

Looking Beyond the U.S. Unemployed

BY ADAM OZIMEK

In September, the U.S. unemployment rate dipped below 6% for the first time since 2008, fueling debate about whether the U.S. economy is approaching full employment—the level beyond which the economy overheats and inflation begins to accelerate.

The question has important policy implications, but determining whether the economy is near or at full employment is difficult, and no consensus exists on what metric or metrics to use. Moody's Analytics believes the economy is not yet at full employment. Nominal wages normally begin to rise quickly when the unemployment rate falls below 6%, signaling that full employment is near.¹ Yet even though the unemployment rate fell 1.4 percentage points over the past year and is below 6%, nominal wages have not accelerated noticeably.

Why are wages not growing more quickly, and how far is the economy from full employment? The answer lies beyond those counted by the Bureau of Labor Statistics as unemployed.

By the government's definition, the unemployed are those actively seeking work but unable to find it. But such people are not the only source of labor market slack. At least three other categories of underutilized workers exist: the marginally attached, those working part time for economic reasons, and those who want a job but have not looked in the last year. The first two groups have been studied extensively, but the third is often overlooked, or at least seen as not subject to cyclical economic forces.

To determine the amount of slack in the job market, this article takes a closer look at these three additional groups and how they

have behaved since the 2008-2009 recession. Moody's Analytics finds that much of the increase in labor slack since the recession is cyclical. Most notably, many who have not looked for work in the past 12 months are also potential labor market entrants.

Moody's Analytics estimates that there are 590,000 to 1.4 million potential workers who have left the labor force, and an additional 3 million who are underemployed. Together, they represent some 2% to 3% of the labor force. These estimates and evidence that labor slack is tied to wage growth suggest that policymakers should consider these alternative sources of labor slack when setting the timeline for the first increase in the fed funds target rate.

Looking outside the labor force

Full employment is in part defined by low levels of cyclical unemployment. If there is significant cyclical slack, the economy is by definition not at full employment. Thus, a crucial part of gauging how far we are from full employment is measuring cyclical slack.

Normally this is seen in the Bureau of Labor Statistics' monthly U-3 unemployment rate measure.² To be counted as unemployed in the U-3 rate, an individual must have looked for work in the previous four weeks. U-3 has historically been seen by policymak-

ers as the most salient measure of labor slack, in part because of its historically close relationship with wage growth.

However, U-3 does not capture the entire labor market picture. Omitted from the U-3 unemployment rate are those without jobs who have not searched for work in the last four weeks; instead, they are defined as "not in the labor force." This group is divided into several subsets based on their answers to other survey questions, with each subset defined by its level of labor market attachment.

The subset of NILF seen as most likely to re-enter the labor force are the so-called marginally attached. These individuals are included in the U-4 and U-5 unemployment rates (see Table 1 and Table 2) and are defined as those who:

- » Have looked for work sometime in the past 12 months,
- » Want a job, and
- » Are available to work now.

Within the marginally attached are two further subsets, called discouraged and non-discouraged. Discouraged workers have not searched for work in the previous four weeks because they believe they cannot find a job. Others have not searched for reasons unrelated to the state of the labor market, such as being in school or having a physical disability.³

1 See Adam Ozimek and Ryan Sweet, "Piecing Together the U.S. Wage Puzzle," *Regional Financial Review* (September 2014).

2 This estimate of unemployment, along with alternative unemployment rates and labor force participation, is based on a representative survey. The BLS determines an individual's labor market status using their answers to survey questions about their current employment condition and their job search or lack thereof.

3 Economic reasons include: believes no work available in area of expertise; could not find any work; lacks necessary schooling/training; employers think too young or too old; and other types of discrimination. Noneconomic reasons include: cannot arrange child care; family responsibilities; in school or other training; ill health; physical disability; transportation problems; and other.

