Nobody disagrees: The Great Recession and its aftermath wreaked havoc on the labor market.

As employment plummeted, the U.S. unemployment rate surged from under 5 percent in the months just prior to the start of the recession in December 2007 to a high of 10 percent in October 2009. Since the recession officially ended, the unemployment rate has slowly returned to more-normal levels, dropping to 5.5 percent in February 2015. There is continuing debate, however, about what the decline in that unemployment number really means – and how it should be viewed in the context of how to tell when the economy is likely to overheat.
For even as the unemployment rate has fallen, a larger share of the total population has opted out of the labor force entirely, neither working nor actively looking for work and thus not counted as unemployed. Some of these people could well return to the workforce if sufficient demand for their services were to materialize. The more such people there are, the more misleading the unemployment rate is likely to be as an indicator of labor-market slack – and the more of a mistake it could be for policymakers to rely on the signal provided by unemployment in estimating by how much economic activity could expand in the short term without setting the stage for inflation.
People who left the labor force or never entered it because they faced poor job prospects may have become sufficiently disengaged or suffered enough loss in technical skills that they are unlikely to return.

that output loss would increase with time as both productivity growth and population growth boosted the overall scale of economic activity. It thus matters a great deal whether the decline in labor-force participation of the past few years will persist or reverse at least in part as the economy strengthens.

While the size of the recent drop in participation is striking, roughly half of it is the entirely predictable result of the fact that the population is getting older. Indeed, demographic realities virtually dictate continued reductions attributable to population aging.

Labor-force participation follows a clear life-cycle profile. It starts out low during the teenage and young-adult years, since many who could legally work are still in school. It rises to higher levels during the middle years of life and then falls again as retirement becomes an option. In the United States, the outsized Baby Boom cohort – the group born between 1946 and 1964 – contributed to the overall growth in participation from the mid-1960s through the mid-1980s as its members flowed into the workforce. Now, however, the Boomers are starting to retire. The leading edge of the cohort turned 60 in 2006 and, as more and more of them have crossed that threshold, overall participation has naturally begun to fall.

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A simple way to estimate how the changing age distribution has affected overall labor-force participation since the start of the Great Recession is to calculate what would have happened had the participation rate within each of 24 age-sex groups remained at its 2007 level while the distribution of the population across these same groups changed as it actually did. This calculation implies that the structural effects of aging were responsible for a 1.8 percentage point decline in participation between 2007 and 2014. An alternative calculation looks at things the other way around, holding the distribution of the population across age and sex groups constant but allowing the labor-force participation rates within each group to change as actually occurred and then attributing the portion of the change that can’t be explained by the within-group changes in participation to aging. This alternative estimate suggests that aging contributed 1.6 percentage points to the overall decline in participation, not that different from the 1.8 percentage point drop found by the first method.

Looking ahead, if participation rates within age-sex groups were fixed at their 2007 levels, the latest Census Bureau population projections imply that, by 2025, population aging will reduce overall participation by another 3 percentage points. That’s about 0.3 percentage point per year on average over the next decade. The depressing effects of aging on participation will moderate after 2025, but can be expected to continue through 2035.

**WILL THEY COME BACK?**

Against that backdrop, a big question looms: how much of the 1.4 to 1.6 percentage point decline in overall labor-force participation since 2007 that isn’t due to population aging should be viewed as temporary – and potentially reversible if labor market conditions improve? Even before the start of the recession, labor-force participation rates for many age-sex groups had been trending downward. This suggests that some of the recent decline in participation not related to aging could reflect underlying structural factors. Further, there is a risk that some of whatever decline in participation is attributable to the recession rather than to structural trends could become permanent. That is, people who left the labor force or never entered it because they faced poor job prospects may have become sufficiently disengaged or suffered enough loss in human capital (technical skills) that they are unlikely to return.

The figure on pages 38-39 shows how labor-force participation has changed since the mid-1970s for a number of age and sex groups – men and women aged 16 to 19 and 20 to 24, men and women aged 25 to 54 and 55 to 59, and men and women aged 60 to 64, 65 to 69 and 70-plus. Participation among
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Teenagers has declined especially sharply. But since about 2000, participation among both men and women aged 20 to 24 has also fallen. All told, changes in these two groups’ participation rates account for a 0.9 percentage point drop in overall participation between 2007 and 2014.

