6 May 2014

Research US

How tight is the US labour market?

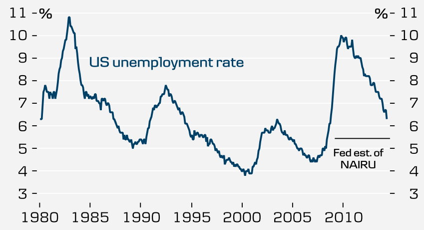
- One of the crucial questions relating to the timing of the first Fed hike is how much slack is prevalent in the US labour market. While the unemployment rate has come down significantly over the past four years, the Fed has made it clear it still sees lots of slack in the labour market.
- In this document, we look at indicators and arguments in favour of and against the current Fed view. The data is not conclusive but, given the Fed view, we believe the risk seems skewed towards a tighter job market than perceived by the Fed.
- A falling participation rate, a high share of long-term unemployed and still plenty of part-time workers wanting a full-time job suggests there is still lots of slack in the labour market. However, a low short-term unemployment rate, the longer time taken to fill vacancies and a brighter consumer view on the labour market indicate that more tightening than meets the eye is taking place.
- The risk to the Fed view is that part of the slack consists of marginalised workers that have less influence on wage formation. Our analysis supports recent literature suggesting the long-term unemployed are increasingly marginalised and hence that the slack may not be as high as the Fed believes.
- The key indicator to watch over the coming quarters is wage growth as an indication of how much the US labour market is tightening. We think wage growth will rise gradually over the coming year and pave the way for the first rate hike in mid-2015. However, we see the risk as skewed towards an earlier hike and not a later hike as the market currently prices.
- The US unemployment rate has been falling steadily since its peak at 10.0% in the autumn of 2009 and has now reached a level of 6.3%. However, the unemployment rate is still above the historical average and the 5.4% level that the Fed sees as the 'natural unemployment rate', also called NAIRU. Despite the improvements in the labour market, this is yet to be reflected in wage growth and the inflation rate, which remain quite low.

Arguments for plenty of slack in the US labour market

There are numerous signs of a US labour market that is far from returned to normality and many of these were stressed by Fed chairman Janet Yellen in her speech in Chicago on 31 March.

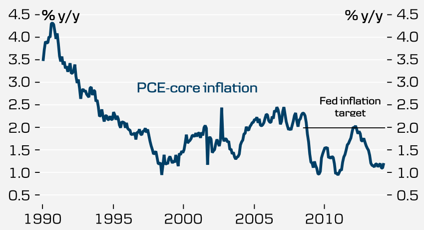
- **Part time employment:** Currently, 7.5 million Americans are currently employed part time but want to work full time if the economic conditions would allow it. This is considerably higher than the 4.6 million figure in December 2007, just before the financial crisis kicked in.

Unemployment is closing in on NAIRU



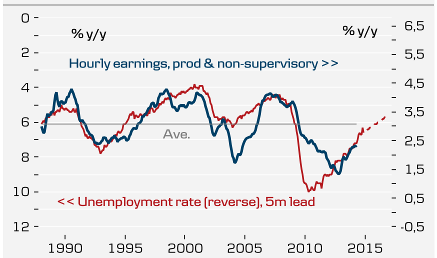
Source: Macrobond Financial

Inflation remains low



Source: Macrobond Financial

Wage growth still low but when will it return to normal levels?



Source: Macrobond Financial

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Looking at the U-6 unemployment rate, which includes workers marginally attached (workers who looked for work in the past year but not in the past four weeks) to the labour force and part-time employed workers who want to work full time supports the picture of plenty of slack. The gap between the U-6 and the conventional unemployment rate increased a lot over the crisis, again suggesting that the there may be more slack than can be seen from the conventional unemployment rate.

- **Falling participation rate:** One of the hottest topics regarding the US labour market has been the declining participation rate – the proportion of working age adults that holds or is seeking a job. There has been, and still is, a lot of debate regarding the causes of this fall in the participation rate, with some arguing that it is mainly for demographic reasons, while others believe the fall reflects a weak labour market where people have given up searching and thus fallen out of the labour force (discouraged worker effect). While the aging population lowers the participation rate, there also seems to be some truth in the latter statement. When considering the participation rate for men of prime working age, we also observe a decreasing participation rate since the beginning of the recession, reflecting that part of the fall may be due to the weak labour market. If this is true, the large fall in the unemployment rate to the current 6.3% is likely to overstate the progress of the labour market.
- **Duration of unemployment:** Lastly, a sign of slack in the US labour market is the change in the composition of the unemployment rate that has happened since 2009. More than 35% of the unemployed have now been unemployed for 27 weeks or longer, which is a dramatic increase from the tendency over the past 30 years, where this share has at most been around 25%. Long-term unemployed workers typically have a lot more trouble finding regular work and they seem to have a severe disadvantage in the competition for jobs. Thus, the increased share of long-term unemployed could worsen insider-outsider problems, where the long-term unemployed become marginalised and less of a threat to insiders in the wage bargaining process, especially if job security is rising, as seems to be the case currently (see below). If this is the case, this part of the slack may not dampen inflation pressure and has to be addressed through structural rather than cyclical policy.

