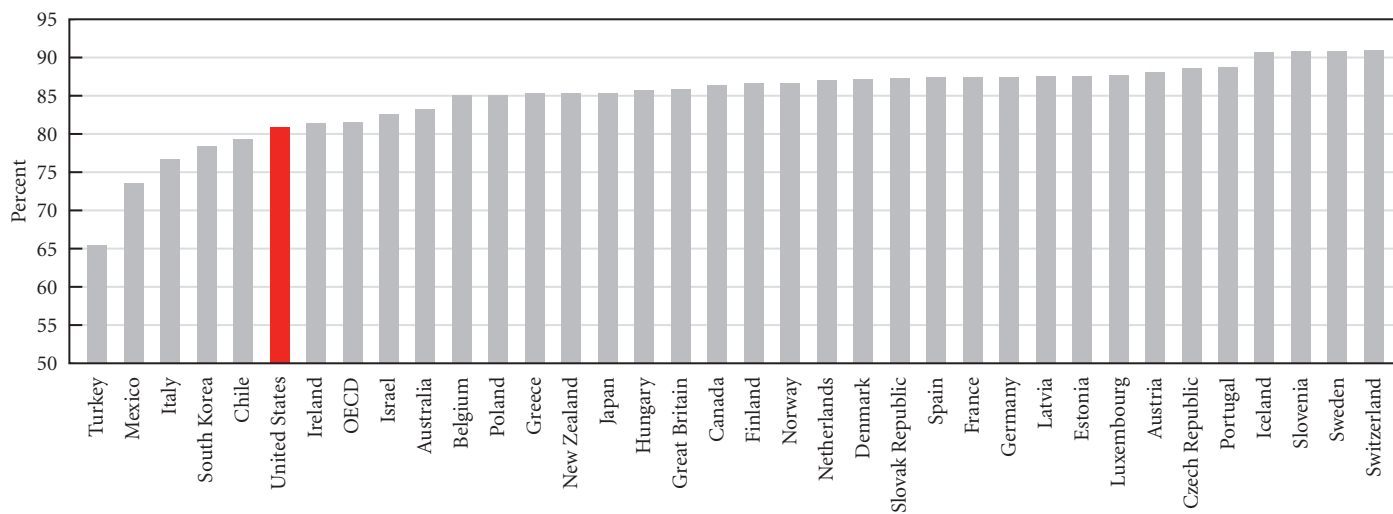


Source: BLS

labor force participation explains on average around 60 percent of the decline in the LFPR. Our estimation is in line with other studies.¹²

As can be seen in Figure 8, and as already mentioned above, one of the important long-run drivers in the decline of overall labor force participation in the prime working age group is the decline in the labor force participation of men between the ages

Figure 9 Prime Working Age LFPRs for OECD Countries, 2015



Source: OECD

of 25 and 54. The erosion of labor force participation for men of prime working age has been steady in the US economy since the mid-1960s. Eberstadt (2016), for example, calculates that today, “a monthly average of nearly one in six prime-age men [has] no paying job of any kind” (Eberstadt 2016, 213). If current trends continue, in 40 years, one out of four men of prime working age will be out of the labor force (Summers 2016). Labor force participation rates have declined across the board for men of prime age, but the fall has been steeper for black men, those convicted of crimes, those with a high school degree or less, and those without dependents or children (CEA 2016; Eberstadt 2016).

The United States does not fare well in international comparisons: in 2015 it had one of the lowest labor force participation rates among OECD (Organisation for Economic Co-operation and Development) countries, as can be seen in Figure 9. It is hard to make the argument that excessive labor market regulation or a generous social safety net is the reason for the lower participation rates in the United States compared with OECD countries, since those countries generally have labor markets that are more 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—the participation rate has actually declined, in contrast to other OECD countries, as

can be seen in Figure 10. The United States is among only a handful of countries with a falling participation rate.

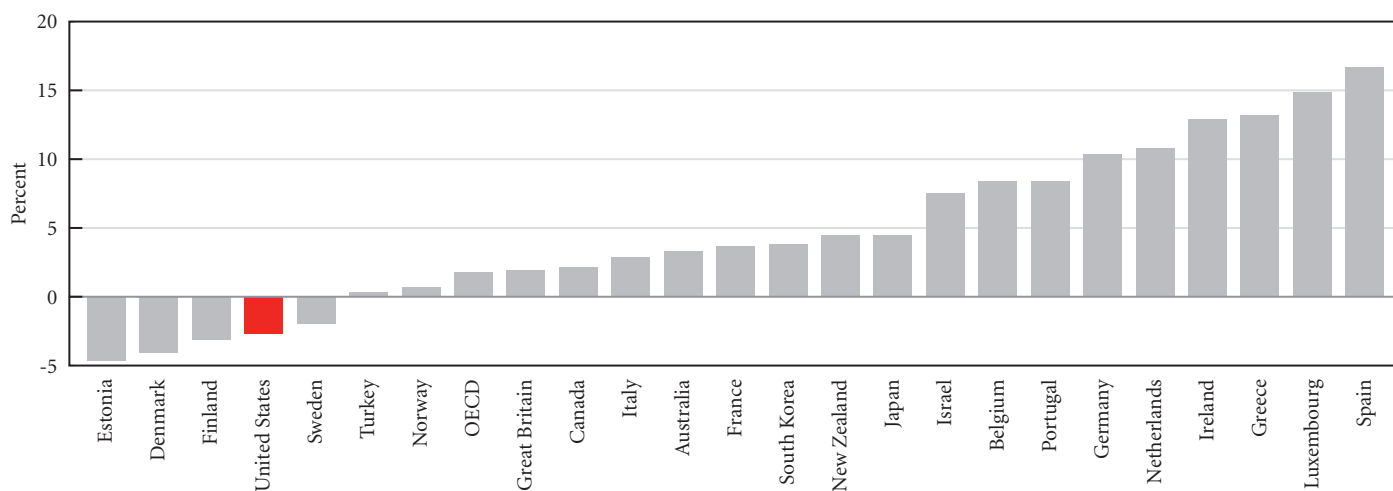
Falling Participation of Prime-age Men: Labor Market Supply-Side Explanations

Some have attributed the decline of labor force participation to “social shifts” such as changes in personal preferences, leading more people to trade “a second paycheck for spending more time at home, whether it’s for child care, leisure, or simply that it’s a better lifestyle fit,” according to Williams (2016, 3), or to seek higher educational achievement. While the decline of labor force participation for those between the ages of 16 and 24 reflects the fact that Americans are spending more years in school, it cannot explain why Americans of prime working age have simply withdrawn from the labor market.

