

LABOR MARKETS

The Stanford Center on Poverty and Inequality

BY MICHAEL HOUT AND ERIN CUMBERWORTH

KEY FINDINGS

- The ongoing increases in the total number of jobs and ongoing declines in the official unemployment rate disguise a very slow recovery in prime-age employment.
- The economy is on pace to lift men's prime-age employment to 85.1 percent by February 2017 and women's to 72.8 percent. Under this extrapolation, women's employment will return to its pre-recession level, whereas men's employment will climb only two-thirds of the way back.
- The Great Recession spread to every state, though employment fell more in some states than in others. Most state differences appear to reflect the industry composition of state economies. Prime-age employment fell most in states where new-home construction, coal mining, and financial services were important before the recession, and least in states where oil exploration or federal government employment were significant.
- A few states, notably Michigan and Nevada, increased employment by 3 or 4 percentage points relative to their low point during the recession, but the average recovery has been a meager 1 percentage point.

The Great Recession of 2007–2009 began as a financial crisis, but played out as an enduring employment crisis. The “housing bubble” burst, the financial sector tumbled, banks stopped lending, construction workers lost their jobs, sales of building materials and appliances plummeted, tax revenues fell, and the downward spiral threatened to spin ever lower. The federal government saved the banks, and stimulus spending broke the fall in employment. But employment has barely kept pace with population growth since the recovery began in the summer of 2009. The U.S. economy began 2015 with payrolls increasing and the official unemployment rate down to 5.6 percent. But 32 percent of the unemployed have been out of work for 27 weeks or more, and the employment-to-population ratio was only 59 percent.

In this report, our aim is to assess the current standing of the U.S. labor market, focusing on the employment-to-population ratio of 25- to 54-year-old people. This age group is the core of the American labor force, old enough to have completed schooling and mostly too young to retire. Before the recession, 88 percent of prime-age men and 73 percent of prime-age women were employed. In the most recent data from October 2014, those percentages are just 84 percent for men and 70 percent for women. At the low point of the recession (earlier for men than women), they were 80 percent for men and 69 percent for women. Thus prime-age men have recovered about half of the employment lost to the recession; prime-age women have recovered one-fourth.

In keeping with the theme of this report, we also examine variation among states in labor market performance, but the differences prove to be less illuminating than the similarities. Insofar as there are state-by-state differences, they mainly reflect (a) the industry-specific effects of the recession and (b) state differences in industry composition.

A Slow Recovery in Prime-Age Employment

The single best index of employment is the prime-age employment ratio—the ratio of employed 25- to 54-year-olds to the population of that age. The more familiar unemployment rate gives a reasonably accurate picture of employment during good times, but during recessions many people who would prefer to be working will stop looking. The unemployment rate does not count them, so it makes the economy look better than it is. As a recovery starts, those people again start looking for jobs, making unemployment appear to be worse until they find a job. The prime-age employment ratio overcomes this “discouraged worker” problem by keeping tabs of everyone whether they are looking for work or not.

Figure 1 plots the prime-age employment ratio from January 2006 (almost two years before the recession began) to October 2014, with recession months shaded gray. At the employment ratio's peak in January 2007, 88 percent of American men 25–54 years old were employed; at the low point three years later, 80 percent were employed (a decline of 8 percentage points). The path upward from that low point is disappointing:

By October 2014, men's prime-age employment ratio was at 84 percent, less than half the way back to the pre-recession level.

Women's employment declined more slowly but shows practically no sign of recovery and, in this regard, is even more disappointing. In January 2007, 73 percent of prime-age women were employed. Women's employment did not bottom out until November 2011, two years after the recession officially ended. By that point women's prime-age employment had slipped to 69 percent (4 percentage points below its pre-recession level). Though a 4-percentage-point decrease in women's employment may not seem like much, it is the biggest decline on record (recordkeeping began in 1947). During twentieth-century recessions, the rate of increase in women's employment slowed, but never declined by more than 1 percentage point.¹ So from a long-term perspective, a 4-point decrease is significant.