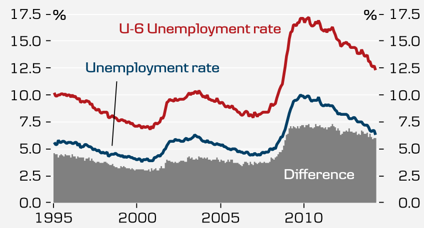
Signs that the labour market could tighten soon

While the above indicators suggest there is still plenty of slack, a deeper look at other economic indicators reveals that some tightening has already taken place. It suggests there is a risk that the point where wage pressure arises could come sooner than the Fed expects.

Marginalisation of long-term unemployed

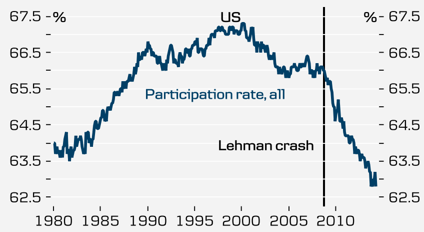
The distinction between short- and long-term unemployment turns out to be important, because while the conventional unemployment rate remains above its historical average, the opposite is true when considering the short-term unemployment rate. Short-term unemployment is now 4.1% compared with a 30-year historical average of 4.9%. This indicates that the labour market is tightening and if short-term unemployment is a better indicator of the relationship between unemployment and wage growth, we may observe an increase in wage pressures before too long, particularly if job growth picks up speed as we expect it to in the second half of this year.

Number of part-time workers that want to work full time remains high



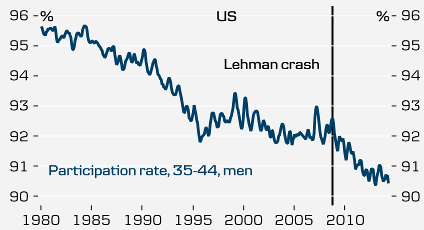
Source: Macrobond Financial

Participation rate has fallen significantly



Source: Macrobond Financial

Participation rate has also fallen for prime age workers



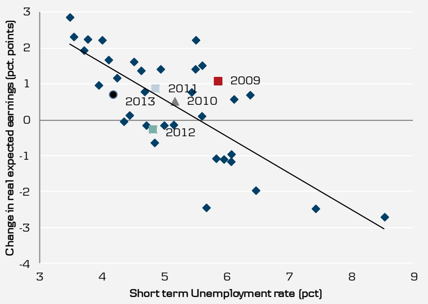
Source: Macrobond Financial

To investigate further the relationship between the unemployment rate and wage growth, we follow *Krueger, Cramer and Cho (2014)*, in estimating the real wage Phillips curve, which shows the relationship between real wages and unemployment. The real wage Phillips curve was fairly stable from the mid-1970s until fairly recently but over the past couple of years there seems to have been a change. Looking at the standard Phillips curve in the chart below left, it is clear that it would predict a sharp real wage decline over the past five years but it appears that the opposite has happened. If we instead plug in the short-term unemployment rate, the Phillips curve seems to give a better fit and the outcome is more in line with what the model would predict.

Phillips curve with conventional unemployment rate

Source: Macrobond Financial

Phillips curve with short-term unemployment rate



Source: Macrobond Financial

We try to estimate the relationship further with a simple regression. The expected real wage growth Phillips curve is defined as follows.

$$\omega_t - \pi_{t-1} = \alpha + \beta u_t + \epsilon_t$$

Where ω denotes the annual percentage change in average hourly earnings of production and non-supervisory employees, π is the annual average percent change in the core PCE and u is the annual average unemployment rate. Estimating this relationship, we get the following results.

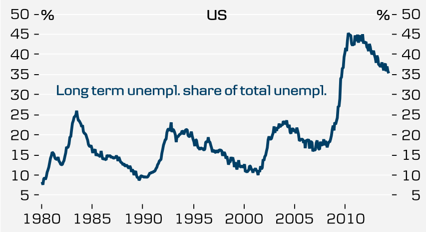
Regression of the real wage Phillips curve

	(1)	(2)	(3)
Intercept	3.809	5.408	5.409
	(0.786)	(0.794)	(0.782)
Unemployment rate	-0.522***		
	(0.117)		
Short-term unemployment rate		-0.970***	-0.970***
		(0.156)	(0.149)
Long-term unemployment rate		0.00173	
		(0.174)	
R^2	0,35	0.54	0.54

