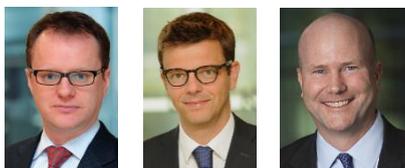


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GLOBAL MACRO OUTLOOK • SEPTEMBER 2017

Getting to inflation's core



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Getting a handle on the inflation outlook is one of the most important calls for investors right now. Global growth is holding at stable, above-trend levels. Yet inflation remains surprisingly subdued, spurring debate that the historical link between economic slack and inflation – the Phillips curve – may be dead. To get a heads-up on how the inflation outlook is evolving, we introduce our [BlackRock Inflation GPS](#). The Inflation GPS, which incorporates big data on price trends and a daily-updated “nowcast” of inflation-related statistics, aims to give a read on where core inflation is headed in major economies. Highlights include:

- The BlackRock Inflation GPS shows the slowdown in US core inflation is likely short-lived and is consistent with monthly data back near a 2% annual rate by early 2018. The eurozone GPS points to core inflation moving sideways.
- The Phillips curve is alive and well, we believe. The US jobs recovery means slack is no longer weighing on inflation. By contrast, Europe’s recovery has curbed the inflation drag but sizable slack lingers. This suggests a further pick-up in inflation will require ongoing monetary policy help.
- The story goes beyond slack. Globalisation and technology both play a role. Importantly, we find that US inflation expectations matter a lot and have dragged down core inflation for now.
- The contrasting inflation pictures for the US and eurozone imply that market participants may be underestimating potential monetary policy divergence.

Growth GPS: A very steady economic expansion

The BlackRock Growth GPS shows the G7 expansion cruising at above-trend levels. Consensus forecasts are still playing catch-up, helping support risk assets this year. The GPS also signals that economic volatility remains in check. Some US employment indicators, such as total private hours worked, are the least volatile on data going back to the 1960s. This fits with our view on low equity market volatility. See our July 2017 [Global macro outlook](#).

Economic snapshot

BlackRock Growth GPS vs. consensus, 2015-2017



Sources: BlackRock Investment Institute, with data from Bloomberg and Consensus Economics, September 2017. Notes: The GPS in green shows where the 12-month consensus GDP forecast may stand in three months’ time for G7 economies. The blue line shows the current 12-month economic consensus forecast as measured by Consensus Economics.

A new inflation guide

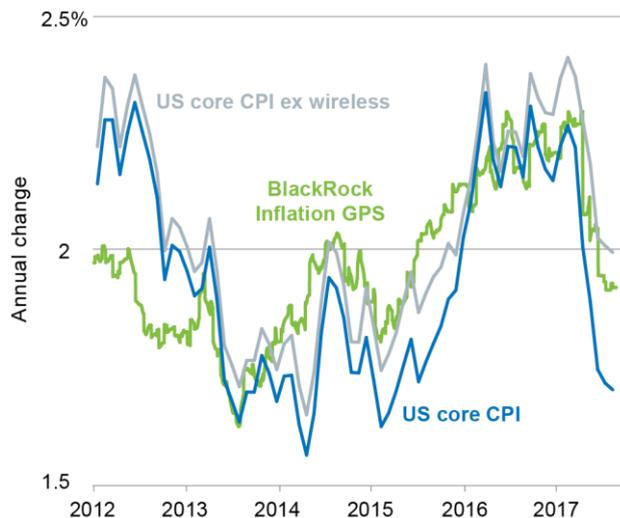
The BlackRock Inflation GPS, developed with BlackRock's Scientific Active Equity team, builds on our proprietary indicators to provide a guide on how core price pressures may unfold in coming months. Inflation has stepped into the spotlight this year: Upbeat and more synchronised global growth has not prevented weak inflation readings in major economies. In the US, the disconnect between growth and inflation is stark given the labour market's strength pushing the unemployment rate to 16-year lows. In Europe, the disconnect is one between a low inflation environment and a market eager to see the European Central Bank (ECB) make a hawkish shift.

Cooling US core inflation this year was driven by major one-off drops – especially the sharp fall in wireless costs due to changes in major pricing plans – as well as some moderation in a few key categories such as housing. The US Inflation GPS, in the chart below, reflects the sudden nature of the drop. But our work on the GPS suggests the core Consumer Price Index (CPI), should climb back to near 2% by early 2018. The Personal Consumption Expenditures (PCE) index, the Fed's target, should follow. For a market still sceptical about the Fed proceeding with policy normalisation, this should serve as a wake-up call that the Fed can press ahead. This assumes no market hiccups from a likely announcement in September laying out plans to shrink its balance sheet. At the moment, we see a greater than 50% chance the Fed raises interest rates in December.

Other measures of underlying US inflation confirm this view. On a monthly annualised basis, such "sticky core" gauges – which strip out the noisiest items including food and energy – are already pointing to a recovery back towards 2%. Our Inflation GPS shows this year's surprise turn lower was likely temporary, we believe.

