International Economics Monthly

April 2015

Inflation across the world: a laboured process

Main message: ***Inflation across the globe is likely to remain low for the remainder of this year. New evidence showing a weak correlation of core inflation across countries could suggest that core disinflation in one country does not tend to spill over to core disinflation elsewhere. But there has been a broader trend towards falling core inflation even before the fall in oil prices, albeit much less marked than in headline space. And evidence from the labour market suggests that there is not yet sufficient wage pressure to push inflation back to target across countries once the oil price shock has fed through. A box gives our take on the global data news this month.***

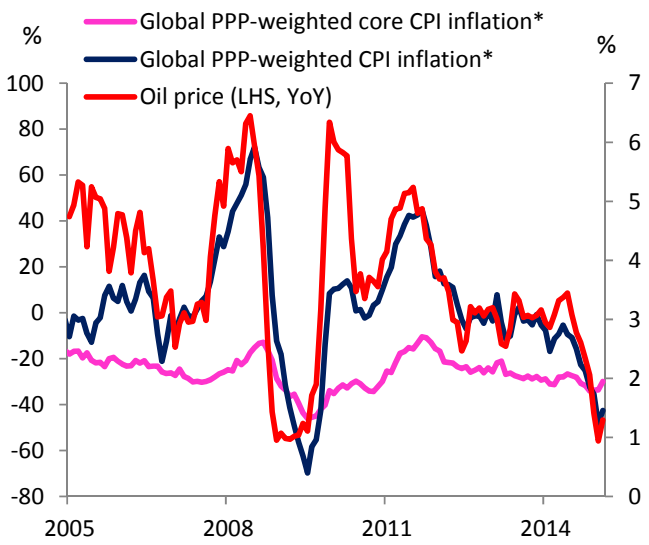
Introduction

This IEM aims to build upon the analysis presented in the December IEM ('Doth the cup spilleth over?'), by considering trends in core inflation (ex. food & energy) across countries, and by examining the behaviour of labour markets in advanced economies to see whether, looking through the fall in oil prices, there are signs of sufficient price pressures to return inflation to targets.

Inflation remains low across countries

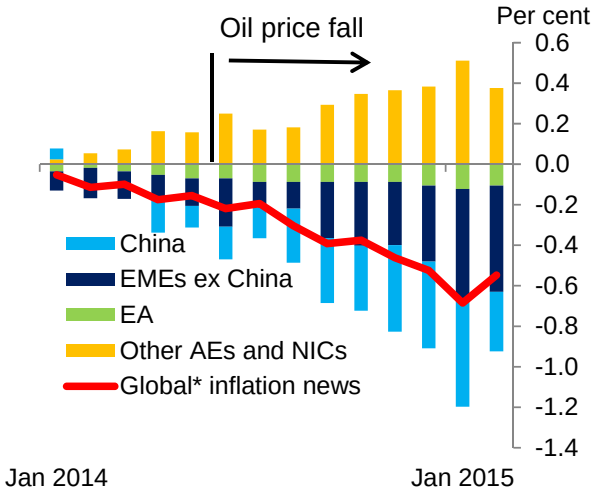
UK inflation has fallen further below target, largely matching developments abroad. Our in-house measure of average inflation globally ticked up by 0.3pp in February, suggesting that inflation may have troughed in January (**Chart 1**); however, it remains weak: inflation is still 1.6pp below an implied global target. Indeed, of the 18 central banks with inflation targets, ten now have inflation of less than 1% and five are in deflation. Core inflation has also reversed some of its recent decline: core inflation is only 0.1pp lower than it was in January 2014, although it remains 0.8pp below its peak in October 2011.

Chart 1: Average CPI and core CPI across countries



Sources: DataStream, CEIC and Bank calculations
* Global equates to 70% of world PPP GDP; 20 country sample

Chart 2: Cumulative inflation news, outturn vs consensus prior to each months' CPI release



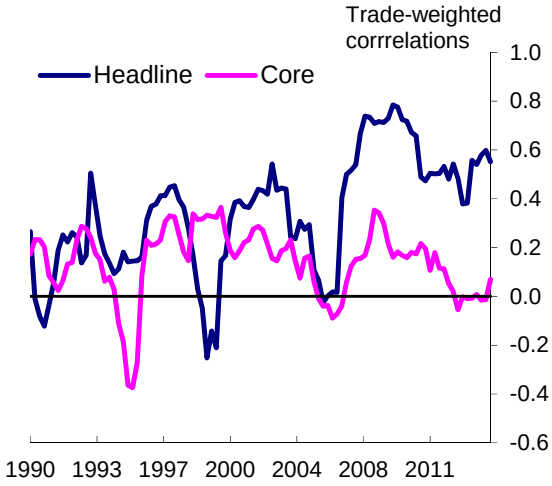
Sources: Bloomberg and Bank calculations
*Global equates to 70% of world PPP GDP; 20 country sample

