March 06, 2012

Economics Group

Special Commentary

John E. Silvia, Chief Economist
john.silvia@wellsfargo.com • (704) 374-7034
Azhar Iqbal, Econometrician
azhar.iqbal@wellsfargo.com • (704) 383-6805
Sarah Watt, Economic Analyst
sarah.watt@wellsfargo.com • (704) 374-7142

Three Measures of a Healthy Labor Market: A Cyclical View

Executive Summary

There is little mystery to thoughtful observers that the labor market since the onset of the Great Recession has behaved very differently than in cycles past. However, there is the lingering question of why as since the recovery began, job creation has been agonizingly slow, unemployment uncomfortably high and labor force participation alarmingly low. In this report, we analyze the cyclical behavior of three different measures of labor market health—payroll employment, the unemployment rate and labor force participation. We then look at how these three measures interact over the business cycle, and what their current levels indicate about the overall health of the labor market.

To anticipate our conclusions, we find that the stark decline in the labor force participation rate since the Great Recession significantly overstates the economic significance of the current unemployment rate. If participation today was equal to the average rate over the prior business cycle, unemployment would stand at 11.6 percent instead of 8.3 percent. While changing age demographics have contributed to some of the decline in labor force participation, much of the decrease in this cycle appears to stem from changing patterns in female participation. Given these demographic shifts, we also do not expect the labor force participation rate to reassume its prerecession mark. Holding the labor force participation rate constant, we also find a significant relationship between employment growth and the unemployment rate, with an average of 110,000 net new jobs during the first three years of a recovery commensurate with a 0.3 percentage point decline in the unemployment rate.

We find that the stark decline in the labor force participation rate significantly overstates the economic significance of the current unemployment rate.

Employment

Our first measure of labor market health is nonfarm payrolls. The monthly change in nonfarm payrolls is one of the most widely watched data releases as it goes to the heart of our economy: how many people are working. The number of people employed has significant effects on the economy as the majority of income is earned through wages and salaries, and as businesses expand, they typically need additional labor to help facilitate growth. It is no surprise then that the net decline in employment since the start of the Great Recession has caused so much anxiety not only among the unemployed, but among business leaders, politicians and the average household. The Great Recession led to the largest downturn in employment in modern history (Figure 1). Employers shed 8.8 million jobs, or 6.4 percent of the payrolls, between January 2008 and February 2010. In addition to the steep decline, the recovery in employment has been painfully slow with only 3.2 million jobs recouped in the two years since payrolls bottomed. This lower base employment has tremendous consequences for the economy, including a lower level of income, lower consumer spending, high burdens on government safety net programs, reduced income tax receipts and losses in workers' skills.

This report is available on wellsfargo.com/economics and on Bloomberg WFEC.

Figure 1

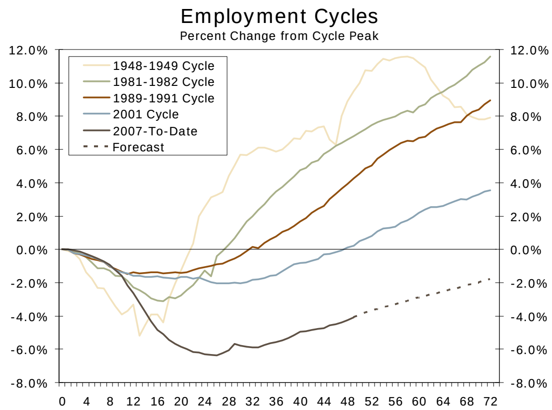
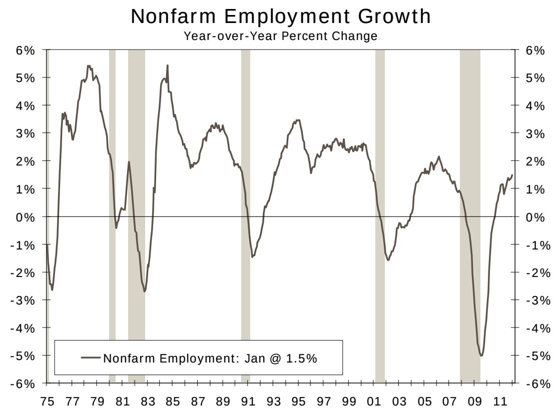