From the perspective of the first decade and a half of the twenty-first century, the past few years typify women's stalled progress in the labor market. Women's prime-age employment peaked at 75 percent in April 2000, it slipped to 74 percent by the end of 2000, and it has remained between 69 and 73 percent ever since. In the most recent data, 70 percent of prime-age women were employed.

In previous contributions to this series, we have noted that prime-age employment declined more during and after the Great Recession than during any of the recessions since the

Great Depression.² We also noted that, for men, each post-war recession reduced prime-age employment, and since the 1970s, post-recession employment always fell short of its pre-recession high. This has brought about a historic decline in prime-age employment among men. Although 96 percent of prime-age men were employed in 1953, only 88 percent were in 2007. In the Great Recession and its aftermath, American men have recovered from a low of 80 percent to just 84 percent.

If the employment of prime-age men does not improve substantially soon, the current recovery will yield a level of employment uncommonly low. There have now been 72 consecutive months (starting in November 2008) in which men's prime-age employment has been lower than 85 percent. Prior to the Great Recession, men's employment dipped below 85 percent in exactly one month, February 1983, which was at the bottom of the 1980–1983 double-dip recession.

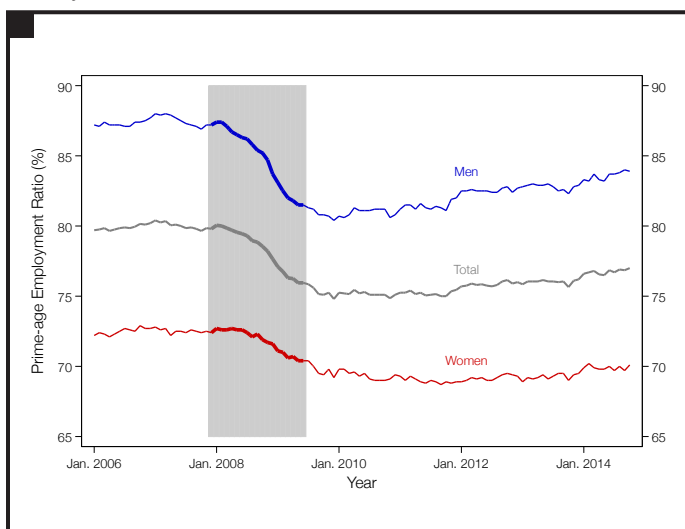
Women's employment increased so dramatically during the twentieth century that recessions seldom led to decreases in prime-age employment; they just slowed the rate of increase. After the 2001 recession, however, women's prime-age employment failed to rebound to its pre-recession level for the first time on record. It is now happening again after the Great Recession, as women's most recent prime-age employment ratio is still about where it was when the recession officially ended in the summer of 2009.

The Future of the Recovery

To assess the likelihood of a full employment recovery from the Great Recession, we regressed men's and women's prime-age employment ratios on the number of months from the end of the recession to the month the ratio was measured. The model has no substantive content and should not be considered a forecast or prediction about the future. But it can be used to extrapolate recent experience into the future and thus answer whether the path the economy is on right now will eventually lead to a full employment recovery.

For men, the relationship does not vary significantly from a simple straight line moving upward at the pace of 0.05 percentage point per month. At that pace, the employment-to-population ratio increases a percentage point every 20 months, implying it will take between 12.5 and 13 years for men's prime-age employment to recover the 8 percentage points lost during and after the Great Recession. Given that the U.S. economy has never gone 12.5 years without a recession, this calculation suggests that another recession is likely to reduce men's prime-age employment again before this

FIGURE 1. Prime-age Employment Ratio by Month and Gender, January 2006–November 2014.