While the social shifts explanation sounds plausible, it is unlikely that a large number of Americans are voluntarily leaving the labor force for personal preferences. In fact, the number of those not in the labor force who report not wanting a job now has declined for age groups 16–24 and 25–54.¹³ Further, the historical trend for married couples with children under 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 obviously consistent with the “lifestyle changes” argument.

The number of men of prime working age who are neither employed nor looking for a job has more than doubled over the

Figure 10 Change in Prime Working Age LFPRs for OECD Countries, 1990–2015



Sources: OECD; authors' calculations

past 50 years (Eberstadt 2016). According to the president's June 2016 report, adverse labor supply conditions explain very little of this decline—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). The report also shows that “prime-age males without children saw a larger decline of 9.4 percentage points since 1968 compared to 4.9 percentage points among prime-age males with children” (CEA 2016, 14). That runs counter to the belief that the “supply side” choice to leave the labor force to take care of children can explain much of the movement of prime-age men out of the labor force. Only a quarter of prime-age men who are not in the labor force are parents, falling from 40 percent in 1968 (CEA 2016).

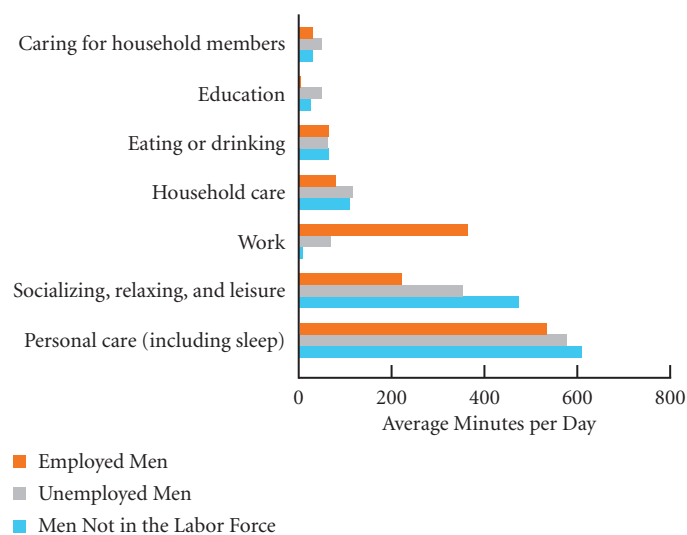
Further, the falling participation rate of prime-age men is limited to native-born Americans—participation rates of immigrants have risen since 1994 (CEA 2016). And the challenges military veterans face in the labor market cannot explain much of it either, because the share of prime-age men out of the labor force who are veterans has been declining. Some of those who are out of the labor force participate in under-the-table work, but there's no evidence that the “shadow” economy has increased in recent years relative to the economic activity from which reported data draw.

The data also cast doubt on the argument that prime-age men are leaving the labor force to collect generous social benefits such as welfare and disability pay.¹⁴ In the 1970s, “cash welfare income was the largest source of income, on average, for households with prime-age men not participating in the workforce,” but with reductions of the social safety net, welfare has become relatively unimportant (CEA 2016, 19). Social Security is the biggest source of government-provided income (almost a quarter of prime-age men out of the labor force receive some), with Supplemental Security Income¹⁵ payments going to 15 percent of such men. Disability insurance (SSDI) now goes to about 3 percent of prime-age men (triple the percentage in 1967), but that is not nearly enough to explain the falling participation rates. The president's report estimates it might explain 0.3–0.5 percentage points of the 7.5 percentage point decline since 1967 (CEA 2016, 20). So while some types of government income supports (Social Security, SSI, SSDI) have seen increasing use, this has been largely offset by a decline in the use of “welfare” (today, Temporary Assistance for Needy Families, or TANF) and food stamps (now called SNAP—the Supplemental Nutrition

Assistance Program). It is true that prime-age men who are out of the labor force make greater use of these programs than those who are working, but the important point is that restrictions have reduced the benefits paid through these programs—which is hardly an explanation for increasing rates of nonparticipation in the labor force. Note also that wealthy OECD nations—with better social safety nets—have not seen participation rates fall.

Finally, if we compare time-use data of prime-age men who are out of the labor force with those who are working, we do not find much evidence that prime-age workers leave the labor force to pursue more education, to care for family members, or to do housework. Rather, the most significant difference in time use between those who are working and those who are out of the labor force is that a larger portion of the day is spent by the latter in socializing, leisure, and relaxing. The latest BLS American Time Use Survey showed that in 2014 a typical workweek for those of prime age who were not in the labor force featured on average 240 more minutes per day spent in socializing, relaxing, or other leisure activities than those who were employed—a large portion of which, according to the BLS survey, was spent in front of the TV. Also, note from Figure 11 that unemployed men actually spend almost twice as much time in education activities as do men who are out of the labor force.¹⁶

Figure 11 Time Use by Selected Activity for Prime-age Men, by Employment Status, 2014



Source: Eberstadt (2016), Table 6.1

Falling Participation Rates: Demand-side and Institutional Factors

The president's report credits demand-driven and institutional factors for much of the decline in the participation rate of prime-age men. The additional reasons for falling participation rates examined in the report are:

Falling demand for middle- and low-skilled workers:

Unsurprisingly, participation has fallen steeply for less-educated men at the same time that the demand-driven wage differential between more educated and less-educated men has increased. Using wage pressure as a proxy for demand, and educational achievement as proxy for skills, the report finds that lack of demand for middle- and low-skilled workers has been an important driver of falling participation.

Lack of jobs at decent wages: Related to the falling demand argument above is the relative decline in wages for low-skilled workers. As wage and income inequality increase, labor force participation for those at the bottom of the income distribution declines. In fact, state-level data used by the President's Council of Economic Advisers (CEA) suggest that the correlation between labor force participation and relative wages is the strongest for this group. According to their estimates, "at the 10th percentile, a \$1,000 increase in annual wages, or a roughly \$0.50 increase in hourly wages for a full-time, full-year worker, is associated with a 0.13 percentage-point increase in the State participation rate for prime-age men" (CEA 2016, 3).

