



Macro

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## "Low and slow" does not equal "Never, ever"

### Why low unemployment still matters for wages and prices

Just how worried should markets be about an inflationary surprise this year? In our view: a little, but probably not too much. Our base case remains that underlying inflation (after stripping out the volatile food and energy prices) edges up slightly in both the Eurozone and the United States. This rests in part on the notion of inflation inertia, the idea that persistently low inflation in the recent past helps anchor inflation expectations, tempering worker's wage demands and firms' pricing aspirations, and thus makes it less likely that inflation will suddenly surge. In other words, adjustment to better economic surroundings and thus higher inflation is apt to be modest and gradual. A key risk to this is if there is some kink in the relationship between economic conditions and inflation lurking in the shadows, so that we could see a sudden upward surge in inflation if and when unemployment falls too much, forcing central banks to tighten policy very quickly.

If this sounds familiar, it is because we have written about the Phillips curve before. As you may remember from introductory macroeconomics classes, this measures the supposed trade-off between cyclical unemployment and inflation. This note brings together our thinking from various publications. (Links to: [Macro Quarterly Dec](#); [CotW 20171110](#); [Josh Feinman Closer look: "The Phillips curve: Reports of its death are greatly exaggerated."](#)) It ends with the factors we are watching out for.

Nowadays, the Philips curve typically comes up when fiscal and monetary policy are discussed. In the short-run, the textbook argument suggests that, it is possible to push unemployment below the level consistent with normal labor-market turnover, but only at the cost of permanently higher inflation and inflation expectations. That is why generations of central bankers have avidly been watching unemployment rates, so as to intervene before an economy starts to overheat.

In recent decades, however, the relationship between core inflation and cyclical unemployment has gotten flatter and flatter, not just in the United States but in many developed economies. The same is true if you simply look at the U.S. unemployment rate and the year-on-year change in average hourly earnings, as an updated chart we are rather fond of shows. Lately, there has been barely any relationship at all. That is odd. Of the supposed linkages underlying the modern Phillips curve, the most obvious one should be between unemployment and hourly wages.

This is the relationship Alban W. Phillips initially studied. A major problem Phillips faced sounds pretty familiar: in today's terms, we would phrase it as discovering the links between national wages and national unemployment rates in a globalized world. The full title

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#### In a nutshell

- In recent decades, the relationship between wages and cyclical unemployment has gotten flatter and flatter.
- Conceptually, in our view, the Phillips curve can only be interpreted as dormant but not dead entirely.
- For now, inflationary risks appear low. Eventually, however, the market may be setting itself up for an unpleasant surprise.

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R-054758-1 (2/18)



of the 1958 paper was "The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom, 1861-1957." The UK, with its vast empire and close trading links to its former colonies, was already a very open economy. Phillips found, for example, that by increasing the cost of living in the UK due to higher import prices, the American Civil War caused a wage-price spiral that lasted for three years in the 1860s.

And if globalization is not quite as new as some imagine, neither are demographic and technological change. After all, the 90 plus years of data Phillips was studying included the spread of electrification and other major technological innovations. For now, most recent innovations still pale in comparison, at least in terms of their measurable, positive impact in national income statistics. In any case, the Phillips curve has been flattening during both periods of relatively rapid U.S. productivity growth of the late 1990s, and the more recent sluggish growth rates. Of course, digitalization, smart phones and artificial intelligence might eventually raise sluggish productivity growth rates. (Equity investors with teenage kids might be wise to look around their kitchen table, before getting their hopes up too much.) That might then depress inflation - but whether it actually will depends on a whole range of factors. This starts with which goods and services might feel the strongest productivity-enhancing impact, relative to others. And it ends with how much of the putative gains will be passed on to customers and employees, thanks to firms competing for workers and customers.

None of this, moreover, would necessarily change much in the Phillips curve relationship. To Phillips, its existence was a matter of simple logic. "When demand for labour is high and there are very few unemployed, we should expect employers to bid up wages quite rapidly.", he wrote, referring to periods of strong growth, before continuing, "On the other hand, it appears that workers are reluctant to offer their services at less than the prevailing rates when demand for labour is low and unemployment is high, so that wage rates fall only very slowly. The relation between unemployment and the rate of change of wage rates is therefore likely to be highly non-linear."<sup>1</sup> Conceptually, in our view, the Phillips curve can only be interpreted as dormant but not dead entirely. If unemployment, properly measured, fell to zero, any firm wishing to hire would obviously need to pay more than the going rate – and potentially much more, if other firms are also hiring or workers already employed dislike changing jobs.