Table 1: Alternative Measures of Unemployment

BLS definitions, % of labor force, SA

Category	Definition	Oct 2014
U1	Unemployed for 15 wks or longer	2.8
U2	Job losers and those completing temporary jobs	2.8
U3 (official)	Total unemployed	5.8
U4	U3 plus discouraged	6.2
U5	U4 plus all other marginally attached	7.1
U6	U5 plus part time for economic reasons	11.5

Sources: BLS, Moody's Analytics

Because their reasons for not looking would be mitigated by a strengthening economy, discouraged individuals are seen as more likely to re-enter the labor force as the economy heals. As a result, they are included in the U-4 unemployment rate, along with everyone in the U-3.

The marginally attached who are not discouraged are still sometimes seen as potential labor market entrants, and are therefore included in the U-5 unemployment rate, along with everyone in the U-4. The U-5 is therefore even more expansive than the U-4.

The most expansive official unemployment definition is the U-6, which includes everyone in the U-5 along with individuals who are working part time for economic reasons. The BLS distinguishes PTER workers from those working part time for noneconomic reasons using criteria similar to those used to divide discouraged from nondiscouraged marginally attached workers. As with discouraged

workers, PTER workers are seen as more likely to try to upgrade their situations to full-time work when the economy recovers, and thus more plausible sources of labor market slack.

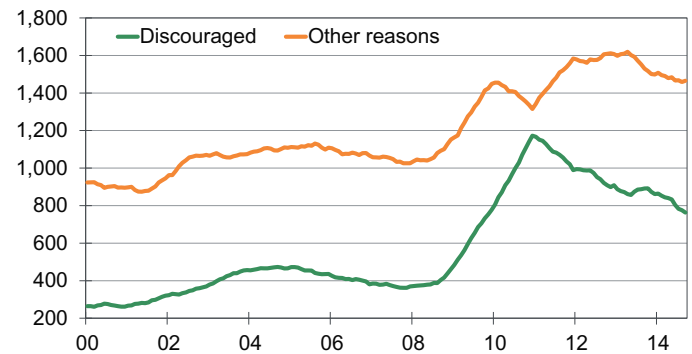
Though adding marginally attached and PTER workers to those technically unemployed may be a useful way to view the labor market, even the U-6 may not be expansive enough to measure labor slack today. In particular, it leaves out those individuals considered not in the labor force who say they want work but have not searched in the past 12 months. These individuals are not counted as marginally attached because they satisfy only two of the BLS' three criteria.⁴

It is true that the chance of finding employment diminishes for those not actively

⁴ This analysis includes only those who say they are available to work right now. Another potential source is those who are not in the labor force, want a job, but are unavailable to work now. The time series of these data does not suggest much cyclical, however, so it is not included in this analysis.

Chart 1: Number of Marginally Attached Is Up

Ths, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

looking, but this does not mean that a tightening labor market will not convince such people to resume searching for work. In particular, as with marginally attached and part-time workers, this group can be divided into those who do not seek work for economic reasons and others. Indeed, the data show that changes in the number of those who give economic reasons for not searching show a strong cyclical.

The following sections discuss the three sources of labor market slack and examine the extent to which they reflect cyclical versus structural forces in the economy.

Who are the marginally attached?

The number of marginally attached workers has grown since the recovery began and remains elevated. The subcategory of discouraged workers is 89% above its 2007 average, while the nondiscouraged subcategory is up 37% (see Chart 1).

Table 2: Composition of Alternative Unemployment

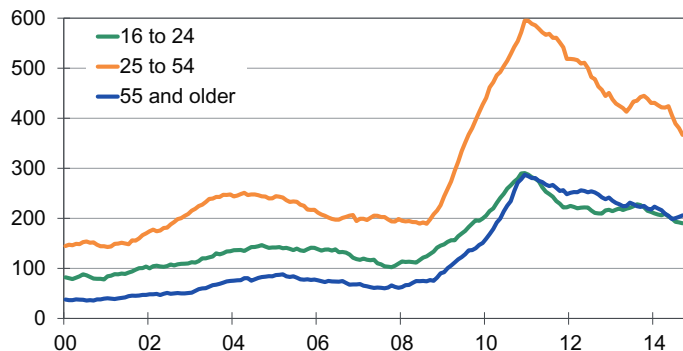
BLS definitions

	Employed	NILF	Want a job	Searched in last 4 wks	Searched in last 12 mo	Economic reasons	Noneconomic reasons	U-3	U-4	U-5	U-6
Unemployed			X	X	X			X	X	X	X
Marginally attached: discouraged		X	X		X	X			X	X	X
Marginally attached: nondiscouraged		X	X		X		X			X	X
Part time for economic reasons	X					X					X
Part time for noneconomic reasons	X						X				
Stopped searching: discouraged		X	X			X					
Stopped searching: nondiscouraged		X	X				X				

