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Western Europe

UK Economics Weekly

What Does The Oil Price Plunge Mean for the UK?

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- The Brent benchmark oil price is now down by more than $40/barrel since June. This note aims to assess the impact of this oil price plunge on the UK economy.

- The UK economy has become less oil-intensive over recent decades, and oil accounts for about 33% of UK energy use. Prices of other key energy sources, notably natural gas, have not fallen in line with oil. Even so, we calculate that the drop in oil prices from the 2013 average level will cut the aggregate fuel bill (ex taxes) of households and consumers by about £14bn (0.8% of GDP) per year. Roughly £4½bn of this will come through directly to consumers via lower prices for petrol and diesel transport fuel, £6bn will come through indirectly to households and businesses via lower costs for transport services (notably air travel, sea travel and freight) with the remaining feeding through via lower industry costs (including the wider use of oil for non-energy purposes).

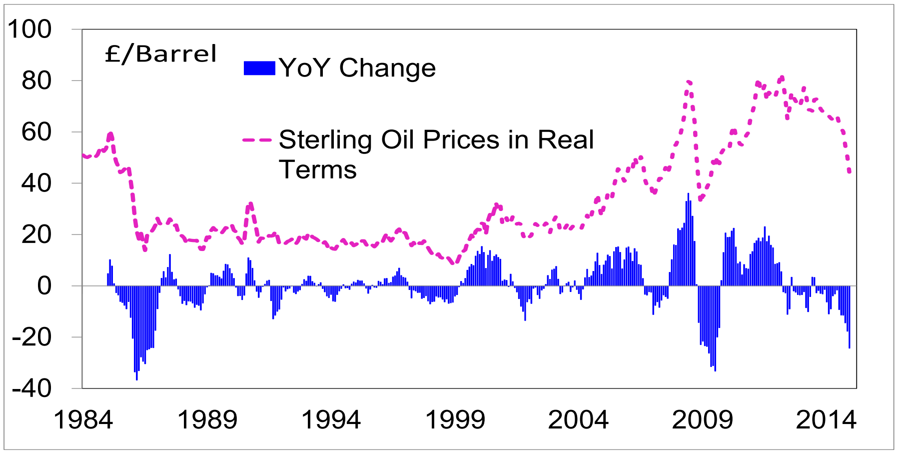
- As a rough guide, the drop in oil will cut the CPI by a similar amount (0.8%), with some of this feeding through quickly via lower petrol prices and a more general disinflationary impact via other prices over several quarters. With cheaper oil and cheap money, we expect UK real GDP growth to again exceed consensus in 2015.

Figure 1. Citi Market Forecasts

	End-2014	Mid-2015	End-2015	Mid-2016
Base Rate	0.50	0.50	0.75	1.50
QE Target	£375bn	£375bn	£355bn	£350bn

Source: Citi Research

Figure 2. UK – Sterling Oil Prices (Brent), Real Terms in Oct 2014 Prices, £/barrel, 1984-2014



Sources: DataStream, ONS and Citi Research

See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Implications of Lower Oil Prices for the UK

Oil prices have plunged in recent months, with the Brent benchmark (now at $69) down by $43/barrel from the June average, to the lowest since 2009. In real sterling terms (Oct-2014 prices), the Brent benchmark is down by £24/barrel (36%) YoY. This counts among the greatest declines of the last 30 years, exceeded only by those of 1985-86 and 2008-09, which both saw sterling oil prices fall by a little more than £30/barrel in real terms. We believe that a sizeable part of this weakness reflects increased oil supply rather than weakness in global economic growth. This note aims to assess the impact of this oil price plunge on the UK economy.