Less-pronounced slides in labor-force participation among men aged 25 to 54 are also apparent in the figure, as are a leveling off and more recent decline in participation among women aged 25 to 54 and 55 to 59. From 2007 to 2014, the declines in participation affecting the five-year age groups in the 25-to-59 age range contributed about a 1.1 percentage point drop in overall participation.

Note, however, that for older Americans, the dynamic is running the other way. Participation has risen substantially, most especially among men and women in their 60s. Changes in participation in the 60-plus cohort have actually boosted overall participation by about four-tenths of a percentage point over the past seven years, though the increase could well have been larger had the economy been stronger.

Some of the long-run decline in participation among those aged 16 to 24 seems likely to be the result of increasing competition with low-wage older adults for scarce jobs, but most of it appears to be related to increasing investment in education. With the returns to education rising considerably, teens and young adults are significantly more likely to be enrolled in school than in the past. By 2007, school enrollment among 16- to 24-year-olds had reached 51.9 percent (averaged over the 12 months of the year) compared to just 36 percent in 1985. Enrollment rates rose yet further from 2007 through 2012, as the labor market faltered and was slow to recover its footing. But by 2014, enrollment had fallen back to 2007 levels. This implies

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**MALE LABOR-FORCE PARTICIPATION RATES, 1977–2014**

*[Graph image: Male Labor-Force Participation Rates, 1977–2014]*

*Source: Author*
Much of the decline in labor-force participation among prime-age men reflects a deterioration of job opportunities for less-educated workers.

that changes in school enrollment cannot account for the net decline in youth participation since the start of the recession.

It is notable, however, that the decline in participation from 2007 through 2014 was concentrated among young people who are enrolled in school; while there also have been declines among those who are not enrolled, they have been much smaller. Part of the reason students are now less likely to be working (or trying to get jobs) may be that they are more focused on their studies. Unfortunately, data from the American Time Use Survey that allow us to see how students spend their time are only available beginning in 2003. But one study did find that, from 2003 to 2007 and 2008 to 2013, the average time per day spent on education-related activities rose by nearly 8 percent among high school students and 15 percent among college students.

Another way to look at the labor force and enrollment data is to track the share of those in the 16- to 24-year-old age group who are either in the labor force or in school. This combined figure is plotted in the figure on page 41 along with the conventional labor-force participation rate. While labor-force participation among those aged 16 to 24 has fallen by 4.4 percentage points since the recession began, the share who are either in the labor force or in school has fallen by just 1.1 percentage points.

**FEMALE LABOR-FORCE PARTICIPATION RATES, 1977–2014**
There would thus seem to be reasonable grounds for optimism about the long-term labor-market attachment of today’s teenagers and young adults. While fewer of them are in the labor force at the moment, most of those who are not appear to be investing in education that should make them more employable later on.

The long-term decline in labor-force participation among prime-age men is more worrisome, as are the hints in the data of the start of a similar downward trend for prime-age women. Much of the decline among the men reflects a deterioration of job opportunities for less-educated workers, which has been driven by changes in technology and the increasing openness of the economy to foreign competition. For eligible lower-skilled men whose job opportunities are poor, disability benefits can offer an attractive alternative to remaining in the labor market – and the same seems to be increasingly true for lower-skilled women.

The ratio of male workers receiving disability benefits to the population aged 25 to 64 has risen from 3.2 percent in December 1990 to 4.8 percent in December 2007 and 5.7 percent in December 2014. In the past, fewer women had the years of work experience necessary to qualify for disability benefits. But as this has changed, disability-benefit receipt for

One important factor limiting participation among U.S. women: the absence of policies to accommodate mothers who are attempting to combine work with family responsibilities.
women aged 25 to 64 has also grown, from 1.6 percent in December 1990 to 4.1 percent in December 2007 and 5.1 percent in December 2014. Disability-benefit receipt has always been higher at older ages and some of the observed increase in overall prevalence is due to the aging of the population within the 25-to-64-year age range. But disability-benefit receipt has increased substantially even after taking that into account.

Other factors may also be affecting labor-force participation among prime-age women. For many years, the share of such women active in the U.S. labor market exceeded that in most other developed countries. In recent years, however, female participation has stagnated here while continuing to grow elsewhere. One important factor limiting participation among U.S. women has been identified in recent research: the absence of policies to accommodate mothers who are attempting to combine work with family responsibilities – in particular, paid parental leave, flexibility in hours of work for working parents and publicly supported day care for young children, all of which are a given in many other rich countries.