It is no surprise that the fall in oil prices has pushed down on both headline and core measures of inflation across the world. Ideally, we would like to know whether there is additional inflationary or deflationary pressure being masked by the fall in oil prices. We cannot precisely disentangle the effects from oil, but considering externals' one-month ahead inflation forecast errors can be informative: analysts know how commodity prices have evolved when they respond and also update their views on other factors such as policy; hence, cumulative downside errors would suggest more disinflationary news. Indeed, **Chart 2** shows that since January 2014 only 0.6pp of the 1.4pp decline in headline inflation has been a surprise. Within this, AE inflation has come in broadly as expected, but inflation in EMEs, particularly China, has continued to weaken by more than expected.

Cross-border linkages between inflation rates are less clear in core space

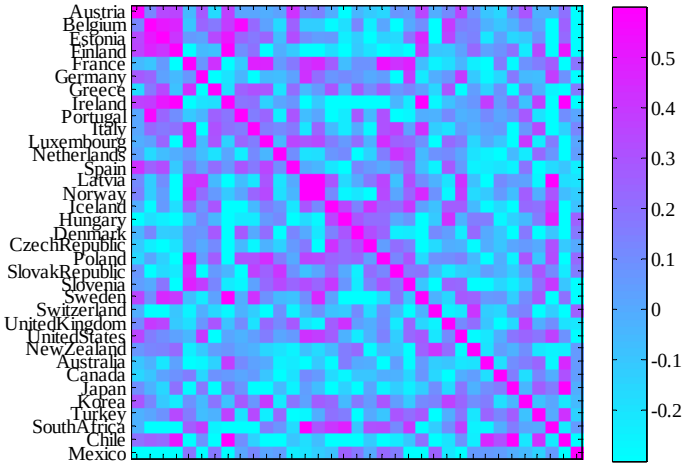
The pattern of falling inflation across countries is potentially concerning to the extent it signals a common shock also affecting UK inflation, or a shock the exchange rate will not offset for us. In his recent speech[1] the Governor noted that correlations of headline inflation rates across countries had increased over time. As it happens, these appear to be predominantly determined by global commodity prices, which affect the food and energy components of CPI. Bilateral correlations of core inflation, which excludes these components, are lower, and if anything have fallen post-crisis (**Chart 3**). Indeed, cross-country bilateral correlations of core inflation are generally very low (**Chart 4**).

Chart 3: Rolling average correlations of UK inflation with other OECD economies*



Sources: OECD and Bank calculations
*Calculated as UK import-weighted rolling three-year correlations between core and headline inflation in OECD economies with UK VAT-adjusted inflation. Seasonally-adjusted quarterly inflation. A similar picture emerges for oya inflation, with weaker core inflation correlations particularly in the post-crisis period.

Chart 4: Core inflation correlation heatmap (2009-2014)

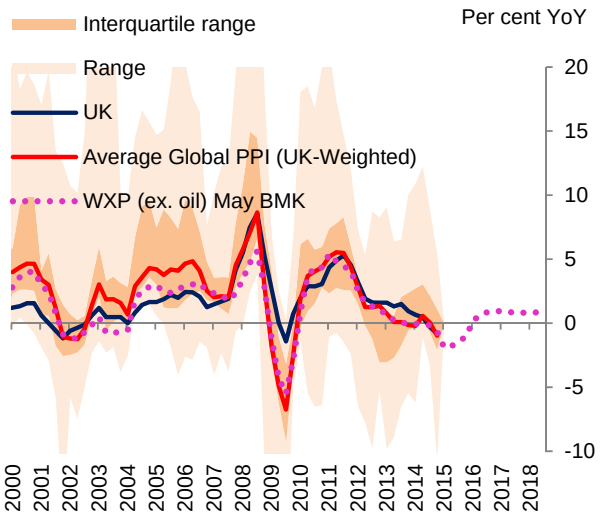


Sources: OECD and Bank calculations
Note: Seasonally-adjusted oqa bilateral inflation correlations

Low correlations of core inflation suggest that strong disinflationary spillovers to the UK may be somewhat less likely than feared. Domestic shocks may tend to be negatively correlated with foreign shocks, or domestic monetary policy credibility may mean that firms make offsetting changes to other costs or that the exchange rate adjusts (though this might require active changes in policy by the MPC). However, even if correlations across countries are low, there is evidence of a general downward trend in core inflation over the past 18 months. It could be that that the lag structure of core inflation spillovers is different than for headline inflation, leading core