Note: We used seasonally adjusted data. Prime-age refers to people who were 25 to 54 years old. Source: Bureau of Labor Statistics.

slow recovery restores the employment to pre-recession levels. Men’s employment has failed to fully recover after the last eight recessions. The pace of men’s employment improvement five years into the current recovery suggests that this will be the ninth straight recovery to fall short.

The outlook for women is slightly better, mainly because the dip in women’s prime-age employment due to the Great Recession was only half of men’s. Women’s prime-age employment ratio continued downward slightly for about a year after the end of the recession before beginning to recover ever so slowly. If the curve is real and not just statistical noise, it implies that women’s employment might be back to pre-recession levels two years from now (in February 2017). This curve-fitting exercise must be interpreted very cautiously. The data are almost as consistent with a flat line as a bowed one. On the other hand, women’s employment fully recovered in seven of the last eight recoveries—a pattern that gives us just enough confidence to suggest that the

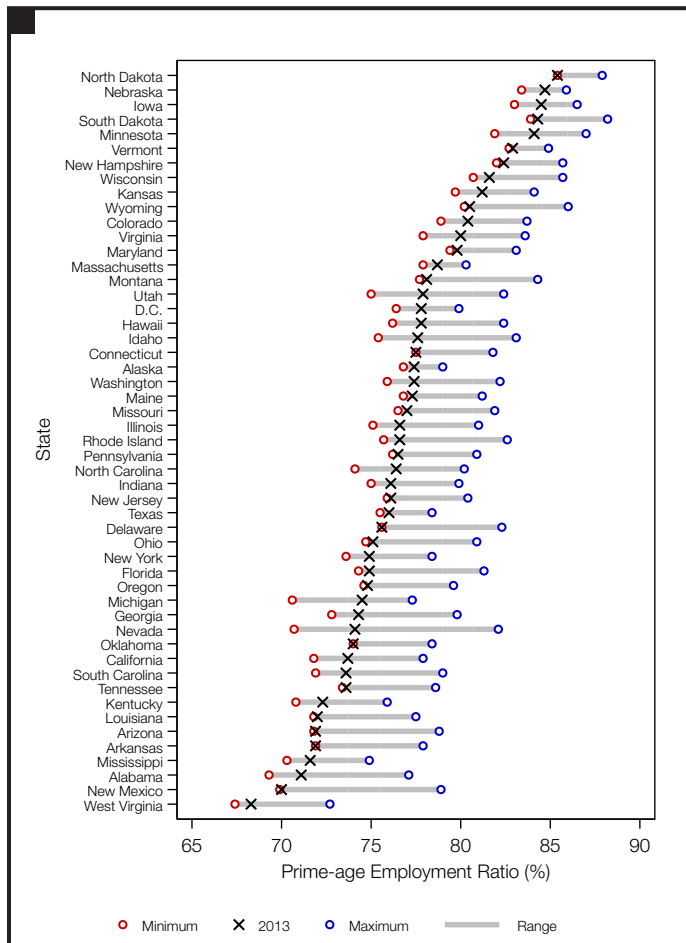
probability of fully recovering from the Great Recession by February 2017 is greater than zero for women.

State Differences

States can be natural laboratories that allow scholars and policy makers to learn what works and what doesn’t. The trick of course is to compare states that differ in their response to social problems, but that don’t differ much in other important ways. This approach works better when research and evaluation are built into the policies, as when the Clinton administration exempted states from federal mandates regarding the use of federal welfare funds, provided that they conducted a rigorous evaluation of the alternative practices that they installed. Lessons learned from the states made welfare reform more successful than it would probably have been without the experimentation and evaluation.

We know of no examples of that kind of rigorous research regarding state variation in approaches to economic recovery. Nonetheless, in keeping with the theme of this report, we look to the states for clues about underemployment in the national labor market.

FIGURE 2. Prime-age Employment Ratio by State for Highest Year Before Recession, Lowest Year During or Since Recession, and 2013.