Sources: BLS, Moody's Analytics

Chart 2: Discouraged Up Among All Age Groups

of individuals by age cohort, ths, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

One way to determine whether the rise in either type of marginal attachment is cyclical or structural is to examine how it varies by age group. While cyclical changes in employment will have wide effects across the economy, structural explanations will tend to disproportionately affect certain age cohorts.

For example, a structural change that results in certain skills or occupations becoming obsolete is more likely to affect older workers. Similarly, a structural trend toward increased or longer college attendance would disproportionately affect younger people. Broader changes that do not appear to be age-related, on the other hand, are more likely to reflect cyclical forces, although they may not definitively rule out structural explanations.

The age distribution of marginal attachment suggests a significant amount of cyclicality. Over the recession, the largest increase in marginal attachment for discour-

aged reasons—253%—occurred among the oldest worker cohort. However, this type of marginal attachment rose for all age groups over the recession, improved during the recovery, and remains elevated today (see Chart 2). This broad-based rise and fall with the recession across all age groups suggests that cyclical factors are at work. The same is true for the nondiscouraged marginally attached (see Chart 3).

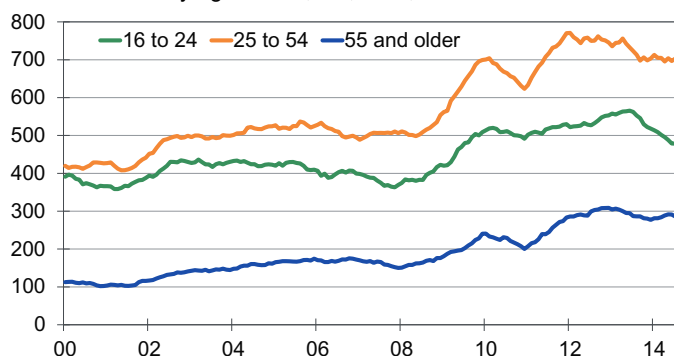
Along with strong evidence of cyclical-ity, however, there are some structural hints here as well. For example, across age groups the numbers of nondiscouraged workers have been shrinking less quickly than those of discouraged workers, raising the possibility that some of this may be structural. And although the ranks of discouraged workers declined among those 55 and older as the economy recovered, it is unclear whether these workers are getting jobs or simply re-

tiring. Even if cyclical forces prompted many in this group to retire early, such decisions may be permanent. In other words, cyclical factors can drive structural outcomes.

However, to date none of the cohorts within discouraged or nondiscouraged categories show signs of a permanent plateau, which would be expected if structural factors were the

Chart 3: Similar Pattern for Nondiscouraged

of individuals by age cohort, ths, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

primary cause. The group showing the smallest decline, and thus the strongest evidence for structural causes, is the 55 and up group of nondiscouraged workers. But even among this group, the numbers have fallen slowly. This suggests that the U-4 and U-5 gauges remain relevant measures of labor slack.

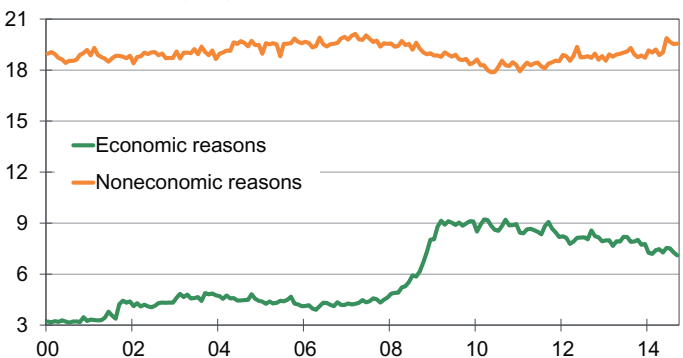
Stuck part time

Another source of labor market slack is underemployment. The largest and most easily identifiable manifestation of this is the number of part-time workers, those who report working from one to 34 hours per week. Such people represent a potential source of increased output as labor demand increases. For example, moving two workers from 20 to 40 hours per week has the same impact on a firm as hiring one employee who will work 40 hours per week. Similarly, a one-hour increase in the average workweek for all part-time workers is equivalent to adding nearly 670,000 full-time jobs.⁵