Target in sight

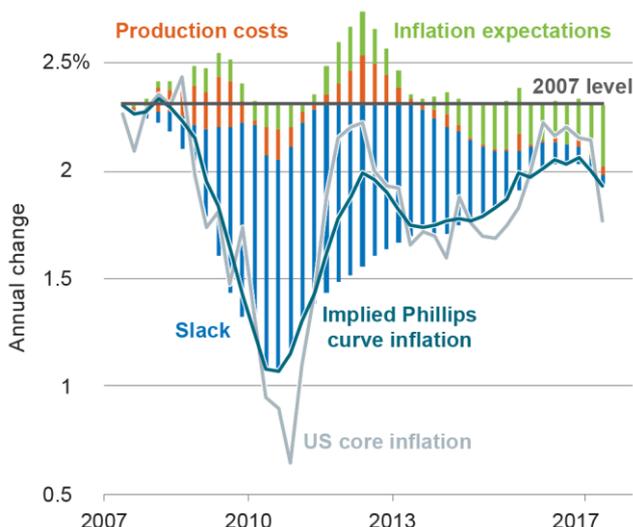
US Inflation GPS vs. core CPI, 2012-2017



Sources: BlackRock Investment Institute, with data from Thomson Reuters and US Bureau of Labor Statistics, September 2017. Notes: This chart shows the US core CPI, which excludes food and energy costs, and the core CPI excluding wireless costs and the BlackRock US Inflation GPS. The Inflation GPS shows where core inflation may stand in six months' time.

Fading inflation expectations

Factors driving US core inflation, 2007-2017



Sources: BlackRock Investment Institute, with data from Thomson Reuters and US Bureau of Labor Statistics, September 2017. Notes: This chart shows the actual change in the annual rate of US core inflation and estimates of the contributions of various economic drivers making up the implied Phillips curve inflation. The factors broken down by percentage point of contribution to the overall implied Phillips curve inflation from the starting point in 2007. The implied Phillips curve estimates are partly based off the August 2013 paper [The Phillips Curve is Alive and Well](#). Instead of modelling inflation expectations via lags we use the measure of inflation expectations similar to the 2010 paper [Modeling Inflation after the Crisis](#).

Not dead yet

The US inflation slowdown has reignited debate over the Phillips curve – the long-established link between slack, wages and inflation. US Bureau of Labor Statistics data show the US unemployment rate has plumbed levels rarely seen since the 1950s – and still low even after accounting for demographic changes. Slack is limited, yet wage gains remain gradual. Some argue the Phillips curve is dead. But slack is not the only factor. The chart above breaks the drivers of inflation as implied by the Phillips curve into slack, production costs (mainly via productivity growth and various global input costs) and inflation expectations. Fading inflation expectations are pulling down core inflation, masking the reduced drag from slack, we find.

Is the link between slack and inflation broken? We don't think so. Globalisation (lower labour costs) and technology (cheaper products) are shaking up major sectors of the economy, but this disruption is less visible at the macro level. The risk to our view is that these sector disruptions become bigger at the macro level. We find the Phillips curve isn't dead, with little difference between core inflation and that implied by the Phillips curve. The deviations in the chart above are small. This holds going back to the 1980s.

Inflation expectations may be less well-anchored than current policymakers believe. Price setters and wage negotiators extrapolate from recent trends. Upside inflation surprises can feed into expectations and higher inflation, perhaps quickly. That gives the Fed reason to stick with policy normalisation, we believe, though personnel changes at the top of the Fed create unusual uncertainty.

A distant target

Europe's broader and more synchronised growth this year, building on its recovery of the past few years, has surprised some. Deflation fears have dissipated.

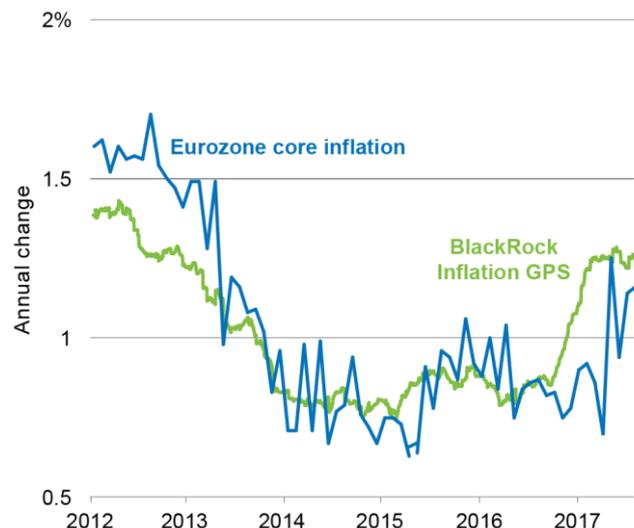
Our Inflation GPS suggests that core prices, as reflected in the Harmonised Index of Consumer Prices (HICP), are likely to stay muted and move sideways around current levels at 1.2%-1.3% heading into 2018. The Inflation GPS, in the chart below, helped anticipate the quick inflation recovery that took root in late 2016, led by the text mining mentions on prices and the nowcast's inputs from PMI business surveys on prices. But that rise is over for now. The ECB remains very far away from hitting its objective for headline inflation of slightly below 2%.