While we find many of these supply-side, demand-side, and institutional factors important, we believe that the president's report, as well as most other analyses, is deficient. None have placed sufficient emphasis on overall economic performance, as they generally presume that we have, indeed, "recovered." We disagree, as we think that the economy remains far from full employment. Let us turn to an alternative explanation. We will argue that the main problem is insufficient demand, and that the solution to rising long-term unemployment and labor force exit is targeted job creation.

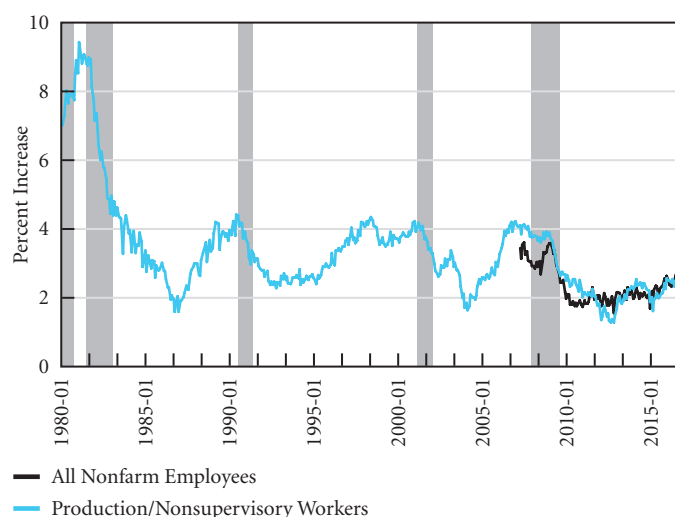
How Close Are We to Full Employment? Evidence from Wage Pressures

Labor Incomes

Perhaps the clearest evidence that the US economy is far from full employment is the slow rate of growth of wages and overall labor compensation. In a healthy economy, full employment should translate into higher real wage growth as labor becomes relatively scarce, assuming everything else remains constant. As Figure 12 shows, however, nonfarm nominal average hourly earnings have not yet returned to precrisis levels. In the post-recession period, nominal hourly earnings have increased on average 2.11 percent per year. And despite low unemployment rates, earnings increased at an annualized average of 2.45 percent in November 2016, which is low when taking into account productivity growth plus inflation.

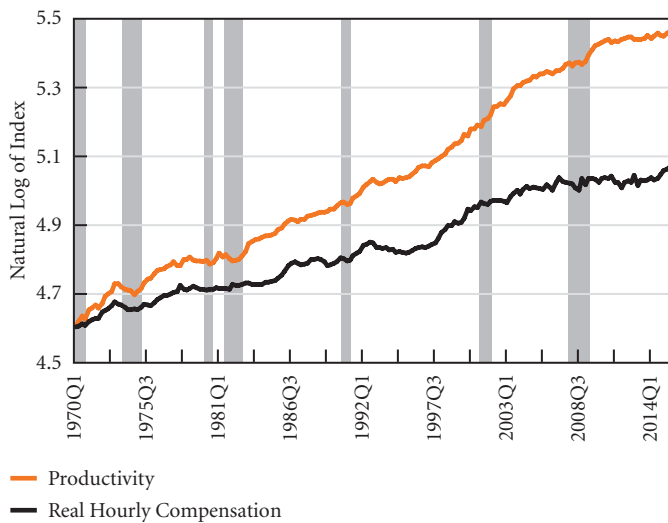
It is now widely known that growth in real hourly compensation has significantly lagged behind labor productivity (this phenomenon is known to conventional economists as the productivity puzzle). Standard economic theory suggests that real wages over time tend to increase with labor productivity—the assumption is that under full employment, workers and employers approach the bargaining process with more equal power so that each walks away from the production process fairly compensated for their contribution. In fact, this is the assumption behind the models used by the Fed to predict future labor trends.

Figure 12 Nonfarm Private Sector Nominal Hourly Wage Growth, 1980–2016 (year-on-year)



Sources: BLS; National Bureau of Economic Research (NBER)

Figure 13 Nonfarm Business Real Output per Hour vs. Real Hourly Compensation, 1970Q1–2015Q3



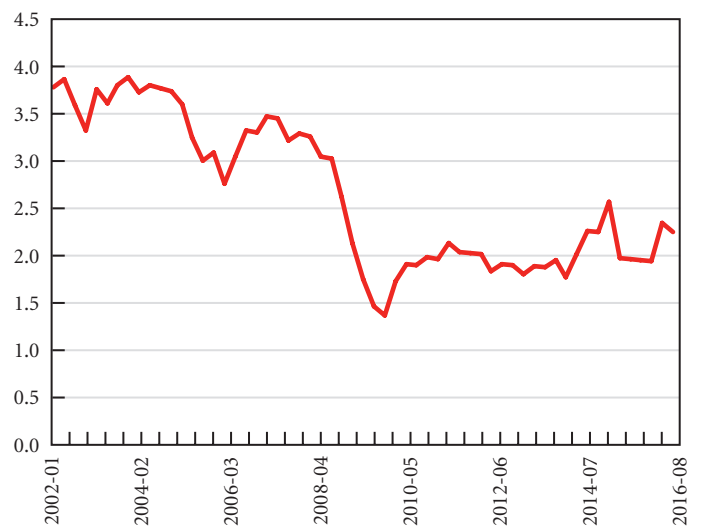
Note: We adopted the same methodology used by Fleck, Glaser, and Sprague (2011).

Sources: BLS; authors' calculations

Figure 13 shows that since the early 1970s, real wage growth has persistently lagged behind productivity growth. There are many reasons for the loss of worker bargaining power: the demise of unions, deregulation, outsourcing of industrial production, and so on. It is interesting to note, however, that the gap got significantly wider after President Reagan took office and accelerated when monetary policy came under the reign of the “maestro,” Alan Greenspan, as the Fed tilted against wage inflation (Wray 2004). Curiously, at a 1996 FOMC meeting, Janet Yellen herself argued that even tight labor markets might not translate into inflation. She noted with approval that “while the labor market is tight, job insecurity also seems alive and well. Real wage aspirations appear modest, and the bargaining power of workers is surprisingly low” (FOMC 1996).

Policymakers attribute the price stability of the last 20 years to improvements in the policymaking process and the better conduct of monetary policy. Yellen (2015), for example, claims that longer-term trend inflation has settled around the 2 percent mark because a stronger commitment to transparency by policymakers has stabilized inflation expectations.¹⁷ However, given that producers set prices largely as a mark up over labor costs, and as labor costs have continued to decline because of flat real wages, prices have remained in check.