Figure 2



Source: U.S. Department of Labor and Wells Fargo Securities, LLC

What can the trend in employment growth in previous cycles tell us about the changes we have seen in the current cycle? Since the mid-1970s, employment growth throughout the business cycle, measured on a year-over-year basis, has been slowing (Figure 2).[1] The rate of job growth has been steadily trending downward, from an average of 2.8 percent year-over-year growth in the 1975—1980 cycle to an average of 0.2 percent year-over-year growth in the 2001—2009 cycle. This has reflected tremendous gains in worker productivity but also a shift in the composition of our economy. Cyclically sensitive industries, such as manufacturing and construction, now employ a smaller share of total workers, whereas services account for a growing share of employment.[2] Everything else equal, the small share of manufacturing contributes to less variation in overall employment variability over the business cycle.

The recovery rate of jobs has also slowed following more recent recessions, suggesting that prior expectations of how quickly jobs can be added in the labor market must be adjusted.

Moreover, the recovery rate of jobs has also slowed following more recent recessions, suggesting that prior expectations of how quickly jobs can be added in the labor market must be adjusted. Since the 1982 recession, in the first three years of recovery, the average rate of employment growth has fallen, with even a negative average of the year-over-year growth rate following the 2001 recession. At the current stage of the recovery, the mean rate of annual employment growth is even weaker than the 2001 recovery. Indeed, labor market recoveries have been shown to be more protracted following financial crises, suggesting that it will continue to be a long, uphill climb toward recouping the jobs lost in this cycle and restoring the base of employment.[3]

The Unemployment Rate

The unemployment rate, shown in Figure 3, is the most commonly cited indicator of the labor market, making it our second measure of labor market health. The unemployment rate provides a quick and comparable glimpse of the overall labor market across time. Following the most recent recession, the unemployment rate peaked at 10 percent in October 2009. Despite recent declines, joblessness in this cycle has been painfully persistent. The unemployment rate has stood above 8 percent for more than three years, and is not projected to break below that barrier until after 2013.[4]

---

[1] We measure the business cycle from the trough of one recession to the trough of the following recession, as defined by the National Bureau of Economic Research.
[2] The goods producing sector employed more than 30 percent of the workforce in 1970, but currently accounts for less than 14 percent.
[3] Reinhart, Carmen and Rogoff, Kenneth. (2009). "The Aftermath of Financial Crises" *American Economic Review*, Vol. 99, No. 2, 446-472.
[4] We forecast an unemployment rate of 8.3 percent for both 2012 and 2013.

Figure 3

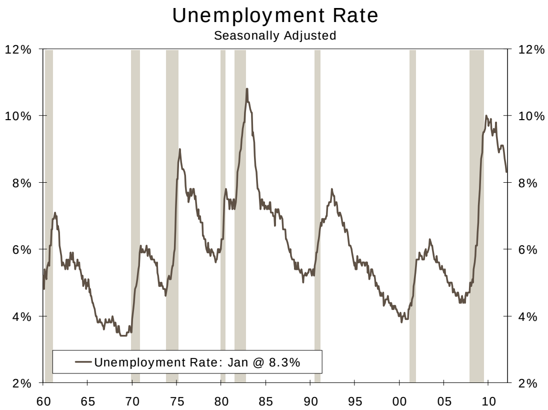


Figure 4

Unemployment Rate by Business Cycle Trough-to-Trough		
1975-1980	Mean	6.98
	Std. Dev.	0.98
1982-1991	Mean	6.81
	Std. Dev.	1.48
1991-2001	Mean	5.50
	Std. Dev.	1.17
2001-2009	Mean	5.53
	Std. Dev.	0.97

Source: U.S. Department of Labor and Wells Fargo Securities, LLC

Since the early 1990s, the unemployment rate throughout the business cycle has fallen as the expansionary phase of the business cycle became longer and recessions less frequent during the Great Moderation (Figure 4). However, the heightened unemployment rate in this recovery represents a break from prior cycles. Since record-high rates of unemployment during the 1970s and 1980s, the average jobless rate in the 31 months following the official end of a recession—where we are today—has been steadily falling despite weaker job growth.