Source: Bureau of Labor Statistics

Prime-age employment data from each state and the District of Columbia for the years 2006–2013 show that no jurisdiction escaped the Great Recession (Figure 2). Employment fell more in some states and less in others, but no state had a higher percentage of prime-age adults employed in 2012 or 2013 than it had before 2008. The “X” in Figure 2, which pertains to employment in 2013, shows that employment four years after the end of the recession was always closer to the lowest value observed for that state than it was to the highest value for that state.

Figure 3 reveals more details, tracking each state from 2006 to 2013. It arrays all the state-by-state data, clustering states by census division and color-coding them according to net change; the states shown with thick red lines changed most, and those with thick black lines changed least. Employment declined least (by 3 percentage points or less) in Alaska, Vermont, Massachusetts, Nebraska, North Dakota, and Texas; it decreased most (by 7 percentage points or more) in Utah, Alabama, Idaho, New Mexico, and Nevada. The states that by 2013 had recovered the most—between 2.0 and 3.4 percentage points—were Mississippi, Virginia, Utah, Idaho, Nevada, and Michigan. Considering the regions instead of particular states, we note that the southern and western states fared worst; states of the upper Midwest (the Dakotas, Minnesota, Nebraska, and Iowa) were least affected.

These patterns offer few clues about what might be done to hasten recovery. Michigan rose the most from its low in 2010 to 2013, aided by federal assistance to the auto industry. Nevada had the second-highest increase. Although trouble hit Nevada when the housing bubble burst and employment in construction collapsed, a relatively sharp recovery has been driven by rising employment in services (especially professional, business, education, health, leisure, and hospitality services). Oil seems to have protected Texas and the upper Midwest from the worst of the recession, but coal did not help Utah or West Virginia.

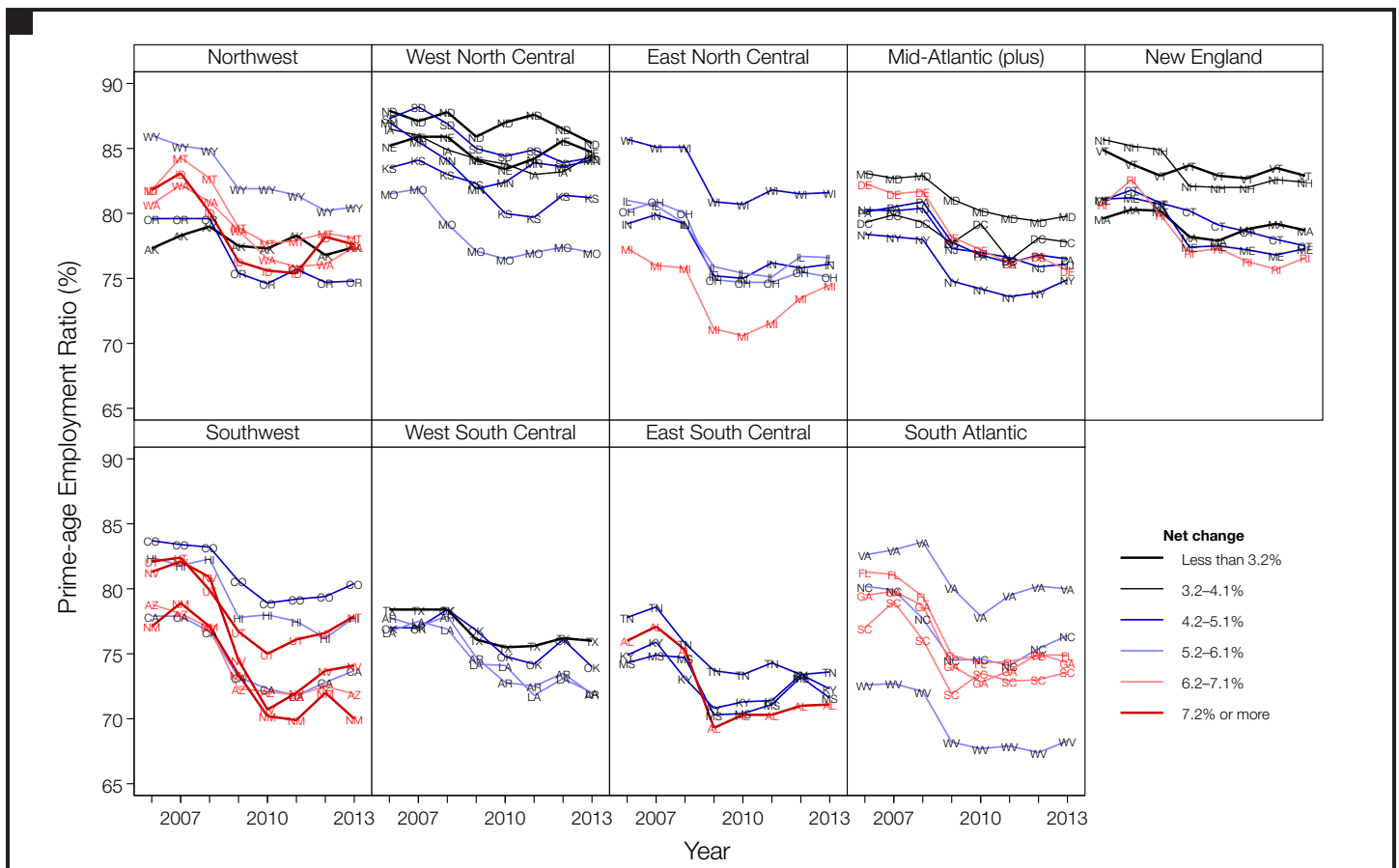
Further disaggregating the state data by gender (see the online appendix for Figures 3A and 3B) failed to yield additional insight regarding state-to-state variation.³ The gender-specific figures echo the evidence in Figure 1, showing both that (a) the recession-related decline was worse for men and (b) what recovery there has been occurred among men. Women’s employment in most states fell less and later than men’s, but where we see nascent recovery, as in Michigan