Figure 14 Employment Cost Index: Total Compensation, January 2002 – July 2016



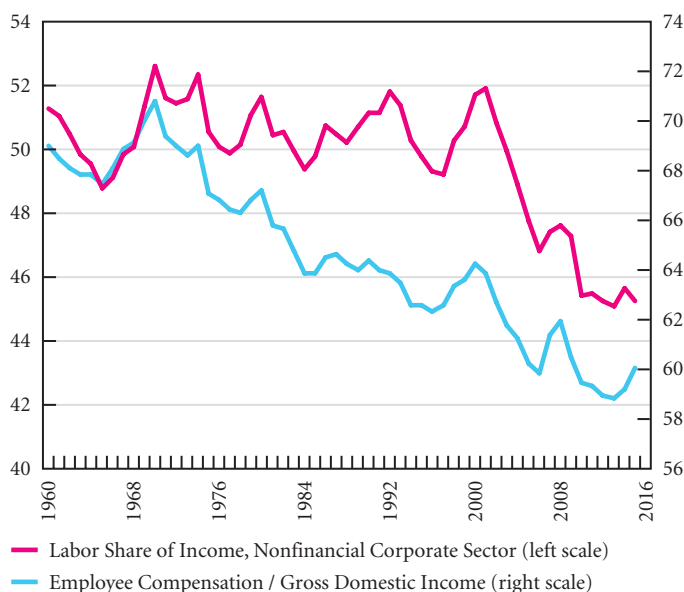
Source: BLS

As Figure 14 shows, the employment cost index fell sharply after the GFC and remains depressed. There is no justification for worry about inflationary pressures from the labor cost side. Indeed, year after year we have seen inflation falling short of the Fed’s target and of its projections. We are unlikely to see inflation recovering anytime soon so long as real average earnings and the employment cost index remain depressed. Because wages and salaries have remained compressed relative to total income produced, the labor share of gross value added and gross domestic income has continued to decline, as shown in Figure 15. Without significant efforts to improve labor market conditions and accelerate wage growth, the labor share of income is unlikely to rise—and might even continue to fall. The Economic Policy Institute estimates that to maintain a stable labor share of income, we need hourly wage growth to be in the range of 3.5 percent to 4 percent per year. Obviously, if the objective is to restore labor shares to levels prevailing in the 1970s, we should allow for much higher wage increases, all else equal.

Secular Stagnation or Improper Policy Response?

The secular stagnation hypothesis—the idea that the US economy is stuck in a lower growth path—is a hot topic in academic circles right now. According to Summers (2014), output,

Figure 15 Labor Share of Added Value in the Nonfinancial Corporate Sector and Share of Employee Compensation (Wages and Salaries) over Gross Domestic Income, 1960–2015



Note: The labor share was calculated as compensation of employees in the nonfinancial corporate sector divided by gross value added of nonfinancial corporate businesses minus taxes on production and imports.

Sources: Bureau of Economic Analysis (BEA); FRED; authors' calculations

capacity utilization, and employment expanded to satisfactory levels in the previous business cycle (2001–07) because of the unsustainable upward movement in the share of GDP related to residential investment and the loosening of credit standards. He suggests that the structure of the economy changed profoundly in the previous 15 years, which led to the decline in the equilibrium rate of interest that results from the “natural balance between saving and investment” (Summers 2014, 69). Summers claims that declining population growth, capital intensity of technological industries, a reduced rate of technological progress, and lower capital prices reduced debt-financed inducement to investment. This happened at the same time that concentration of income and wealth in the hands of a few increased the saving rate.¹⁸ All these trends led to an increase in the supply of loanable funds at the same time that the demand for loanable funds was being reduced. Thus, the lower equilibrium real rate of interest is the consequence of the secular stagnation of the economy. The problem, according to Summers, is the recent reversal of Say’s law: “We are observing that lack of demand creates its own lack of supply” (Summers 2014, 71). On the other

hand, Bernanke (2015) is skeptical that the US economy faces secular stagnation, since, in his view, the economy is well on the way to full employment. Further, he claims that “if the real interest rate were expected to be negative indefinitely, almost any investment is profitable.”

We think that the economy is experiencing secular stagnation—and had been suffering from the malady for many decades before economists like Summers and Krugman took notice.¹⁹ We also believe that the phenomenon examined in this policy brief—stagnant worker’s incomes, falling participation rates of prime-age men, and relatively slow productivity growth—are all indicative of a structural problem of insufficient aggregate demand. To be sure, stagnation is periodically relieved by short economic bursts—usually brought on by unsustainable asset price bubbles (dot-com stocks, commodities, housing prices). But once the bubbles burst, we return to secular stagnation.

As Papadimitriou, Nikiforos, and Zezza (2016) have shown, one could point to several causes of the problem of insufficient aggregate demand: government spending constraints; excessive taxation; overindebted consumers with relatively stagnant income growth; rising inequality that depresses the propensity to consume (higher income households have a lower propensity to consume); growing holes in the social safety net that create insecurity and depress consumer spending as well as investment; and rising foreign competition that redirects demand to foreign producers.

All of these play a role, and we do not want to analyze here how much each of these factors contributes to stagnation. (See Pigeon and Wray 1999a, 1999b; Wray 1998b; and Wray 2007 for detailed analyses.) Whatever the cause, policy has failed to address the consequences, so that the economy continues to underperform. We will focus on policy to address only the consequences for the labor market: falling employment rates for prime-age men (and for the youngest workers).

Even though we believe that the main cause of secular stagnation is insufficient aggregate demand, we do not see general “Keynesian” pump priming as a proper response. In other words, we do not think the answer is to simply increase aggregate demand generally. Instead, we will argue for targeted job creation.

Both Bernie Sanders and Donald Trump raised the issue of job creation during their campaigns, and it seems that the new President Trump is likely to promote infrastructure investment as a way to create jobs. We applaud such a proposal, as it is likely

to create a lot of jobs while also promoting rising productivity. This could play a positive role in bringing some prime-age men back into the labor force, and might help to push up wages for skilled blue-collar labor. Both of these are desirable goals.