The heightened unemployment rate in this recovery represents a break from prior cycles.

The break from this trend following the Great Recession's end reflects both the depth of employment losses in the downturn as well as heightened structural frictions caused by the housing bust—the culprit of the recession. In addition to a long-term shift in demand for softer skills in a more service-oriented economy, the housing bust left 2.2 million fewer construction jobs and millions of homeowners with reduced geographic mobility due to negative equity in their homes. This has likely raised the "natural" unemployment rate in the medium term, although estimates vary as to how much.[5] While some of the drivers of structural unemployment will subside in the long run as workers retrain or leave the labor force and the housing market recovers, the average unemployment rate in the current business cycle is likely to remain well above the average of previous cycles.

Labor Force Participation

For our third measure of labor market health, we look at the labor force participation rate. As the name implies, this figure measures the proportion of the working age population engaged in the labor market, meaning individuals are either employed or actively looking for employment. While this measure makes fewer headlines than the payrolls number and the unemployment rate, we believe the labor force participation rate has significant consequences for the economy. Labor is an important input into production, and, as mentioned earlier, the majority of personal income is derived from wages and salaries. As such, an increase in participation may help to raise the standards of living across a broader sweep of society. Since December 2007, the start of the past recession, the labor force participation rate has fallen from 66.0 percent to 63.7 percent, its lowest mark since 1983 when women were still increasing their participation in the workforce.

The declining trend in labor force participation is not fully a result of the depth of the Great Recession causing discouraged workers to leave the labor force.

The declining trend in labor force participation is not fully a result of the depth of the Great Recession causing discouraged workers to leave the labor force. Labor force participation is not only influenced by the business cycle but is susceptible to demographic shifts and cultural changes over time. A portion of the stark decline in participation since the recession ended can be

[5] See for example, Daly, M., Hobijn, B., Sahin, A. and Valletta, R. (2011). "A Rising Rate of Unemployment: Transitory or Permanent?" Federal Reserve Bank of San Francisco Working Paper Series, Working Paper 2011-05, or Lubik, T. and Romero, J. (2011). "Monetary Policy with Unknown Natural Rates" Federal Reserve Bank of Richmond Economic Brief, EB11-07.

attributed to age demographics as baby boomers have begun to retire and young adults stayed in school longer.[6]

The lower participation rate since the recession has been largely influenced by a third force: females, who are no longer joining the workforce at increasing rates.

That said, the lower participation rate since the recession has been largely influenced by a third force: females, who are no longer joining the workforce at increasing rates. In the post-WWII era, male labor force participation has steadily declined, falling an average of 1.4 percentage points in each business cycle. Yet, prior to the past business cycle, increasing rates of female participation had more than offset the decline in male participation. Female labor force participation climbed an average of 3.1 percentage points each business cycle from 1949 to 2001. However, in the 2001—2009 business cycle, participation for women edged up only 0.3 percentage points. With smaller gains—or nearly nil gains—in participation from women, the decline in overall participation since the Great Recession may be difficult to reverse. The overall participation rate peaked in the 1991-2001 business cycle, averaging 66.7 percent, and edged slightly lower in the 2001—2009 cycle that led into the Great Recession (Figure 5). If female participation remains near its current rate, 59.3 percent, and the downward trend in male participation continues, the labor force is unlikely to see the same bounce-back and growth it has in prior cycles.