and Nevada, we see it mainly among men.

The simple conclusion: For the most part, the national patterns and national gender differences in employment played out much the same in state after state, with the similarities much more impressive than the differences. A simplified model that stipulates that each state has the same trend in prime-age employment fits the data amazingly well; its R^2 is 0.97.⁴ If state variation in time trends amounted to just 3 percent of the variance in prime-age employment ratios, then there is not much information to be gleaned from this small variance component.

To be clear, we are not saying that states have the same or even similar labor markets. An even simpler model that takes no account of state has an R^2 of just 0.69, so there is substantial state-related variation in employment, just not much state variation in when and how hard the recession hit. As shown in Figure 2, the prime-age employment ratio ranges from a low of .68 in West Virginia to a high of .85 in North Dakota (in 2013), a

FIGURE 3. Prime-age Employment Ratio by Year, State, and Region, 2006–2013.



Note: Color-coding indicates the net change, 2006–2013. Source: Bureau of Labor Statistics

range that's far greater than the average change in prime-age employment during the Great Recession. The Great Recession, although clearly a disaster for prime-age employment, also did not come close to reducing the employment situation of the best-off states to that of the worst-off states. It's not, then, that states don't matter for rates of prime-age employment; rather, it's simply that the Great Recession did not do much to alter state rankings in prime-age employment.

Conclusions

In 2009 and 2010, the U.S. economy suffered the most job loss in the postwar era. Job seekers of all ages had trouble finding work, millions got discouraged and quit looking for work, and unemployment spells lasted longer than at any time on record. The prime-age employment ratio, the best measure of the health of the labor force, dropped to the lowest level on record among men and had the largest drop ever among women. Five years later, employment still lags far behind its pre-recession level for both men and women. At the current rate of recovery, men's employment has almost no chance of returning to pre-recession levels by February 2017; women's employment has a 50/50 chance of returning to pre-recession levels by then.