There are several caveats, however. First, we do not know how big the scale will be, nor do we know how long such a spending program would last. If budget deficit fears dominate congressional discussion (as they have in the past), the spending will be limited in scale and duration. While economists in recent years have revived the notion of positive government spending multipliers, it is not likely that these will be large enough to create a sufficient supply of the kinds of jobs needed by those who will otherwise remain unemployed or outside the labor force—including less-skilled workers, women, and workers considered too old (or too young, or too unhealthy) for the construction sector. Second, it is possible that if the program is big, it will spark inflation as wages of construction workers begin to rise and feed through to other wages. There is ultimately a limited supply of such workers—which could be made worse if the new president carries through on his threat to deport millions of immigrants. And, third, once the infrastructure boom winds down, secular stagnation is likely to return if we are correct in our assessment that the problem is insufficient demand. (Note that building more capacity would actually help to ameliorate

the problem of secular stagnation only if the supply-side argument that our problem is insufficient productivity were true.)

In the final section we will examine policy recommendations to improve the employment picture. We will first look at the near-term situation, which requires higher aggregate demand to spur recovery; we will then turn to policy to sustain full employment.

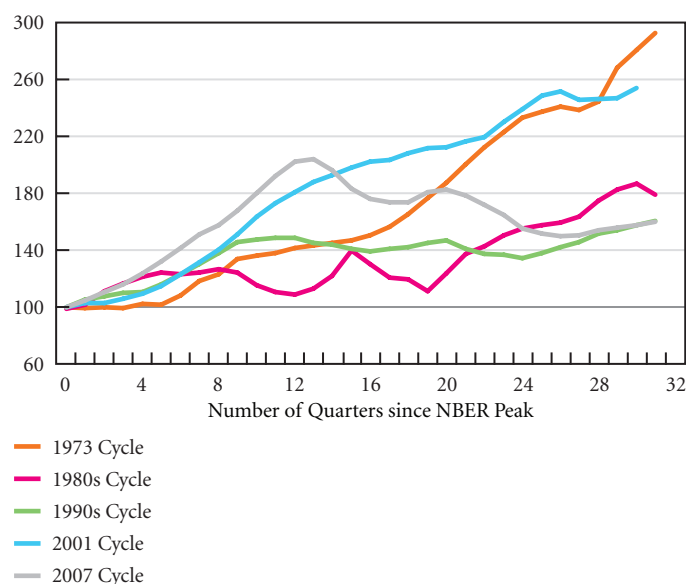
Policy Recommendations

Policy to Promote Full Recovery

As we have argued, the US economy—and labor markets in particular—still has not fully recovered. The problem is largely one of a demand gap created by falling private sector production, as well as layoffs by government due to belt-tightening. Indeed, the federal budgetary stance did not relax enough in the first few years of the recession, and then tightened too quickly, creating strong headwinds that weakened the recovery. State and local budgets had to tighten even more as tax revenue took a hit. As a result, this has been by far the weakest postwar recovery on record.

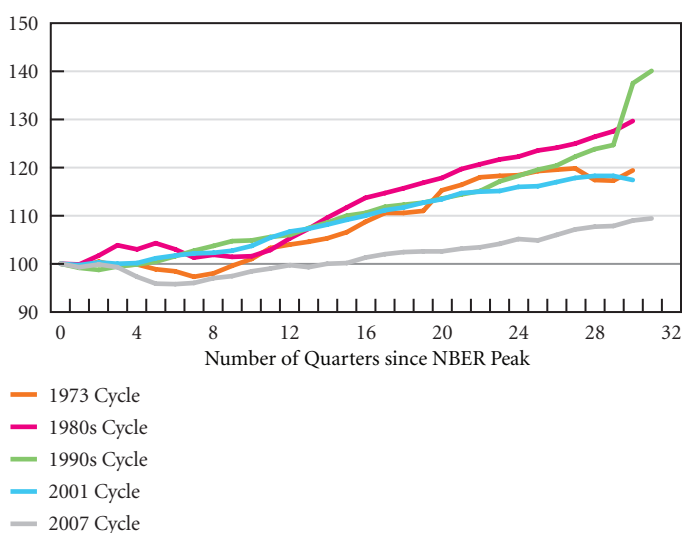
Figure 16 shows that while federal nondefense expenditures rose quickly in the first year after the crisis, the stimulus was quickly removed from the economy. Unsurprisingly, the pace of GDP recovery in the current cycle has been the slowest

Figure 16 Federal Nondefense Expenditures for Different Business Cycles



Sources: BEA; NBER

Figure 17 Pace of Real GDP Recovery in Different Business Cycles



Sources: BEA; NBER

of any cycle in the last 40 years (Figure 17). The real GDP gap is still sizable, at \$250 billion according to real GDP data provided by the Bureau of Economic Analysis, and according to the latest real potential GDP data estimated by the Congressional Budget Office (CBO 2014) (both expressed in 2009 chained dollars). Since 2007, the CBO has significantly revised down its estimates for potential GDP, as it lowered its expectations (much as estimates of the NAIRU have traditionally been raised when unemployment outcomes embarrass those making the estimates). Rather than trying to ramp up federal spending, Congress has begun to accept lower growth as the new normal. Figure 18 shows that the real GDP gap would currently be at \$1.32 trillion if we used the CBO's 2008 potential GDP estimates (also expressed in 2009 chained dollars).

By revising its estimate of “potential,” the CBO is willing to give up nearly \$1.3 trillion of output annually. These downward revisions of potential GDP are related to more pessimistic assumptions of potential employment and investment, as can be seen in Table 1. In other words, the pessimism is largely due to the CBO’s expectations of a continuing depression of aggregate demand conditions.

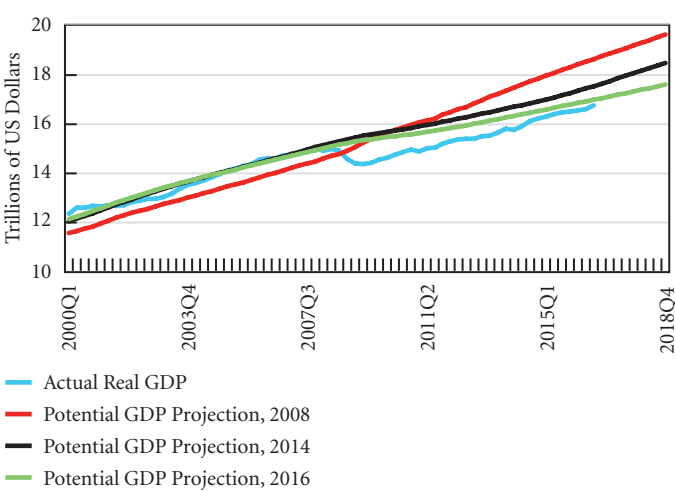
Our calculations show that we are still 20 million jobs short of being able to declare full employment. It would take, on average, an increase in payroll employment of 420,000 per month over the course of the next four years before the economy would be close to full employment. However, since October

2009, when the unemployment rate peaked at 10 percent, job creation has averaged around 140,000 jobs per month. The best year for employment creation since the official end of the recession was 2014, when job creation averaged around 248,000 jobs per month. And yet, we have long had persistent calls for Fed tightening. Until we get to full employment, tightening monetary policy on the basis of the dual mandate is completely unjustified.