What is suppressing eurozone inflation? The recovery needs time to erode economic slack further for most of the region outside Germany. The chart at right is based on an ECB model and breaks down the factors keeping the core HICP below trend since 2008. Slack is by far the biggest contributor. The economy's rebound is reducing the drag on inflation from slack – yet it remains significant. Even with the steady recovery, the eurozone's 9.1% unemployment rate is about 2 percentage points above levels seen in 2008, according to August 2017 Eurostat data. An ECB estimate in April put levels of broader underemployment at about double that figure.

Slack remains large enough that the eurozone's reflation is still not yet self-sustaining, we believe. Germany and Spain are seeing annual rates of core inflation around 1.5%. But two of the big three eurozone economies – France and Italy – are both stuck below 1%. This is far from the breadth that would be needed to push core inflation higher. Our BlackRock Inflation GPS for the eurozone points to this drag on inflation lingering. A longer economic recovery is key to keep eliminating slack, we believe.

Coming up short

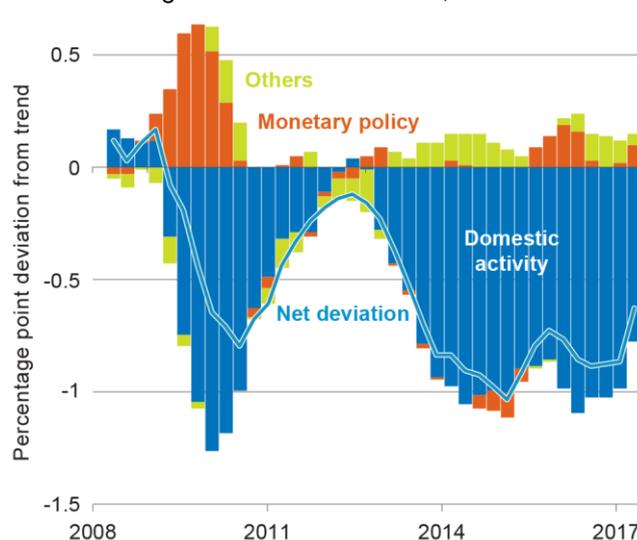
Eurozone Inflation GPS vs. core inflation, 2012-2017



Sources: BlackRock Investment Institute, with data from Thomson Reuters and Eurostat, September 2017. Notes: This chart shows eurozone core inflation (the Harmonised Index of Consumer Prices excluding food, tobacco and alcohol) and the BlackRock eurozone Inflation GPS. The GPS shows where core inflation may stand in six months' time.

Significant slack

Factors driving eurozone core inflation, 2008-2017



Sources: BlackRock Investment Institute, with data from Thomson Reuters and Eurostat, September 2017. Notes: This chart breaks down the economic drivers causing eurozone inflation to slow below its long-term trend, based on a 2000-2008 mean. The breakdown, in percentage points, is based on a European Central Bank model published in the January 2017 paper [Missing disinflation and missing inflation: the puzzles that aren't](#).

Preaching persistence

The eurozone inflation story is almost entirely a domestic one and not about other global influences. The chart above also shows these non-eurozone “other” factors, such as global growth, commodity prices and the euro. Overall, they are playing a tiny role in driving core inflation. For both the US and eurozone, our work shows that these global forces ultimately have a limited influence on core inflation relative to domestic economic slack.

What else stands out? The ECB's policy stance, from negative short-term interest rates and ample cheap funds for banks to asset purchases, has struggled to keep up with the slack created. Since the introduction of quantitative easing in 2015, policy has helped offset some of the drag from slack – but only some. By being patient on policy, the ECB's current stance could be a bigger inflation contributor as the recovery broadens, we believe. The operational constraints – shrinking bond supply meaning the ECB has fewer bonds to buy – may make this tricky but does not necessarily create a major headache, in our view. Market players have been antsy to interpret recent ECB signals as a hawkish shift towards winding down asset purchases. Yet ECB President Mario Draghi has called for “patience” and “persistence” to ensure that the current “substantial” monetary accommodation stirs inflation.

The bottom line: Our BlackRock Inflation GPS points to the possible re-emergence of policy divergence between the US and eurozone as an investment theme. This may be a factor that sparks a reverse in the US dollar's slide. We see the inflation outlook as negative for US Treasuries but potentially helping eurozone government bonds. We also like US inflation-linked bonds relative to the richer pricing of medium-term eurozone equivalents.

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