At any given time, most of those working part time are doing so for noneconomic reasons. The BLS currently measures 19.6 million such workers, compared with 7.1 million whose part-time status is involuntary or due to economic reasons. This latter group is the more plausible contributor to labor market slack, as they are likely to re-enter the labor force once the reasons they are working part time diminish. This is also suggested by the pattern of these two groups over the recession and recovery (see Chart 4). Prior

Chart 4: More Part Time for Economic Reasons

Part-time workers, mil, SA

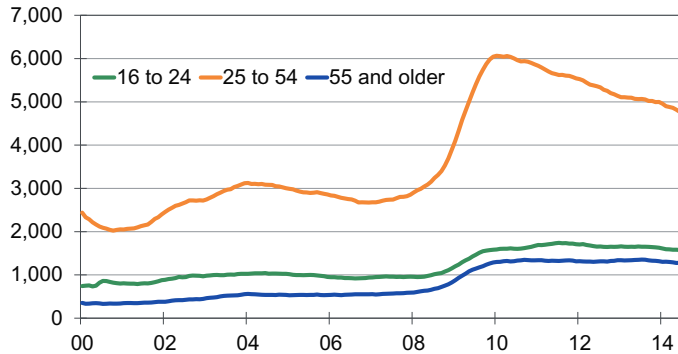


Sources: BLS, Moody's Analytics

⁵ Based on 26.7 million part-time workers.

Chart 5: All Ages Show Part-Time Cyclicity

Part time for economic reasons, by age, ths, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

to the last recession, the number of those working part time for economic reasons remained stable at around 4.5 million. During the recession, this rose and peaked at just above 9 million before gradually declining in mid-2010. In contrast, the number of those working part time for noneconomic reasons dipped slightly when the recession began and is currently below prerecession levels.

Who are the PTER?

Among those working part time for economic reasons, prime-age workers (ages 25 to 54) and older workers show the clearest cyclical patterns (see Chart 5 and 6). Although the size of the younger cohort (ages 16 to 24) increased substantially during the recession, it has not recovered much and shows signs of being permanently higher. In contrast, both older and prime cohorts continue to show significant improvement.

In addition to the demographic pattern, the industry composition of this group also suggests cyclicity. For all industries, the share of employment categorized as part time for economic reasons increased from 2007 to 2010, when aggregate PTER also peaked (see Chart 7). There has also been widespread improvement in the past few years, with all industries' PTER share of employment declining from 2010 to 2014. Yet as of 2014, the number of workers employed part time for economic reasons remains elevated in all industries, which suggests slack remains.

Those favoring structural explanations for the elevated number of part-timers have argued that the increased use of sophisticated staffing software has allowed firms to employ more part-timers. Another structural explanation is that higher benefit costs and Affordable Care Act rules are inducing firms to favor part-time workers. However, the

same rise in involuntary part-time work also occurred among the self-employed (see Chart 8). This cannot be a result of staffing software or a desire to avoid healthcare or other benefit costs, which suggests the cause is cyclical.

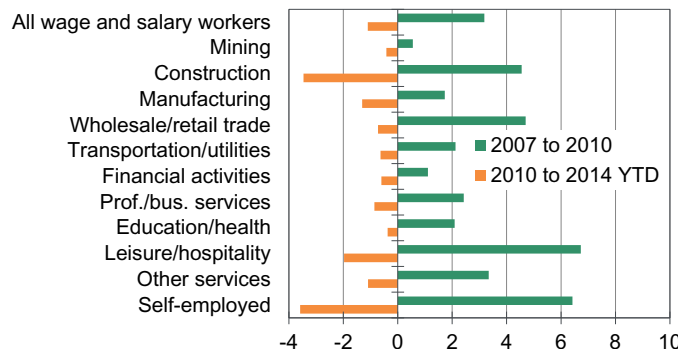
Not even marginally attached

The BLS reports that some 3.2 million individuals have not looked for work in the last 12 months but want jobs, making them a potentially significant source of additional labor. This group is significantly larger than its prerecession average (see Chart 9).