The Way Forward: A Permanent New Deal–style Job Guarantee

During the stagnation of the Great Depression, Roosevelt’s New Deal created 13 million jobs in its various direct employment programs. The biggest program was the Works Progress Administration, which employed a total of about 8 million workers—many of them in infrastructure investment of the type we now sorely need. The creation of a *new* New Deal program could provide the workers we need for many of the infrastructure projects that Trump and others want, but would go well beyond this by creating jobs for *anyone* who is ready and willing to work. It would be an open-ended job guarantee—not limited by the labor requirements of any single project—since it aims to achieve true full employment on a permanent basis. The federal government would take responsibility to provide the funding for a base wage to be paid to anyone who works in the program.²⁰

Figure 18 GDP Gap after the CBO’s Revisions to Potential GDP



Sources: BEA; CBO; authors’ calculations

Table 1 Contributions to the Revision of the CBO’s Projection of Potential Output for 2017 between 2007 and 2014

	Decline (percentage points)	Contribution to Decline (in percent)
Nonfarm business sector		
Potential labor hours	−2.7	37.7
Capital services	−2.4	33.5
Potential total factor productivity	−1.4	19.2
Other sectors	−0.7	9.6
Total	−7.3	100.0

Sources: CBO; authors’ calculations

Roosevelt's New Deal jobs programs were highly centralized, which was appropriate for an economy experiencing a severe crisis and with large sections of the country underdeveloped. If we were to adopt a nationwide job guarantee (paying a uniform minimum wage) in a *new* New Deal, however, it would make sense to decentralize and thereby increase involvement by state and local government as well as community groups. Jobs would be directed where they are needed. Projects would be designed to meet the needs of the community. Proposals would be submitted by local governments and not-for-profits, and would go through several layers of approval: local, regional, state, and federal. Management of the projects would be local, but evaluated by regional, state, and federal committees.

Wages of program workers would be paid by the federal government (directly to bank accounts associated with Social Security numbers), with limited federal funding of additional project expenses (perhaps limited to 25 percent of the wage bill, to cover materials and administrative costs). Continued federal support would depend on evaluation of the success of the projects. Assessment would include benefits to participants as well as to the community. In a program of this kind workers would receive not only income but also a range of other benefits, including enhanced feelings of self-worth and social inclusion. Society would benefit from their productive labor and there would be important macroeconomic effects as well, because employment in such a program (and hence public spending) would be strongly countercyclical—helping to stabilize income and aggregate demand. The labor pool in the program would also reduce hiring costs for private firms as participants build a work history.

By targeting those who need jobs, the program would minimize the inflationary impacts of full employment.²¹ Unlike “pump priming”—which does not directly target the unemployed but relies on “trickle-down” and multiplier impacts to create jobs where they are actually needed—New Deal-style direct job creation efficiently creates jobs where they are needed. Further, since the program would pay a uniform base wage, it would not bid up private sector wages. It would essentially operate like a floor-price buffer-stock program, much like the agricultural price support programs that also formed part of the original New Deal program.

The program's wage (and benefits package) would become the nation's minimum wage—preventing other wages from falling below the floor “price.” If that were initially set above the

prevailing wage, it would lead to a one-time jump, but so long as it was not increased, the program would dampen wage inflation rather than promote it. This is because the program labor pool—a “reserve army” of the employed—acts like a buffer stock of commodities in an agricultural price support program. When private sector employment and wages begin to climb, workers are recruited out of the program. Wage increases in the program become a policy variable and should rise with overall labor productivity—which will push up private sector wages. In this manner, the “productivity gap” can be closed directly through policy.

The program would be phased in as quickly as projects are approved and begun. Applications by job seekers would be forwarded to project directors; employment might initially be assigned by lottery—until a sufficient supply of jobs has been created. If there are an insufficient number of jobs, the call for project proposals can be extended to state and federal governments—until the number of job openings exceeds the number of job seekers (the measure of full employment indicated by the 20th-century British economist William Beveridge). The program would be permanent—through the thick and thin of the business cycle—hiring more workers in downturns and releasing them to the private sector in expansions. Some projects would also be more or less permanent, while others would sit on the shelf awaiting recessions to hire the workers shed by the private sector. In this manner, program employment as well as the federal government's spending on the program would be, as noted, highly countercyclical.

Note that this job guarantee program tackles both short- and long-term labor market problems. In a downturn, those who lose their jobs have the choice of working in the program rather than becoming unemployed or leaving the labor market. By reducing long-term unemployment, the program helps workers to maintain their skills and attachment to the labor force. Minsky argued that skills upgrading should be a goal of all the jobs in the program. The program would take workers “as they are, where they are,” and improve their employability. No matter how long workers have been out of the labor force, the program would offer them an opportunity to work.

While the job guarantee program will not resolve all the problems that today's workers face, it would make a major difference in the lives of those now facing the biggest obstacles to working. Over time, the program would reduce idleness and involuntary part-time work, and could be used to gradually

increase wages and benefits at the bottom (as program wages and benefits rise, private employers would have to increase the remuneration they provide in order to compete). This would reduce labor market inequality from the bottom up, as Minsky recommended—an alternative to the supply-side and demand-side “trickle-down” policies that have failed us.