*Note: Level of significance: ***=0.01, **=0.05, *=0.1*
Source: Danske Bank Markets' calculations, period 1976-2013

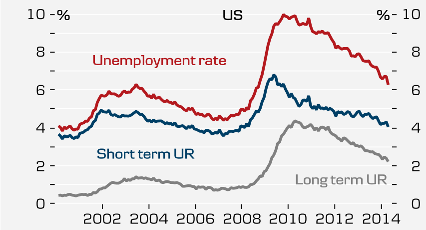
From the table above, it is clear that using the short-term unemployment rate instead of the conventional unemployment rate we get a better result. Moreover, when both the short- and long-term unemployment rate are included in the regression, the long-term unemployment rate comes out as insignificant. Although this is a very simple model, it does suggest that the relationship between unemployment and wage growth is better described by the short-term unemployment rate.

Long term unemployed constitute a larger part of total unemployment



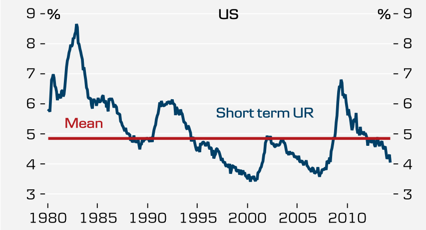
Source: Macrobond Financial

Breakdown of the unemployment rate



Source: Macrobond Financial

Short-term unemployment rate below its mean



Source: Macrobond Financial

The long-term unemployed may thus be at the margin of the labour market and are in a less favourable position in a wage bargaining situation. As the long-term unemployed has come to constitute a larger share of the total unemployed, the predictive power of the total unemployment rate has fallen, suggesting that we should put a higher weight on the short-term unemployment rate (this is supported further when considering the Beveridge curve – see *Appendix*). When the short-term unemployment rate is considered, it appears that the labour market is actually pretty tight, which might have the implication of increasing wages and prices in the not-too-distant future.

Rising time to fill vacancies

Considering the 'time to fill a job vacancy' indicator from the Job Openings and Labor Turnover Survey (JOLTS) statistics, it also suggests the labour market may be tightening. When there is an abundance of qualified candidates searching for jobs, employers can typically fill a vacancy quickly, while it takes longer when the amount of qualified candidates is scarce.

This measure is back at 0.91 months, which is as much as at the past two cyclical peaks, suggesting that it is as hard for employers to find qualified workers as it was back then. Thus, from employers' perspective, the labour market seems increasingly tight. Plotting it against the unemployment rate, we see that there seems to be a discrepancy between the tightness of the labour market depending on which measure we consider. This is shown by the large gap between the time to fill vacancies and unemployment in 2014 in the chart on the right. However, plotting the time to fill vacancies against short-term unemployment shows a more normal relationship.

Rising job security

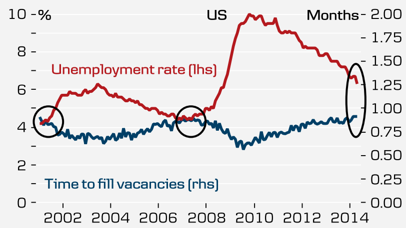
Finally, we look at the labour market from the workers' point of view as we consider the consumer confidence index measuring whether workers feel that jobs are plentiful or hard to get. Taking the difference between the 'jobs plentiful' indicator and the 'jobs hard to get' indicator and leading six months, it turns out to provide a good fit with wage growth. As with the conventional unemployment rate, this indicator is also not far from the long-term average and we expect the labour market to pick up a bit of speed in the second half. We expect the indicator to rise above the long-term average over the course of next year.

Thus, this analysis suggests that it is harder for employers to find new employees and at the same time easier for workers to find new jobs, with both factors increasing the bargaining position of workers and likely to put upward pressure on wages.

Conclusion

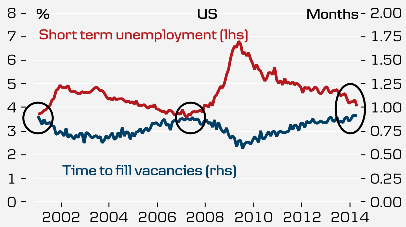
Although wage growth is still very moderate, we may not be far from seeing a pickup in wage growth. We expect growth to pick up steam in H2 and job growth to rise to 250,000 on average. This should lead to a further tightening of the labour market and a gradual pickup in wage growth. With an upward trend in wage increases, the Fed will see less downside risk to inflation and the risk of underestimating wage pressures will become more predominant. We expect the Fed to start raising rates in mid-2015 in line with its own projection but we believe the risk is skewed towards earlier tightening. As market is currently pricing in the first hike in autumn 2015 and prices in only a very gradual increase thereafter, we expect a repricing of the Fed funds curve to take place over coming quarters.