The President’s Council of Economic Advisers pointed out in a recent report that labor-force participation among prime-age women in the United States is now well below the levels in Canada, France, Germany, the Netherlands and Sweden – and only slightly higher than in Japan, where women’s low participation has become a high-profile issue. It is difficult, however, to sort out the relative contributions of the different structural factors just mentioned from the weakness of the labor market in the years following the Great Recession.

Among older workers, things look quite different, as increasing numbers are remaining in the labor force rather than retiring. Several factors appear to be influencing that trend. First, changes in Social Security have made it more attractive for many people to continue working between ages 62 and 70.
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They include:

- The phased increase in the normal retirement age from 65 to 67, which has had the effect of lowering benefit levels for those reaching age 62 in 2000 or later.
- The elimination of the earnings test for those past the normal retirement age, which has allowed them to keep working without losing a portion of their benefit checks.
- The phased increase in the generosity of the delayed retirement credit that raises monthly benefits for those who defer their first payments past the normal retirement age.

Changes in the private pension landscape have also played a role. Fewer of today’s retirees are receiving traditional, annuity-like defined-benefit pensions that encourage retirement once the comfortable benefit level has been reached, while more have defined-contribution plans [401(k)s and the like] that reward additional years of work and do not guarantee that the benefits will last a lifetime. Further, with defined-benefit pension plans less common, many would-be retirees with only modest savings may feel they have no choice but to continue working.

Another important factor has been the increase in life expectancy at older ages. In 1980, then-current mortality rates predicted that the typical man who was 60 could expect to live another 17.3 years; by 2010, the average 60-year-old man could expect to live another 21.3 years. Improvements in overall health at older ages, along with shifts in the mix of employment away from physically demanding jobs, have likely reinforced the impact of increasing longevity.

While tracing out the broad factors that have affected labor-force participation among subgroups is straightforward, it is more difficult to draw firm conclusions about how much of the recent decline in overall participation is structural and how much is temporary and likely to be reversed. Population aging will push labor-force participation downward over the next decade, but a sufficiently large rebound in participation within age-sex sub-

It is difficult to draw firm conclusions about how much of the recent decline in overall participation is structural and how much is temporary and likely to be reversed.

Assessments of the prospects for overall labor-force participation in the near term have varied considerably.

- At one end of the spectrum, a recent study by researchers from the Federal Reserve Board that modeled a variety of influences on participation—including factors affecting group-specific participation rates as well as the effects of population aging—estimated that only about a quarter of a percentage point of the decline in overall labor-force participation since 2007 is cyclical. While acknowledging some uncertainty in the estimates, the authors of this study attributed most of the recent non-aging-related decline to fundamental drivers not linked to the recession, suggesting that the bulk of it is likely to persist.
- Taking a less pessimistic stance, a paper by researchers from the Federal Reserve Bank of Chicago concluded that up to 1.2 percentage points of the recent decline in overall par-
participation could be reversed as the labor force returns to its underlying trend level, with about four-tenths of a percentage point of that total representing a normal cyclical rebound and about eight-tenths of a percentage point representing recovery from the unusual impact of the Great Recession.

Yet another report, released last year by the Congressional Budget Office, concluded that roughly one percentage point of the non-aging-related decline in labor-force participation from the end of 2007 through the end of 2013 was likely to be transitory, with another five-tenths of a percentage point a more permanent reduction attributable to scarring associated with the Great Recession.

WHERE THE RUBBER MEETS THE ROAD

While any assessment of the prospects for recovery of participation must be interpreted in the context of the ongoing negative trend generated by population aging, the different estimates nonetheless imply quite different conclusions about how much slack currently exists in the labor market. Which of them proves accurate matters a great deal for the policy decisions the Federal Reserve is facing.

If interest rates are kept low and anticipated increases in labor-force participation do not materialize to augment the supply of labor, there is a risk that the economy could begin to overheat. On the other hand, if interest rates are raised sooner rather than later, demand may be insufficient to draw all of the potentially available workers back into the labor market, leading to less output and lower employment than a more-accommodative monetary policy could have produced.

Speaking for myself, in light of the trade-off that is presenting itself – a trade-off between the risk of some extra inflation and the risk that many people who would like to work won’t have jobs – I’m definitely inclined to accept the inflation risk. The hardships that long-term joblessness impose are so well documented that I find it difficult to come to any different conclusion.

Still, while it’s clear to me that the inflation risk is worth taking, there needs to be some empirical basis for deciding when monetary policy should tighten. Given the disagreement already described about how to interpret the recent decline in the labor-force participation rate, along with related disagreements over how low an unemployment rate is sustainable without triggering inflation, these statistics seem unlikely to provide an unambiguous signal.