This relationship was borne out by the curve he found, especially for the early period between 1861 and 1913. It looked pretty flat for unemployment rates between about 4% and 10%, with only a very slightly negative slope. Below 4%, however, it rapidly rose. This earlier golden age of globalization has some contemporary parallels. For one thing, trade unions were only just emerging as wage setters, through collective bargaining. Given recent declines in manufacturing employment and trade-union density, it is a useful reminder to consider that trade unions are not a necessary precondition for scarce workers to drive up wages.

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<sup>1</sup>A. Phillips (1958) The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom 1861-1957. *Economica*, 25, p. 285



Indeed, some of the recent flattening of the Phillips curve has been more apparent than real. This is partly due to higher-wage baby boomers retiring. If you look only at hourly earnings of U.S. workers aged 25-54, the Phillips curve appears very much alive. Youngsters entering the workforce on average earn far less than the older generation they are replacing. Using measures such as the Employment Cost Index (ECI) can help overcome such composition effects and also suggests some flattening. Partly, this may be because life has been pretty hard for those coming of age since the Great Recession in general and for college graduates in particular.<sup>2</sup> Some took gap years. Others have entered working life via a string of minimally paid internships or entry-level jobs, but outsourcing and, increasingly, artificial intelligence mean that there are simply fewer and fewer routine tasks for them to do. And quite a few appear to have ended up in jobs for which college graduates would once have been considered overqualified. Once labor markets get too tight, however, you might expect the Phillips curve to reassert itself with vengeance.

Are we at this point yet? Probably not, though if you are looking for signs at the lower-skilled end of the labor market, there are certainly some. For example, anecdotal evidence suggests that fast food chains find it increasingly hard to find burger flippers.<sup>3</sup> Given that these jobs are largely local in nature, you might also expect to see wage increases first where local labor markets are tight. Indeed, this is exactly what our colleagues from Deutsche Bank research report in some of their recent research.<sup>4</sup>

This highlights a more general message: not to read too much into recent experience. For example, the case remains strong that since the 1970s, inflation expectations have become much better anchored. Certainly, more credible central banks have contributed to the Phillips curve flattening. Whether this remains as valid in 2018 as it was in 1998, remains to be seen, however. Notice that the above description of labor-market slack among younger workers is consistent with a period of inflation inertia, but the endgame would be a sudden uptick in wages.

Nor is it clear that central-bank credibility would be as helpful as it once was in getting inflation back under control. Weaker unions and more decentralized wage setting might mean that for any desired reduction in inflation, more unemployment might one day be required. The decline in collective bargaining is just one of the factors that might complicate the story in interesting ways. Clearly, there have been major structural changes in the economy, from globalization and the rising share of service-sector employment to higher demand for and supply of skills - issues we plan to explore further in future publications.

However, none of these changes suggest that the Phillips curve should have necessarily – and permanently – become flatter, let alone obsolete. The market may be setting itself up for an unpleasant surprise. The familiar story about demographics,

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<sup>2</sup>See, for example, A. Sum, I. Khatiwada, M. Trubskyy, and M. Ross with W. McHugh and S. Palma (2014) The Plummeting Labor Market Fortunes of Teens and Young Adults, The Brookings Institution; and P. Beaudry, D. Green, and B. Sand. (2014). "The Declining Fortunes of the Young Since 2000." American Economic Review 104(5, May): 381-86.

<sup>3</sup><https://www.bloomberg.com/news/articles/2017-01-11/headhunters-throwing-cash-at-people-who-know-how-to-flip-burgers>

<sup>4</sup>Deutsche Bank Research, A tipping point for wage growth? Evidence of non-linearities in state data; 20 December 2017

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technological change and globalization is incomplete and inconsistent with much of the data. For example, there is absolutely no evidence that the latest round of globalization has squeezed corporate profit margins. Instead margins in most places have been higher than history would suggest.