Time to fill vacancies vs unemployment rate



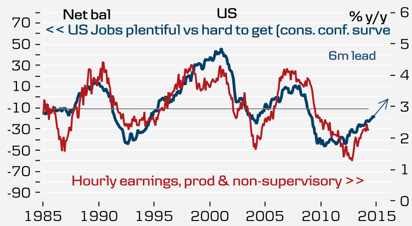
Source: Macrobond Financial

Time to fill vacancies vs short-term unemployment rate



Source: Macrobond Financial

Improving job security set to add to wage pressure over the coming year



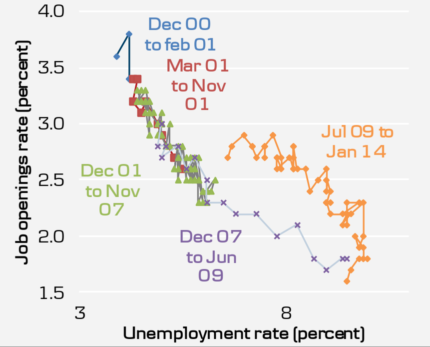
Source: Macrobond Financial

Appendix

The Beveridge curve

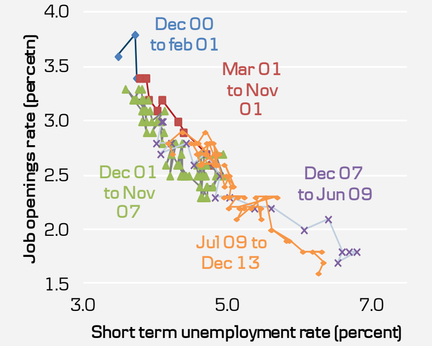
Not only does the Phillips curve appear more stable when the short-term unemployment rate is used but the same is also true when considering the Beveridge curve. The Beveridge curve describes the relationship between job openings and unemployment, which remained fairly stable over the period 2001 to 2007. Since the Great Recession however, the curve has shifted rightwards, which can be seen from the chart below left. This shift seems largely to be caused by the increase in the proportion of long-term unemployed, which becomes clear when considering the chart below right, which presents a much more stable relationship considering only short-term unemployment.

The Beveridge curve with conventional unemployment rate



Source: Macrobond, JOLTS (BLS)

The Beveridge curve with short-term unemployment rate



Source: Macrobond, JOLTS (BLS)

This leads us to test whether the short-term unemployment rate is better at determining job openings than the conventional unemployment rate. Again, following *Kruger, Cramer & Cho*, we estimate the Beveridge curve using the following specification.

$$v_t = \alpha + \beta u_t + \epsilon_t$$

Where v denotes monthly job openings as a percentage of job openings plus total non-farm payroll employment and u denotes the monthly unemployment rate. The regression is estimated from December 2000, which is the first available month of the JOLTS. The results are as follows.

Regression of the Beveridge curve

	(1)	(2)	(3)
Intercept	3.84	5.12	5.154
	(0.075)	(0.103)	(0.088)
Unemployment rate	-0.182***		
	(0.011)		
Short-term unemployment rate		-0.529***	-0.514***
		(0.025)	(0.0189)
Long-term unemployment rate		-0.008	
		(0.014)	
R^2	0.63	0.84	0.84

*Note: Level of significance: ***=0.01, **=0.05, *=0.1*

Source: Danske Bank Markets calculations on period December 2000 to February 2014

The table above indicates that the short-term unemployment rate does a better job of describing the job opening rate than both the conventional unemployment rate and the long-term unemployment rate, which comes out as insignificant. This again supports the hypothesis that the short-term unemployed are more closely tied to the job market and that the long-term unemployed appear to be becoming marginalised.

Quotes from FOMC members

While most FOMC members emphasise the slack in the labour market, there is also the view that the labour market could be tightening. Here we present some illustrative quotes.

Emphasizes slack

- *'...significant problems in labour markets persist even at this stage of the recovery.'* Rosengreen, 15 April 2014.
- *'As a consequence, there is still significant underutilisation of our country's most important resource—its people.'* Kocherlakota, 8 April 2014.
- *'I see that there remains considerable slack in the economy and the labour market.'* Yellen, 31 March 2014.

Emphasises tightening labour market

- *'Employment markets are unquestionably in a better state compared to (sic) even a year ago'* Lockhart, 6 March 2014.
- *'... it could be that slack in labour markets is much less than assumed. As a result, with the unemployment rate continuing to come down, the inflation rate could rise more quickly than expected.'* Williams, 19 February 2014.
- *'There is concern in some quarters that the unemployment rate will move back up significantly when these discouraged workers re-enter the labour force. Based on research by my staff, I am less concerned about this possibility.'* Plosser, 11 February 2014

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