In view of the difficulty of parsing the data to gauge how much slack remains in the labor market, it would make a lot of sense to rely more heavily on data on wages to guide monetary policy decisions. After all, the main reason to be concerned about maintaining a monetary-policy stance that is too accommodating is the risk that it will tighten the labor
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market too much, putting upward pressure on what employers must pay and generating upward pressure on prices.

That channel, fortunately, is something that can be monitored directly with Employment Cost Index (ECI) data produced by the Bureau of Labor Statistics. In contrast to average wages, which omit the cost of employee benefits and might go up or down because the occupational mix of employment is changing, the ECI data track what employers are paying for labor, holding constant the mix of jobs performed.

Year-over-year percentage changes in the ECI series for total compensation in the private sector are shown on page 43, along with year-over-year changes in the ECI series for private sector wages and in the Consumer Price Index. As can be seen in the figure, year-over-year nominal compensation growth fell in the latter half of 2009 and, after a partial recovery, has subsequently remained relatively flat; wages have behaved similarly.

Growth in compensation and in wages exceeded the growth in prices from the end of 2008 through the end of 2009, but this was due entirely to a sharp decline in inflation. Since that time, real compensation and real wages have risen only slightly. Indeed, the cumulative growth in compensation exceeded the cumulative growth in consumer prices by just 2.2 percentage points over the five years from the fourth quarter of 2009 through the fourth quarter of 2014. This is only about half the rate of growth in labor productivity over the same period, implying that labor costs per unit of output are actually falling.

Even if wages did not begin to outpace productivity growth until after the economy had reached full employment and there was some overshooting as a result, a period in which the demand for labor exceeded the readily available supply would not necessarily be a bad thing. In fact, creating surplus job opportunities could be the best possible way to get people who have given up on the labor market or have been written off as unemployable back into the labor force.

While it is hard to be sure what would happen if such a situation could be engineered, the experience of the very tight labor market of the late 1990s is instructive. Following the major change of the welfare system introduced in the mid-1990s, large numbers of relatively uneducated women were able to move from the welfare rolls into employment. Research shows that their success was due largely to the robust labor market conditions prevailing at the time.

Today, there are concerns about declining labor-force participation among less-educated men and women. A strong economy could well do more than just about anything else to reintegrate them into the workforce.

Looking further into the future, population aging will exert a continuing influence on labor-force participation.

Once any possible short-term increase related to the economic recovery has been realized, we can expect a return to the longer term slide in participation, leading to slower economic growth and affecting households, businesses and governments. Faced with this new environment, it is possible that employers competing to recruit from a less-abundant labor pool will bid up wages, offer more family-friendly work arrangements or make other accommodations that entice more people to enter the labor force.

Government could play a role here, too, by lowering barriers that may be keeping people from looking for work.

One deterrent to employment that is especially relevant to low-wage households is the effective marginal tax rate faced by second earners in such households. As described in a
recent Hamilton Project report, in a married-couple household in which the first earner is paid $25,000 and the second earner could also earn $25,000 if he or she chose to work, the effective marginal tax rate on the extra income could be as high as 70 percent when one takes account forgone Earned Income Tax Credit payments, increased federal income and payroll taxes, the loss of food stamp eligibility and extra child care costs. One policy change that could help to overcome this barrier to labor-force participation would be a tax credit for second earners, an idea incorporated in President Obama's proposed 2016 federal budget.

Another initiative that could help keep women with children in the labor force would be to make paid family leave more widely available. As already noted, paid leave is common in other developed countries. In 2002, California passed legislation to create a paid leave program financed by a tax on employers, and over the past decade three other states have followed suit. While the California program is modest in scope compared to paid leave programs in other countries, research suggests that it has kept some new mothers attached to the labor market, and it could be a useful model for federal legislation.

Last but not least, it’s worth noting how immigration policy fits in here. Since immigrants are more likely than the native born to be in their early working years, liberalization of immigration policy would likely affect the age distribution of the population and thereby increase the labor-force participation rate.

* * *

All that said, it is worth keeping eyes on the prize: no tinkering with labor-market policy is likely to influence the future path of labor-force participation as much as the long-term health of the economy. Stable growth that pushes against productive capacity constraints, making it more attractive for people to remain in the labor force (or to rejoin it), may not be a cure-all. But it would be a very good start.