Figure 5

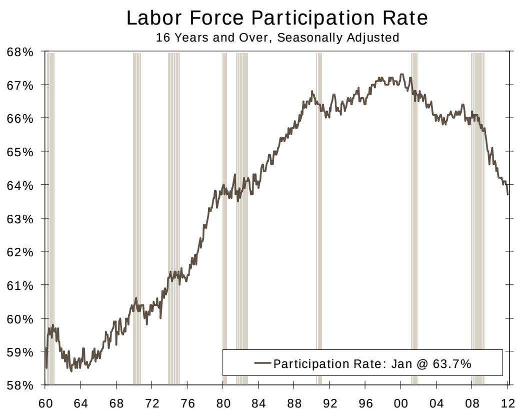
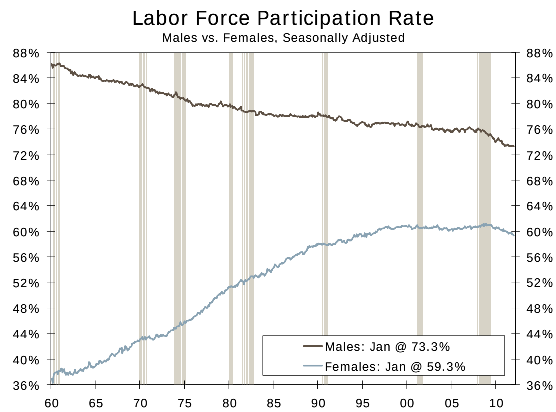


Figure 6



Source: U.S. Department of Labor and Wells Fargo Securities, LLC

Furthermore, with baby boomers nearing retirement, the sheer size of this cohort will continue to put downward pressure on the total labor force participation rate. Participation hovers near 80 percent for workers ages 25—54, but drops notably for workers 55—59 years old and even more sharply for workers ages 60—64 (Figure 7). The cohort approaching these ages is the largest in size, meaning a relatively larger share of the labor force will have a higher propensity to leave in the coming years (Figure 8). It is true that the participation rate for older workers, in contrast with total labor force participation, has increased since the recession, rising a little over one percentage point. However, the marked decline in participation after age 55 will weigh down the overall participation rate as more baby boomers approach retirement, reversing the upward trend seen in previous cycles.

[6] Aaronson, Daniel and Davis, Jonathan. (2012). "Explaining the Decline in the U.S. Labor Force Participation Rate" *Chicago Fed Letter*, March 2012, No. 296.

Figure 7

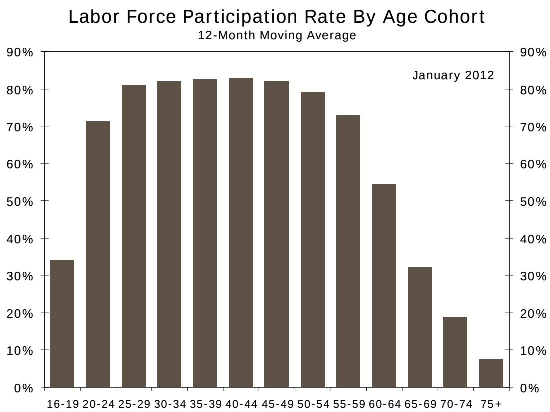
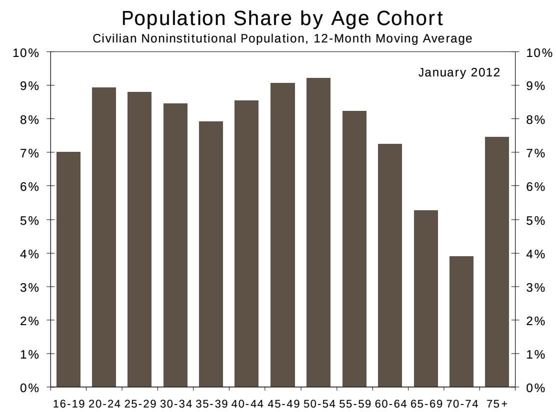


Figure 8



Source: U.S. Department of Labor and Wells Fargo Securities, LLC

Putting It All Together

What effects do these three measures of the labor market have when taken together? Often during a recession and the early stages of recovery, workers will leave the labor force due to a lack of employment opportunities. This puts downward pressure on the labor force participation rate as fewer workers are engaged in the job market as well as downward pressure on the unemployment rate as fewer workers are counted among the ranks of the unemployed. In the most recent downturn, the number of discouraged workers more than tripled, although that number has fallen over the past year. Once employment growth returns, it is expected that discouraged workers return to the labor force.