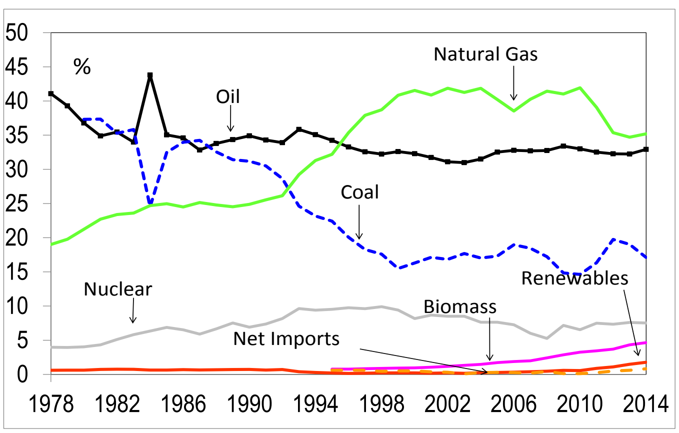
Lower Energy Costs

- Oil accounts for about 33% of UK energy consumption[1], and its share has been fairly stable over the last 20 years, with a shrinking role for natural gas in recent years and a rising role for biomass and renewables. The role of oil in UK energy use is similar to the EU average (34%)[2], while natural gas use is relatively high in the UK, with a relatively low role for nuclear and renewable sources. But some individual economies are more oil-dependent: for example, oil accounts for 95% of energy use in Cyprus, 48% in Greece, 45% in Portugal, 47% in Ireland, 42% in Spain, and 39% in Belgium. Conversely, oil accounts for only 25-26% of energy use in Sweden and Finland (for which renewables play a bigger role).

- The UK economy has been becoming more energy efficient, with the result that it now takes roughly 0.3 barrels of oil to produce £1000 of real GDP (2011 prices), versus 0.6 barrels 20 years ago and 1.0 barrel 40 years ago. In absolute terms, the UK's onshore oil use totalled 741 million barrels in 1970, 601mb in 1980, 640mb in 1990, 622mb in 2000, 579mb in 2010 and (based on data for Q1-Q3) will be about 542mb this year.

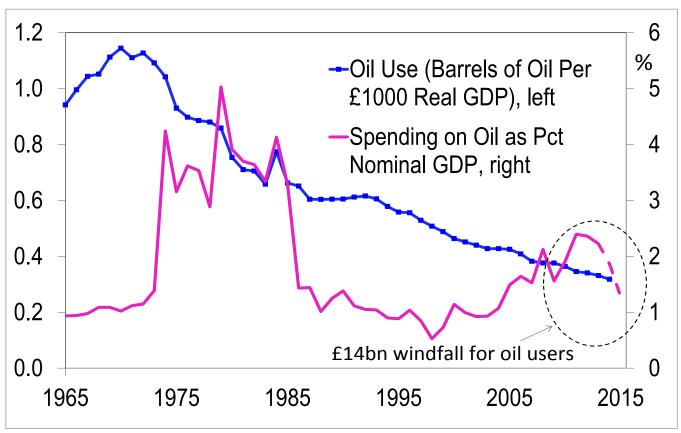
- The various energy markets are not all showing similar weakness. Although oil prices have fallen sharply in recent months, other energy prices have not followed suit. For example, since end-June, Brent oil is down about 31% in sterling terms, but UK natural gas prices are up by 46% and wholesale electricity prices are up by 41%. The trend is of oil price weakness rather general weakness in all energy prices.

Figure 3. UK – Split of Inland Energy Consumption, 1978-2014



Note: 2014 figure based on Q1-Q3. All data converted to million tonnes of oil equivalent. Sources: Department for Energy and Climate Change and Citi Research

Figure 4. UK – Oil Intensity of the Economy, 1965-2015F



Note: 2015 forecast is based on 2014 level of oil consumption and latest level of oil prices. Sources: BP, ONS and Citi Research

[1] Source: Department for Energy and Climate Change. Data is for the four quarters ended 2013-Q4.

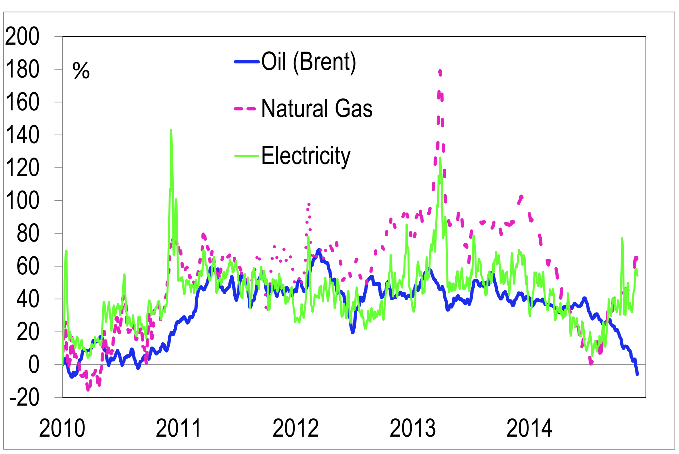
[2] Source: Eurostat, data for 2012.