The number of people who have stopped searching for work but who still want jobs is elevated across age cohorts (see Chart 10). In both absolute and percentage terms, the 55 and older category has risen the most. Overall, the broad-based increase suggests cyclicity.

Chart 7: PTER Improving for All Industries

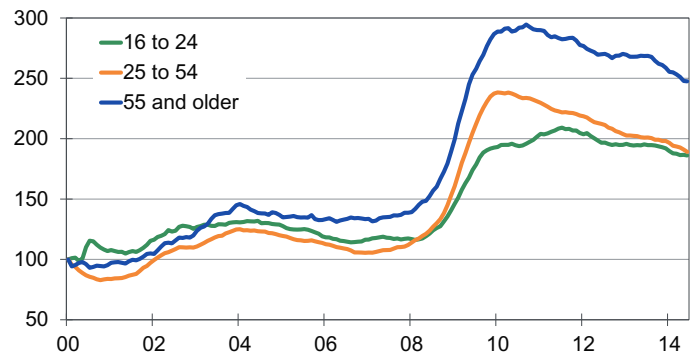
Share of total employment that is PTER, ppt change



Sources: BLS, Moody's Analytics

Chart 6: Per Population, Young Improving Least

PTER, % of cohort population, Jan 2000=100, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

Chart 8: PTER a Higher Share of Self-Employed

Share of self-employed that are PTER, %, NSA, 3-mo MA



Sources: BLS, Moody's Analytics

Chart 9: More Are Not Even Marginally Attached

NILF, want a job and not searched in 12 mo, ths, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

While the marginally attached are usefully divided into discouraged and nondiscouraged categories based on their reasons for not searching, the Current Population Survey does not specifically ask members of this group why they have not searched for work in the past 12 months. However, the CPS does record the reason these individuals have not searched in the last four weeks. Presumably, the reason for not searching in the short term is similar to the reason for not searching in the medium term, which suggests this can be used as a proxy (see Chart 11).

Two reasons for not searching stand out as the most cyclical: "No work in area of expertise" and "could not find any work." Compared with 2007, the number of people who give these reasons for no longer looking for work has also increased most.

The answers to this CPS question can also be used to divide those who have stopped searching into discouraged or nondiscour-

aged categories, just as the BLS does for the marginally attached (see Chart 12). The discouraged subset of this group exhibits a far greater cyclical pattern than does the nondiscouraged. Indeed, the number of nondiscouraged decreased slightly during the recession. Since the end of 2007, those in the discouraged camp have increased 60%, while the nondiscouraged are up only 17%.

The discouraged are the most probable labor market entrants because of their stated reasons for not looking for work. However, some in the nondiscouraged group may represent potential labor market entrants as well. For example, transportation and child care problems may become surmountable once a tight labor market leads to wage increases.

How much slack?

Combining all sources, 3.6 million to 4.4 million individuals are potential labor mar-

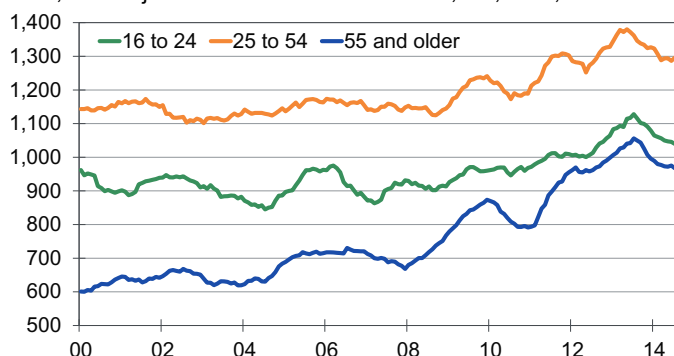
ket entrants or are underemployed. This is around 2.2% to 2.8% of the labor force. By comparison, around 1 million workers are currently counted as cyclically unemployed. In other words, for every one cyclically unemployed worker, three to four others are out of the labor force or underemployed.