Nonfarm payroll growth has little bearing on labor force participation during the early years of a recovery

While this may be true for some discouraged workers, nonfarm payroll growth has little bearing on labor force participation during the early years of a recovery. During the first three years of a recovery, a 1 percent year-over-year increase in payroll growth leads to less than a 0.1 percentage point increase in labor force participation, which is not statistically significant. This relationship is stronger, and statistically significant, for females; a 1 percent year-over-year increase payroll growth leads to a 0.16 percentage point increase in labor force participation. Yet, this number may have been influenced in the past by the secular trend of women working more frequently outside the home, rather than discouraged female workers returning to the labor force.

Going forward, we believe the labor force participation rate will not rebound substantially as employment growth improves and will likely fall even further as female participation levels off and the baby-boom generation moves into their prime retirement years. The historically-high number of long-term unemployed workers, at more than 5.5 million, will also weigh down the participation rate. Unemployed persons are less likely to regain employment the longer the duration of unemployment,[7] which causes many of the long-term unemployed to eventually drop out of the labor force.

If the current labor force participation rate was equal to the average during the previous business cycle—66.1 percent—the unemployment rate would currently stand at 11.6 percent

If workers do not return to the labor force as employment growth picks up, the unemployment rate will be lower—all else held equal—as there are fewer out-of-work adults officially counted as unemployed. A declining participation rate initially lowers the unemployment rate as the number of workers that would be counted as unemployed decreases at a greater rate than the labor force. If the current labor force participation rate was equal to the average during the previous business cycle—66.1 percent—the unemployment rate would currently stand at 11.6 percent (Figure 9). This suggests that the official unemployment rate does not fully capture the severity of joblessness in this cycle. While the Bureau of Labor Statistics publishes alternative measures of

[7] **Hornstein, A. and Lubik, T. (2011). "The Rise in Long-Term Unemployment: Potential Causes and Implications"** ***Federal Reserve Bank of Richmond 2010 Annual Report*****, p. 5-23.**

unemployment to capture varying degrees of labor utilization,[8] the drop-off in the labor force participation rate suggests an understated unemployment rate at the most widely quoted definition. The rapid decline in the unemployment rate to 8.3 percent in January from 9.0 percent in September is undoubtedly encouraging, but when factoring in the markedly lower labor force participation rate since the Great Recession, there is much less to celebrate.

Figure 9

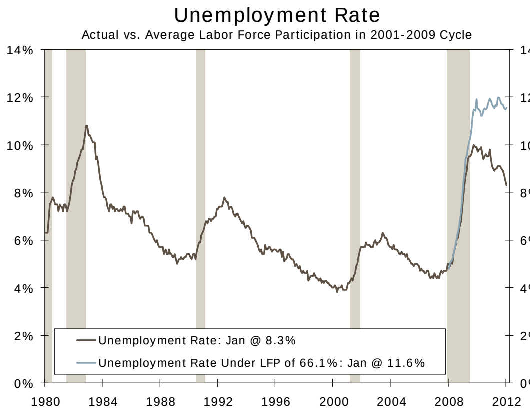


Figure 10

Nonfarm Payroll Growth and Labor Force Participation 36 Months into Recovery		
Total	Coefficient	0.07
	R-Square	0.16
Males	Coefficient	0.03
	R-Square	0.04
Females	Coefficient	0.16
	R-Square	0.36*
*Significant at the 0.05 level		

Source: U.S. Department of Labor and Wells Fargo Securities, LLC

Stronger job growth, however, is a better mechanism for lowering the unemployment rate. Instead of the unemployment rate being held artificially lower by a declining participation rate, job growth would lower the unemployment rate by either decreasing the number of unemployed if the new hire was previously unemployed, or increasing the base of the unemployment rate if the new hire was previously outside the labor force.