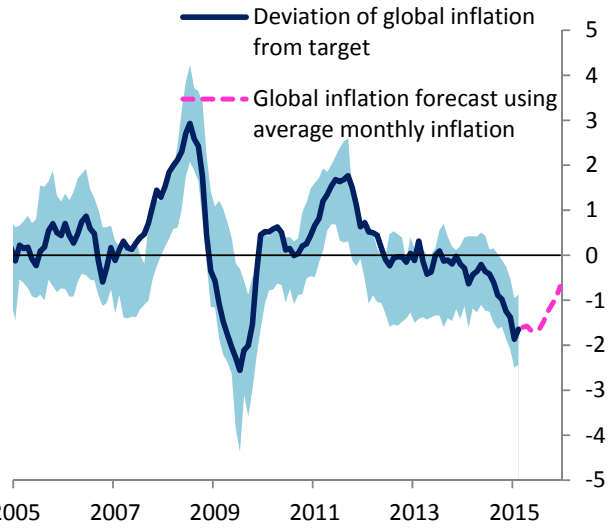
inflation rates globally to be less synchronised but nonetheless important for UK inflation. The fall in core inflation has been matched by falling export prices and PPI (**Chart 5**), providing a transmission mechanism to the UK if offsetting factors fail to operate as they have done in recent years, or the lag structure of transmission is longer.

Chart 5: PPI swathe and World export prices (ex. oil)



Sources: National sources and Bank calculations

Chart 6: Headline inflation across countries

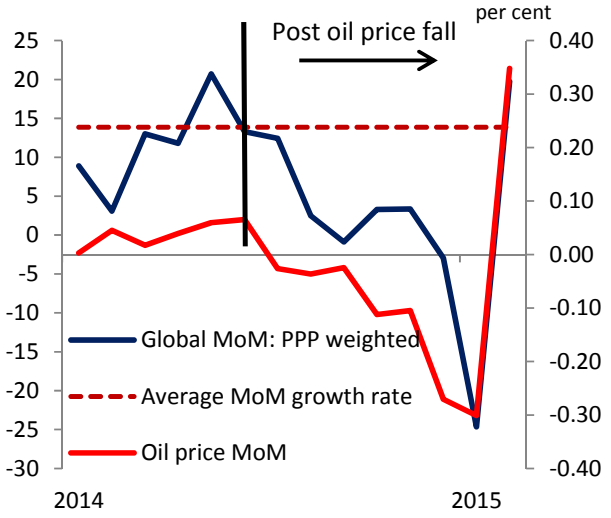


*Global equates to 70% world PPP GDP; inflation targets fixed using 2014 targets and PPP weighted according to share over time.

Headline inflation rates should stabilise and then rise…

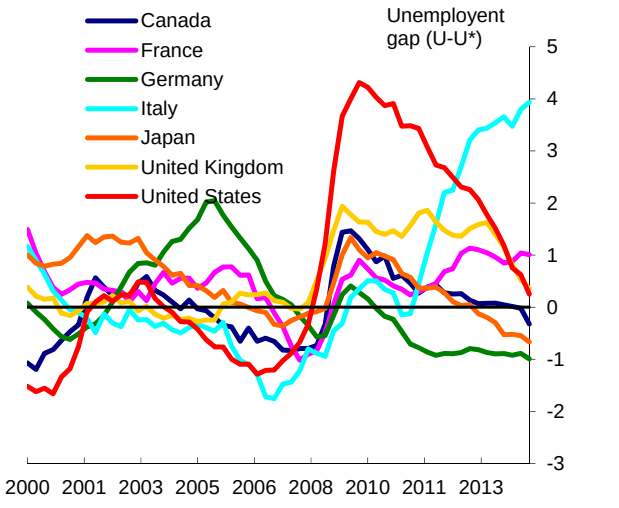
Average headline inflation rates are likely to remain flat for the next five months (**Chart 6**), but after that inflation should start to rise across countries - it would take monthly inflation rates to fall to around half their average rates between 2012 and H1 2014 to sustain the current low twelve-month inflation rates to the end of 2015. Indeed, seasonally adjusted monthly inflation rates had been slightly above average prior to the fall in the oil price (**Chart 7**), and monthly rates over the previous twelve months were roughly the same as average.