Determining the number of potential labor market entrants from each source is difficult because of the possibility of structural change. For example, certain categories may be permanently elevated because of the aging population. For unemployment, this task is made much simpler thanks to the availability of econometric estimates of the non-accelerating inflation rate of unemployment. This is a measure of full employment that, when compared with the unemployment rate, provides an estimate of current slack.

Nothing similar to NAIRU is available for any of the alternative measures of unemployment. However, a review of individual

Chart 10: All Ages Elevated

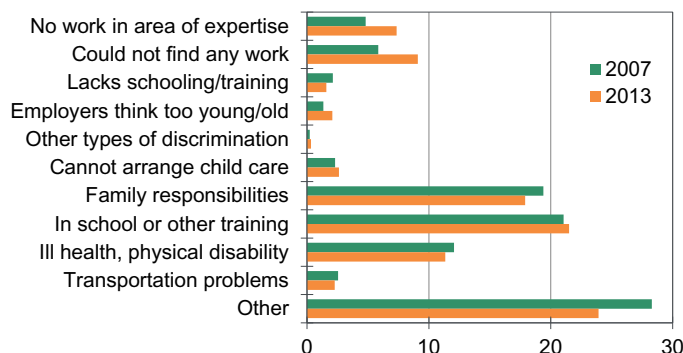
NILF, want a job and not searched in 12 mo, ths, NSA, 12-mo MA



Sources: BLS, Moody's Analytics

Chart 11: Economic Reasons Increased Most

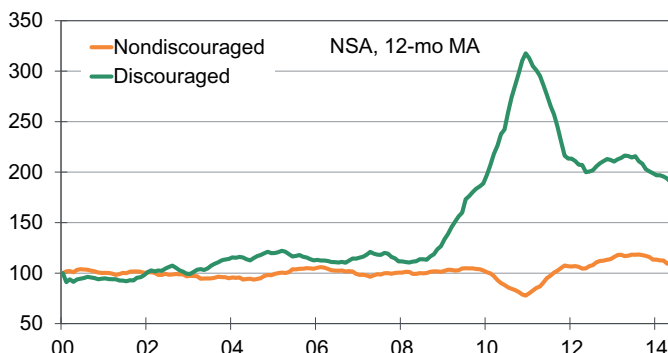
% of NILF who want a job and have not searched in 12 mo



Sources: BLS, Moody's Analytics

Chart 12: Discouraged Grew More

NILF, want a job and not searched in 12 mo, Jan 2005=100



Sources: BLS, Moody's Analytics

Table 3: Estimated Labor Slack

Ths

	Category	Equilibrium	Aug 2014	Slack
U-3	Unemployed	8578	9591	1013
U-4	Marginally attached: discouraged	387	731	344
U-5	Marginally attached: other reasons	1011	1385	374
U-6	PTER	4493	7518	3025
	Stopped looking: discouraged	401	642	242
	Stopped looking: other reasons	2456	2875	418
	Conservative total (non U-3)	787	1373	3610
	Total (non U-3)	8748	13151	4403

Sources: BLS, Moody's Analytics

sources of slack by age and industry shows that structural trends appear minor relative to cyclical factors. In other words, aging or other structural factors may be gradually driving some of these measures upward, but weakly compared with cyclical forces.

If structural factors predominated, slack should be getting worse or at least not improving. Instead, the data show continued improvement. The relatively weak or non-existent structural trends suggest the number of potential labor market entrants from each group can be estimated by comparing current levels with those from 2007.⁶

This indicates that significant slack remains in the U.S. labor market (see Table 3). The number of potential entrants who are marginally attached is 718,000, of whom 344,000 are discouraged and 374,000 are not. Those who have stopped looking total around 660,000, of whom 242,000 are discouraged and 418,000 are not. All together, they total nearly 1.4 million.