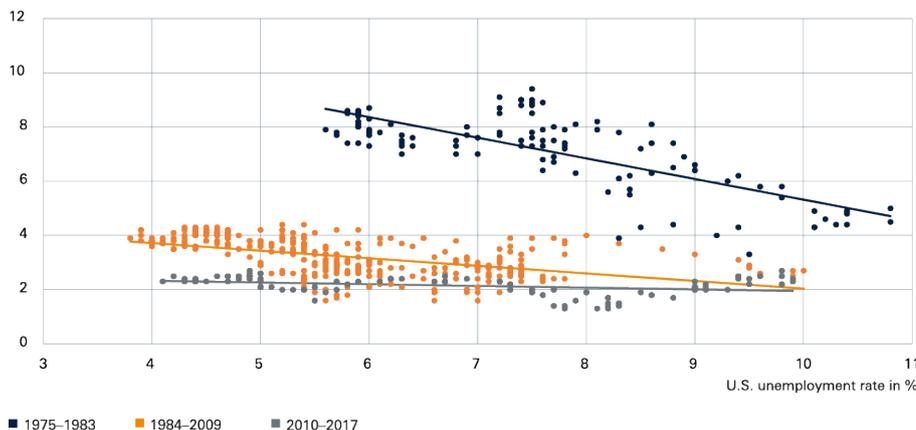
So, to conclude the question is really threefold. First, how likely is it that unemployment has already fallen "too much" in either the Eurozone or the United States? Second, is the general relationship that we postulated still valid? That is could there be a sudden upward reversal in inflation or will structural factors depress it more or less permanently? And third, what level of unemployment would be "too low"?

Our answers can be brief. In the Eurozone as a whole, there still appears plenty of room for unemployment to fall, though labor-market rigidities should limit this. U.S. labor markets, by contrast, already appear quite tight. At 4.1%, the U.S. unemployment rate is at levels last seen in 2000. And if you want to find a period where it stayed that low for any prolonged period, you have to go back to the late 1960s. Based on this, our view is that there could be an inflation surprise – just probably not by the end of 2018. As we concluded before, "low and slow" does not equal "never, ever".

### A flattening Phillips curve?

The Phillips curve measures the supposed trade-off between cyclical unemployment and inflation. In recent years, it appears to have gotten flatter.

U.S. average hourly earnings\*, year-on-year change in %



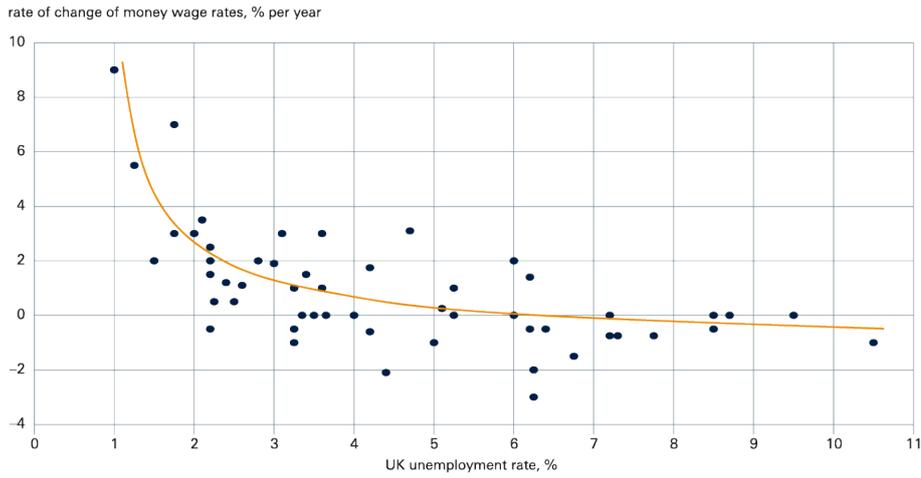
Sources: Bloomberg Finance L.P., Deutsche Asset Management Investment GmbH as of 11/9/17  
 \* Private sector

### The original Phillips curve

The initial Phillips curve representing the relationship in an earlier age of globalization (1861 - 1913).

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Source: Reproduced from: Phillips, A. (1958) The Relation between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom 1861-1957. *Economica*, 25, p. 285

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## Glossary

### Core inflation

Core inflation excludes items which can be susceptible to volatile price movements, e.g. food and energy.

### Eurozone

The **Eurozone** is formed of 19 European Union member states that have adopted the euro as their common currency and sole legal tender.

### Fiscal policy

Fiscal policy describes government spending policies that influence macroeconomic conditions. Through fiscal policy, the government attempts to improve unemployment rates, control inflation, stabilize business cycles and influence interest rates in an effort to control the economy.

### Inflation

Inflation is the rate at which the general level of prices for goods and services is rising and, subsequently, purchasing power is falling.

### Monetary policy

**Monetary policy** focuses on controlling the supply of money with the ulterior motive of price stability, reducing unemployment, boosting growth, etc. (depending on the central bank's mandate).

### Phillips curve

In economics, the Phillips curve is a historical inverse relationship between rates of unemployment and corresponding rates of inflation.

### Volatility

**Volatility** is the degree of variation of a trading-price series over time. It can be used as a measure of an asset's risk.

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