Notes

1. The report (CEA 2016) is entitled *The Long-Term Decline in Prime-age Male Labor Force Participation*.
2. The unemployment rate in November 2016 was 4.6 percent. According to the FOMC’s summary of economic projections published in December 2016, the median longer-run projection for the unemployment rate was 4.7 percent. The central tendency was between 4.7 and 5.0 percent, and the range was 4.5–5.0 percent. See FOMC (2016).
3. The U-6 unemployment rate is calculated as the ratio of unemployed workers plus employed part time for economic reasons plus marginally attached to the labor force, over the civilian labor force plus the number of marginally attached workers.
4. Those who want and are available to work, looked for work in the past year, but did not actively search in the previous month.
5. See Labor Force Statistics from the Current Population Survey, table A-38, available at bls.gov.
6. Blau and Khan (2013), for example, point out that in 1990, the United States had the sixth-highest female labor force participation among OECD countries, and that by 2010 its rank had fallen to 17th. According to them, one-third of this relative decline can be explained by the lack of “family friendly” policies, including parental leave and public expenditures on childcare. Also, see Schulte and Durana (2016), who show that the average cost of full-time care for children aged 0–4 is now higher than the average cost of in-state college tuition.
7. See series ID number LNS15026639 of the Current Population Survey, available at bls.gov.
8. The Augmented Unemployment rate is the ratio of the unemployed plus those employed part time for economic reasons plus those in the labor force who want a job now, over the civilian labor force plus those not in the labor force who want a job now.
9. The labor force participation rate (LFPR) is the ratio of those who are employed or looking for jobs (i.e., those in the labor force) over the civilian noninstitutional population (those 16 years of age or older who are not in the military). Note that the noninstitutionalized population excludes those who are incarcerated, most of whom are of working age. Hence, this lowers the denominator of the ratio, so that a rising rate of incarceration increases the LFPR, unless those who become incarcerated have had a higher-than-average labor force participation rate. That appears unlikely. On the other hand, upon reentry, they face a lifetime of stigma and lower job prospects, and a higher likelihood of dropping out of the labor force, in which case the overall LFPR would decline. Although data to test which effect is likely to prevail are not available, the increasing fraction of the population that has been formally incarcerated is likely to reinforce the long-term decline in the LFPR.
10. Historically, the labor force participation rates for the age groups 20–24 and 25–54 are higher than for other age groups. If the percentage of the population in prime working age (who have a significantly higher labor participation rates) is declining relative to the percentage of the civilian population older than 55, which is the case in the United States, we would expect, all else equal, the shift in age demographics to exert downward pressure on the overall labor force participation rate, as it has. However, the fact that the LFPR for the 55-and-older age group has increased by 24 percent since April 2000 means that it has slowed down the pace of the fall in the overall LFPR that naturally results from an aging population. Add to that the fact that the LFPR has fallen for all other age groups (33 percent for age group 16–19, 10 percent for age group 20–24, and 5 percent for age group 24–55), we can conclude that aging is a less important factor in the fall of the LFPR than it otherwise would be.
11. In the period 2006–15, labor force participation for those older than 55 increased at an average of 0.27 percentage points per year over the period, while labor force participation for the group 25–54 declined at an average of 0.11 percentage points per year.
12. For example, for the time period 2009–11, our estimates show that 64 percent of the decline in the LFPR was due to non-age-related demographic factors. Similarly, Shierholz

- (2012) finds that more than two-thirds of the decline in the LFPR in that time period was cyclical; Van Zandweghe (2012) estimates 58 percent; while the CEA (2014) finds that half of the decline in the LFPR over the same time period was cyclical.
13. See Labor Force Statistics of the Current Population Survey, table A-38, available at bls.gov.
 14. Disability is the focus of a common supply-side argument. See, for example, Fujita (2014) and Eberstadt (2016). Fujita (2014) makes the argument that disability explained 45 percent of the cumulative decline in participation rates over the period 2000–11.
 15. SSI supports blind, elderly, and disabled individuals without a work history.
 16. Along those lines, a disturbing trend is that nearly 31 percent of the prime-age men not in the labor force self-reported illegal drug use according to a 2004 survey presented by Eberstadt (2016, 817). This number is staggering, particularly when compared to only 8 percent for those who are employed and 22 percent for those who are unemployed.
 17. Robert Lucas and Thomas Sargent first explored the link between inflation expectations and actual inflation in their formulation of the aggregate supply hypothesis. The idea was that economic agents are forward-looking when formulating expectations about the future—they make use of all past and current relevant information to forecast future economic data. The important point is that agents can never be systematically wrong—so, on average, their expectations are always correct. Price stability and monetary policy effectiveness require that the public “play along” and trust the Fed. Unannounced, unanticipated monetary shocks will cause the “sacrifice ratio” to be high and adjustments to be costly; they also hurt the feelings of the private sector, which will turn uncooperative on a game-theory framework, causing economic instability and monetary policy ineffectiveness.
 18. According to Summers, there has been a reduction in the demand for loanable funds by corporations due to higher retained earnings, and lower capital equipment prices, at the same time the supply of loanable funds has increased due to the increased rate of saving that results from concentration of income and wealth in the hands of the top 1 percent.
 19. Our view is in line with Papadimitriou et al. (2014, 2015) and Papadimitriou, Nikiforos, and Zezza (2016).
 20. For more analysis of the job guarantee program, see Minsky (2013), Tcherneva (2012, 2014), and Wray (1998a, 2012).
 21. See Minsky (2013) for a detailed argument that the employer-of-last-resort program would help to stabilize inflation. Minsky claimed that while moving to inflation could cause wages and prices to rise, maintaining full employment through a job guarantee would not cause them to continue to rise.

References

- Aaronson, S., B. Fallick, A. Figura, J. Pingle, and W. Wascher. 2006. “The Recent Decline in the Labor Force Participation Rate and Its Implications for Potential Labor Supply.” Brookings Institution, *Brookings Papers on Economic Activity* (Spring): 69–154.
- Bernanke, B. 2015. “Why Are Interest Rates So Low, Part 2: Secular Stagnation.” *Brookings Blog*, March 31.
- Blau, F., and L. Kahn. 2013. “Female Labor Supply: Why Is the US Falling Behind?” Discussion Paper No. 7140. Bonn: Institute for the Study of Labor.
- Carnevale, A. P., T. Jayasundera, and A. Gulish. 2015. “Six Million Missing Jobs: The Lingering Pain of the Great Recession.” Washington, D.C.: The Georgetown University Center on Education and the Workforce.
- CEA (Council of Economic Advisers). 2014. *The Labor Force Participation Rate Since 2007: Causes and Policy Implications*. Report of the Executive Office of the President of the United States. Washington, D.C.: Government Printing Office. July. Available at: obamawhitehouse.archives.gov/sites/default/files/docs/labor_force_participation_report.pdf.
- . 2016. *The Long-Term Decline in Prime-age Male Labor Force Participation*. Report of the Executive Office of the President of the United States. Washington, D.C.: Government Printing Office. June. Available at: obamawhitehouse.archives.gov/sites/default/files/page/files/20160620_primeage_male_lfp_cea.pdf.
- CBO (Congressional Budget Office). 2014. *Revisions to CBO’s Projection of Potential Output since 2007*. Washington, D.C.: CBO. February 28.