A more conservative estimate of the number of potential labor market entrants can be made by looking only at those labeled discouraged, who total 586,000. The importance of the more expansive view taken here is apparent: Only 344,000 of these workers would be included in the U-4, U-5 or U-6 unemployment rates, because 242,000 have not looked for work in the last year.

6 Similar to previous calculations, slack estimates use the three-month moving average in August 2007 compared with the same period in 2014.

In addition, there are 7.5 million people working part time for economic reasons, compared with 4.5 million in 2007. This suggests that 3 million underemployed individuals are in this category.

Altogether, the estimated 3.6 million to 4.4 million potential labor market entrants suggest that looking only at those counted as unemployed would lead policymakers to vastly underestimate the amount of slack in the labor market.

What this means for wages

The relationship between unemployment and wage growth has been historically weak in the current business cycle.⁷ The existence of significant labor market slack presents an intuitive explanation for this: If these individuals are still potential labor market entrants, firms may not yet feel pressure to raise wages as they still have substantial opportunities to hire at current wage rates.

This explanation is supported by empirical work showing that wider measures of labor slack matter for wages. Using a panel dataset of U.S. states, David Blanchflower and Adam Posen find that even after controlling for the unemployment rate, a 10% decrease in labor force participation reduces real weekly wages by 4.3%.⁸

By using labor force participation, Blanchflower and Posen incorporate the

7 See Ozimek and Sweet, *ibid.* footnote 1

8 David G. Blanchflower, and Adam S. Posen. "Wages and labor market slack: making the dual mandate operational." Peterson Institute for International Economics Working Paper 14-6 (2014).

broad categories of labor slack measured above.⁹ Tellingly, they also find the relationship was stronger from 2002 to 2013 than it was in the 1980s or 1990s. This suggests that slack, in the form of labor force nonparticipation, is a more important determinant of wages now than in the past.

Similar research from Daniel Aaronson and Andrew Jordan¹⁰ using state panel regressions shows that the share of workers who are part time for economic reasons matters for wages. Their results imply that a 1-percentage point increase in the share of the PTER labor force leads to a 0.4-percentage point decrease in wage growth, after controlling for the unemployment rate. They estimate that if labor market conditions were similar to those that prevailed from 2005 to 2007, wage growth would have been 0.5% to 1% higher in June 2014.

Applying the coefficients from Aaronson and Jordan, once the market absorbs the 2.2% to 2.8% in estimated slack, wages will grow 0.9 to 1.1 percentage points faster. In other words, wage growth is around 1 percentage point lower than it would be without these sources of slack.

Ignoring the unemployment rate

The Federal Open Market Committee is keenly aware of the labor slack issue, but some evidence suggests it may be underappreciated. The most recent FOMC statement shifted the assessment of labor slack from "significant" to "gradually diminishing." In addition, the more hawkish FOMC members appear to be placing too much weight on the low unemployment rate.

For example, some of the regional Fed presidents, including Philadelphia Fed President Charles Plosser, have cautioned that given the unemployment rate, and even with low inflation, the fed funds rate is below its normal level. Some Fed officials worry that the low unemployment rate

9 Specifically, they utilize one minus the participation rate, which they call the "inactivity rate," as their independent variable.

10 Daniel Aaronson, and Andrew Jordan. "Understanding the Relationship between Real Wage Growth and Labor Market Conditions." Chicago Fed Letter Oct (2014).

signals that the FOMC will be too slow to normalize monetary policy. Yet analysis by Moody's Analytics suggests that plenty of slack remains, supporting the case for interest rates to be lower for longer.

Focusing too much on the unemployment rate or concluding that the slack is predominantly structural could lead policymakers to

raise rates too early in an attempt to head off inflation. This suggests that the risk of a policy misstep is nontrivial.

The Fed should wait until alternative measures of slack are closer to historical norms before beginning to normalize monetary policy. Indeed, given the uncertainty about the level of slack that would be

consistent with full employment, and the asymmetric costs of raising rates too soon rather than too late, it would be prudent to wait to raise interest rates until accelerating wage inflation is apparent in the data. The possibility of hysteresis suggests that a period of above-normal inflation may even be desirable.

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