Chart 7: Average global monthly inflation (SA)



* GDP Global equates to 70% world PPP GDP
Average MoM growth rate calculated between 2012 and H1 2014

Chart 8: G7 unemployment gaps

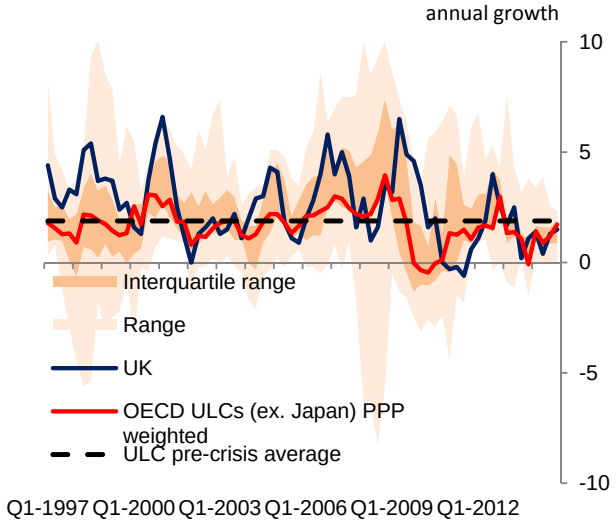


Sources: OECD and Bank of England calculations
Note: Bank F15 estimate of unemployment gap for UK, OECD estimates for other economies

… although labour markets in advanced economies point to little inflationary pressure

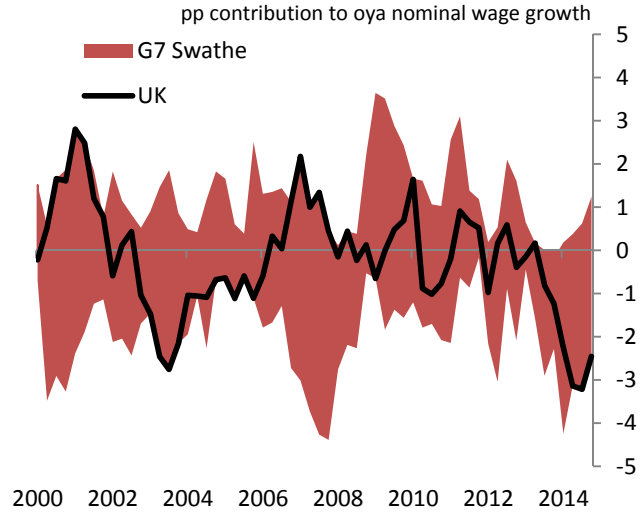
To see whether inflation is on track to return to target once the oil price shock has passed through, we examine advanced economy labour markets. Wage growth has been weak both in the UK and abroad, even in countries where slack in the labour market is now thought to be very small (**Chart 8**). Of course, much of this is likely to reflect weak post-crisis productivity growth and, indeed, while ULC growth rates are somewhat lower than their pre-crisis average, they are not unprecedentedly low (**Chart 9**).

Chart 9: Unit Labour Costs (ULCs)



Source: OECD and Bank calculartions

Chart 10: Unexplained component of nominal wage growth in G7 economies



Sources: Eurostat, ONS, OECD, national sources and Bank of England calculations

Note: Wage equations estimated over 1995-2014 using logged variables as follows: $\Delta W_t = \alpha - \beta(W_{t-1} - deflator - k * prod_{t-1}) - \gamma ugap_t + \delta \Delta prod_t + \xi \Delta W_{t-1} + \varepsilon_t$

That said, simple wage equations attempting to control for the degree of labour market slack and other factors, such as productivity, can't completely account for the current weakness in wage growth in the G7 (**Chart 10**).[2] The UK's low wage puzzle is present in other G7 economies, although only in Japan is the scale of the puzzle as large. Annual nominal wage inflation was over 2% lower than implied by productivity growth and labour market slack in the UK and Japan in Q4 2014; wage growth was less than 1pp weaker than expected in the US, Canada and Germany. This would seem to suggest that we will need to see some reversal of these recent trends if wage pressures are to be sufficient to return inflation back to target across the G7.