- Eberstadt, N. 2016. *Men without Work: America's Invisible Crisis*. West Conshohocken: Templeton Press. Kindle Edition.
- Fleck, S., J. Glaser, and S. Sprague. 2011. "The Compensation–Productivity Gap: A Visual Essay." Bureau of Labor Statistics, *Monthly Labor Review* (January).
- FOMC (Federal Open Market Committee). 1996. "Meeting of the Federal Open Market Committee, September 24, 1996." Transcript.
- . 2016. "Minutes of the Federal Open Market Committee, December 13–14, 2016: Summary of Economic Projections."
- Fujita, S. 2014. *On the Causes of Declines in the Labor Force Participation Rate*. Research Rap Special Report. Federal Reserve Bank of Philadelphia. February 6.
- Minsky, H. P. 2013. *Ending Poverty: Jobs, Not Welfare*. Annandale-on-Hudson: Levy Economics Institute of Bard College.
- Mitchell, B. 2014. "Decomposing the Decline in the US Participation Rate for Ageing." *Billy Blog*, July 22.
- Papadimitriou, D. B., G. Hannsgen, M. Nikiforos, and G. Zezza. 2015. *Fiscal Austerity, Dollar Appreciation, and Maldistribution Will Derail the US Economy*. Strategic Analysis. Annandale-on-Hudson: Levy Economics Institute of Bard College. May.
- Papadimitriou, D. B., M. Nikiforos, and G. Zezza. 2016. *Destabilizing an Unstable Economy*. Strategic Analysis. Annandale-on-Hudson: Levy Economics Institute of Bard College. March.
- Papadimitriou, D. B., M. Nikiforos, G. Zezza, and G. Hannsgen. 2014. *Is Rising Inequality a Hindrance to the US Economic Recovery?* Strategic Analysis. Annandale-on-Hudson: Levy Economics Institute of Bard College. April.
- Pigeon, M. A., and L. R. Wray. 1999a. "Demand Constraints and Economic Growth." Working Paper No. 269. Annandale-on-Hudson: Levy Economics Institute of Bard College. May.
- . 1999b. *Down and Out in the United States: An Inside Look at the Out of Labor Force Population*. Public Policy Brief Highlights No. 54. Annandale-on-Hudson: Levy Economics Institute of Bard College. July.
- Schulte, B., and A. Durana. 2016. *The Care Report*. Washington, D.C.: New America.
- Sen, A. K. 1999. *Development as Freedom*. Oxford: Oxford University Press.
- Summers, L. 2014. "U.S. Economic Prospects: Secular Stagnation, Hysteresis, and the Zero Lower Bound." *Business Economics* 49(2): 65–73.
- . 2016. "Men Not at Work." *Financial Times*, September 23.
- Tcherneva, P. 2012. *Full Employment through Social Entrepreneurship: The Nonprofit Model for Implementing a Job Guarantee*. Policy Note 2012/2. Annandale-on-Hudson: Levy Economics Institute of Bard College. March.
- . 2014. "Full Employment: The Road Not Taken." Working Paper No. 789. Annandale-on-Hudson: Levy Economics Institute of Bard College. March.
- Van Zandweghe, W. 2012. "Interpreting the Recent Decline in Labor Force Participation." Federal Reserve Bank of Kansas City, *Economic Review* (First Quarter): 5–34.
- Williams, J. 2016. "After the First Rate Hike." Presentation to the California Bankers Association, Santa Barbara, January 8.
- Wray, L. R. 1998a. *Understanding Modern Money: The Key to Full Employment and Price Stability*. Northampton: Edward Elgar.
- . 1998b. *Did the Clinton Rising Tide Raise All Boats? Job Opportunity for the Less Skilled*. Public Policy Brief Highlights No. 45A. Annandale-on-Hudson: Levy Economics Institute of Bard College. October.
- . 2004. *The Fed and the New Monetary Consensus: The Case for Rate Hikes, Part Two*. Public Policy Brief No. 80. Annandale-on-Hudson: Levy Economics Institute of Bard College. December.
- . 2007. "Demand Constraints and Big Government." Working Paper No. 488. Annandale-on-Hudson: Levy Economics Institute of Bard College. January.
- . 2012. *Modern Money Theory: A Primer on Macroeconomics for Sovereign Monetary Systems*. New York: Palgrave Macmillan.
- Yellen, J. 2015. "Inflation Dynamics and Monetary Policy." Philip Gamble Memorial Lecture, University of Massachusetts Amherst, September 24.

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Senior Scholar L. RANDALL WRAY is a professor of economics at Bard College. His current research focuses on providing a critique of orthodox monetary theory and policy, and the development of an alternative approach. He also publishes extensively in the areas of full employment policy and, more generally, fiscal policy. With President Dimitri B. Papadimitriou, he is working to publish, or republish, the work of the late financial economist Hyman P. Minsky, and is using Minsky's approach to analyze the current global financial crisis. Wray's most recent book is *Why Minsky Matters: An Introduction to the Work of a Maverick Economist* (Princeton University Press, 2016). He is also the author of *Money and Credit in Capitalist Economies: The Endogenous Money Approach* (Edward Elgar, 1990), *Understanding Modern Money: The Key to Full Employment and Price Stability* (Edward Elgar, 1998), *The Rise and Fall of Money Manager Capitalism: Minsky's Half Century from World War Two to the Great Recession* (with É. Tymoigne; Routledge, 2013), and *Modern Money Theory: A Primer on Macroeconomics for Sovereign Monetary Systems* (Palgrave Macmillan, 2012; 2nd rev. ed., 2015). He is coeditor of, and a contributor to, *Money, Financial Instability, and Stabilization Policy* (Edward Elgar, 2006) and *Keynes for the 21st Century: The Continuing Relevance of The General Theory* (Palgrave Macmillan, 2008). Wray taught at the University of Denver from 1987 to 1999 and at the University of Missouri–Kansas City from 1999 to 2016, and has been a visiting professor at the Universities of Paris and Rome (La Sapienza). He holds a BA from the University of the Pacific and an MA and a Ph.D. from Washington University, where he was a student of Minsky.