How many jobs then should we be looking for to bring down unemployment in a more meaningful way? In the first three years of a recovery in prior business cycles, a 1 percent rise in nonfarm payrolls has corresponded to a 0.26 percentage point decline in the unemployment rate. Over the past business cycle, this would mean an average monthly increase of 110,000 jobs, holding the labor force constant. However, a continuing decline in the labor force participation rate would accelerate this decline in the calculated unemployment rate, as we have seen in recent months. The 0.6 percentage point drop in the unemployment rate since October has coincided with a 0.5 percent gain in payrolls—a much more rapid decline than prior history would suggest—but the labor force participation rate has declined 0.4 percentage points over the same period.

Conclusion

Thoughtful decision making requires careful analysis of economic trends, especially when those trends reflect the forces of both cyclical improvement and structural change. In recent months, the decline in the unemployment rate has indeed heralded a cyclical recovery in the labor market and, thereby, an overall improvement in the national economy. Yet, the degree of improvement appears overstated relative to the gains in consumer confidence and business surveys on the willingness to hire.

Lower participation rates suggest fewer labor inputs to production and, thereby, a reduction in the potential growth rate of the U.S. economy over time.

Looking at the data more carefully, we see several demographic trends that are also exerting downward pressure on the unemployment rate and these have several long-run implications. First, the participation rate has declined and this is consistent with the aging demographic of the baby boom. Second, a lower female participation rate is a significant turnabout from the historical trend since WWII.

Lower participation rates suggest fewer labor inputs to production and, thereby, a reduction in the potential growth rate of the U.S. economy over time. This slower growth rate will put

[8] See Table A-15 in the Bureau of Labor Statistics' Employment Situation report for more details.

additional pressure on local, state and federal budgets that already are dealing with reduced employment and income gains in the short run. This intermingling of cyclical and secular forces require the most careful strategic choices by decision makers going forward.

Wells Fargo Securities, LLC Economics Group

Diane Schumaker-Krieg	Global Head of Research & Economics	(704) 715-8437 (212) 214-5070	diane.schumaker@wellsfargo.com
John E. Silvia, Ph.D.	Chief Economist	(704) 374-7034	john.silvia@wellsfargo.com
Mark Vitner	Senior Economist	(704) 383-5635	mark.vitner@wellsfargo.com
Jay Bryson, Ph.D.	Global Economist	(704) 383-3518	jay.bryson@wellsfargo.com
Scott Anderson, Ph.D.	Senior Economist	(612) 667-9281	scott.a.anderson@wellsfargo.com
Eugenio Aleman, Ph.D.	Senior Economist	(704) 715-0314	eugenio.j.aleman@wellsfargo.com
Sam Bullard	Senior Economist	(704) 383-7372	sam.bullard@wellsfargo.com
Anika Khan	Economist	(704) 715-0575	anika.khan@wellsfargo.com
Azhar Iqbal	Econometrician	(704) 383-6805	azhar.iqbal@wellsfargo.com
Ed Kashmarek	Economist	(612) 667-0479	ed.kashmarek@wellsfargo.com
Tim Quinlan	Economist	(704) 374-4407	tim.quinlan@wellsfargo.com
Michael A. Brown	Economist	(704) 715-0569	michael.a.brown@wellsfargo.com
Joe Seydl	Economic Analyst	(704) 715-1488	joseph.seydl@wellsfargo.com
Sarah Watt	Economic Analyst	(704) 374-7142	sarah.watt@wellsfargo.com
Kaylyn Swankoski	Economic Analyst	(704) 715-0526	kaylyn.swankoski@wellsfargo.com

WELLS FARGO SECURITIES