[2] See also *Drag and drop*

Assessment of data and policy news on the month

Region	Judgement on the month
Euro area	*We have revised up the near-term growth outlook, following improvements in a broad range of activity indicators over the month. We now expect growth of 0.4% oqa in Q1 and 0.5% oqa in Q2.*
US	*Despite strong employment gains our Q1 nowcast is now only 0.3%, below the Feb IR estimate of 0.6%. We judge that lift-off is more likely to happen in September than in June, reflecting: the weak wage growth, and the Fed's downward revision to its long-term estimate of unemployment.*
Asia/EMEs	*Growth in China appears to have stepped down a gear. We have marked down the Q1 nowcast to 1.6%, reflecting weak IP and PMI figures. PBoC rhetoric suggests gathering speed of financial reform.*
World activity	*The JP Morgan global composite PMI reached a 5-month high in February at 53.9 increasing from 53.0 in January as a result of an expansion in outputs in both manufacturing and service sectors.*
Commodities	*Since pre-MPC/FPC, the oil price fell by 8.2% to $55pb, reflecting the expectation that the US would relax its sanctions on Iran; the conflict between Saudi Arabia and Yemen is an upside risk.*

Euro area

A string of stronger euro-area data this month has led us to revise up the near-term outlook; we now expect growth of 0.4% oqa in Q1 and 0.5% oqa in Q2. The Euro area composite PMI increased by 0.8 to 54.1 in March, a four year high, and retail sales continued to grow strongly, while the confidence surveys also improved. Consumer confidence jumped to -3.7, its highest level since 2007, although improvements in services and industrial confidence have so far been more modest. €A inflation rebounded to -0.1% oya in March, as the depreciation of the euro passed through to a modest pickup in energy prices. We expect a further rebound to 0.1% in April, before inflation stabilises at around that level over the summer months.

The ECB staff's March macroeconomic projections, revised up real GDP growth to 1.5% in 2015, 1.9% in 2016 and 2.1% in 2017. Inflation is projected to be 0.0% in 2015, before picking up to 1.5% in 2016 and 1.8% in 2017, as oil effects drop out and the output gap closes.

The Greek government plans to submit its final list of proposed reforms to the Eurogroup this week, as it bids to unlock further bailout funds before a €467m repayment is due to the IMF on the 9th April. An earlier subset of reform proposals included positive measures to improve fiscal transparency, but less ambitious plan on tax arrears.

US

The final estimate for quarterly GDP growth in Q4 2014 was unrevised at 0.5% (2.4% oya) - consumption remained the key driver, contributing 0.7pp. Despite strong employment gains – NFPs rose by 295,000 in February, beating market expectations (Bloomberg survey) of a 230,000 rise – our Q1 nowcast now suggests growth will be only 0.3%, below the Feb IR estimate of 0.6%. The soft Q1 steer is a result of weak consumption and investment data in the first two months of the quarter. At least some of the weak data may have been the result of record-cold February weather in the N.East, but we do not believe this to be the full explanation, with January warmer than average and service surveys remaining strong.

Following the March 17-18 FOMC policy meeting, the Fed eliminated the "patient" language from its statement, keeping the option open for a rate rise in June. Unemployment fell by 0.2pp to 5.5% in February, but average hourly earnings grew by just 0.1%. We judge that a lift-off is more likely to happen in September, reflecting: the weak wage growth; the Fed's downward revision to its long-term estimate of unemployment, from 5.4% to 5.1%; and also that participation rates have shown tentative signs up stabilisation, when considered over the past year. In part, reflecting a mark down in prospects for productivity, GDP growth was revised down by 0.3pp in each of 2015, 2016.

Asia/EMEs

Chinese IP averaged over Jan and Feb of 2015 was 6.8% yoy, 1.1 pp lower than that in Dec 2014. The timing of Chinese New Year means that indicators provide a less reliable steer, but the PMIs have also been weak. Reflecting this, we have marked down the Q1 nowcast to 1.6%, 0.1 pp lower than Feb *IR* and 0.2 pp lower than Q4 2015. CPI was 1.4% oya in Feb (+0.6pp). On policy, the growth target was confirmed as "around 7%" and inflation target was reduced to 3%. Recent rhetoric from the PBoC governor has suggested gathering speed of deposit rate liberalisation and capital account convertibility.

Elsewhere, in Japan, early signs from the spring wage negotiations look promising, suggesting the tight labour market – and pressure from PM Abe – will translate into higher wages. In Brazil, inflation stood 10-year high at 7.7% oya in Feb (+0.6pp), and Brazilian Real depreciated against USD by around 9% in March alone, reflecting the weakening macroeconomic outlook, uncertainty over support for reforms and the expanding impact of the Petrobras scandal.

Commodities

Since the joint pre-MPC/FPC, the price of Brent crude fell by 8.2% to around $55pb, similar to the level at the time of the Feb *IR*. The fall since the joint pre-MPC/FPC mainly reflects expectations that the US would relax its sanctions on Iran, while the conflict between Saudi Arabia and Yemen has given prices some support. Also, the WTI price fell to a 6-year low in March over concerns about limited oil storage in the US. In the IEA March report, the 2015 demand forecast was revised up to 93.5mbpd from 93.4mbpd in February, supply was unchanged.