No state was exempt from the Great Recession, though employment fell more in some states than in others. Nevada, New Mexico, and Alabama endured the biggest losses of employment; Vermont, Alaska, and Massachusetts lost the least. Michigan, Nevada, and Idaho have had the biggest recoveries (defined as increase from the low point of the recession to the most recent data). Most states are still much closer to their low point than to their rate of employment at the beginning of the recession.

State differences appear to reflect industry patterns. Prime-age employment fell most in states where new-home construction, coal mining, and financial services were important before the recession and least in states where oil exploration or federal government employment were significant. A few states, notably Michigan and Nevada, increased employment by 3 or 4 percentage points after hitting a low point during the recession, but the average recovery has been a meager 1 percentage point. These differences in state experiences prove, however, to be relatively minor. Thus, unfortunately, state-to-state differences in the response to the recession are not very informative about what works (or doesn't) to stimulate employment recovery.

In previous reports we highlighted the way the weak recovery from the past two recessions differed from previous, more vigorous recoveries, especially that following the almost as deep double-dip recession of 1980–1982.⁵ Those comparisons, as well as comparisons by industry, showed that the recovery depends on the two industries that suffered the worst in the Great Recession: construction and manufacturing. The housing bubbles that helped employment in the past are not to be encouraged, of course, as they only sow the seeds of the next financial crisis. Manufacturing recovery depends on innovation and demand. Innovation is hard to predict or anticipate. Fiscal policy can stimulate demand, but a bigger stimulus was politically impossible in 2009 and is even less likely now. The glum assessment here is that no state has come up with a policy that might, if widely adopted, increase the rate of recovery in employment. The prevailing optimism about the recent jobs and unemployment reports is in this sense misplaced. ■

APPENDIX: PROJECTING MEN'S AND WOMEN'S PRIME-AGE EMPLOYMENT RATIOS

In discussing Figure 1, we referred to extrapolations of recent trends in prime-age employment ratios, extrapolations that led us to conclude that it was unlikely that men's employment would fully recover to the pre-recession levels but that women's employment might return to the pre-recession level. Those conclusions are based on ordinary least squares (OLS) regressions of prime-age employment ratios on the number of months passed since the end of the Great Recession.

For men, the results favor a simple linear model. Men's predicted prime-age employment ratio equals $80.49 + 0.0508$ (Months since end of

recession). The standard error for the slope of that line is 0.0023; the standard error for the whole equation is 0.33; the R^2 for the model is 0.89.

For women, the linear model performs poorly ($R^2 = 0.04$); a quadratic equation does better. Women's predicted prime-age employment ratio equals $69.88 - 0.0609$ (Months since end of recession) + 0.001022 (Months since end of recession)². The standard error for the linear term is 0.0059; the standard error for the quadratic term is 0.000091; the standard error for the whole equation is 0.22; the R^2 for the model is 0.69.

NOTES

1. Hout, Michael, and Erin Cumberworth. 2014. "Labor Markets." In *The Poverty and Inequality Report: A Special Issue of Pathways Magazine*. Stanford Center on Poverty and Inequality.
2. Hout and Cumberworth, 2014.
3. The online appendix is available at <http://inequality.com/sotu>.
4. Under this model, the prime-age employment ratios vary according to gender-specific time trends and state-specific differences in men's and women's initial values, but the states have a common time trend. The equation for this simplified model was: $PER_{gst} = b_0 + b_1 \text{ Women} + \sum_s b_{2s} \text{ State}_s + \sum_t b_{3t} \text{ Year}_t + \sum_s b_{4s} \text{ Woman} * \text{State}_s + \sum_t b_{5t} \text{ Woman} * \text{Year}_t$.
5. Hout and Cumberworth, 2014.