Combining oil use with oil price swings, we calculate that spending on oil (ignoring taxes) in the UK economy rose from £11.1bn (0.9% of GDP) in 2003 to £39.1bn (2.4% of GDP) in 2012, edging down to £38.1bn (2.2% of GDP) in 2013. With the approximate 2014 level of oil use, we calculate that if oil prices stayed at the 2013 average level ($109/barrel or £70/barrel), spending on oil would total £38bn per year (2.1% of 2014 GDP): with the current level of oil prices ($69/barrel or £44/barrel), spending on oil will be about £24bn (1.3% of GDP) per year. So the recent drop in oil prices implies an aggregate saving in the UK's annual oil costs of roughly £14bn, 0.8% of GDP. This would be the biggest decline in the UK's oil bill since the mid-1980s, although the drop then (from an average of 3.7% of GDP per year in 1980-84 to 1.4% of GDP in 1986) was far greater, both because oil prices fell more sharply and because the economy was more oil-intensive.

This £14bn windfall for oil consumers will chiefly come through via lower transport prices: cheaper petrol (or diesel), cheaper air fares, cheaper rail fares, and lower transport costs for industry. Oil use in the UK is overwhelmingly (74%) in the form of fuel for transport. As well as cars and lorries, air travel is a major user, while the UK's sea traffic is almost totally oil-powered. Less than 1% of UK oil use is for electricity generation, which in the UK is almost totally produced using coal, natural gas, biomass, nuclear and renewables. Only 2% of oil use is for residential heating and cooking in the UK, which chiefly uses natural gas and electricity. Roughly 13% of oil use for industrial energy (excluding transport use), while roughly 10% is for non-energy purposes (e.g. oil-based products such as white spirit and bitumen).

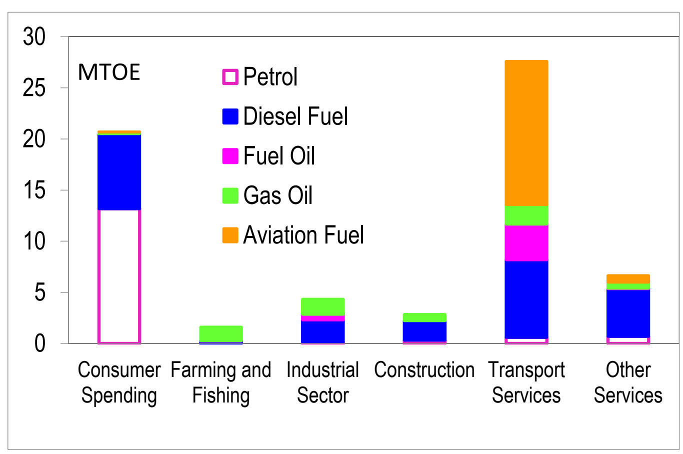
In turn, roughly 43% of oil used for travel reflects direct purchases of petrol and diesel for cars by consumers, with the rest accounted for by indirect consumer purchases (e.g. rail fares, air fares) and industry use. Based on this, using a detailed 101-sector disaggregation of UK energy use, we estimate the £14bn drop in oil costs (ex taxes) will split into a £4½ bn saving in household petrol and diesel fuel costs, a £6bn saving for transport services -- split roughly equally between air travel and other forms (e.g. rail, sea traffic, freight traffic, taxis, courier services, buses) – and a £3½ bn saving for other industry users. Among industry sectors, manufacturing and agriculture are more oil-intensive than services. We stress that these figures are approximate. Over time, the £14bn saving is likely to be largely passed onto consumers via cheaper travel fares and so forth, with some boost to profits for the nonoil sector. Lower production costs in other countries also means that nonoil import prices will probably fall, magnifying the disinflationary impulse.

Figure 5. UK – Change in Key Energy Prices From Start of 2010 (5-Day Averages), Sterling Terms, 2010-14



Source: Citi Research

Figure 6. UK – Use of Oil-Based Fuels, Million Tonnes of Oil Equivalent, 2012



MTOE Million tonnes of oil equivalent. Sources: ONS and Citi Research

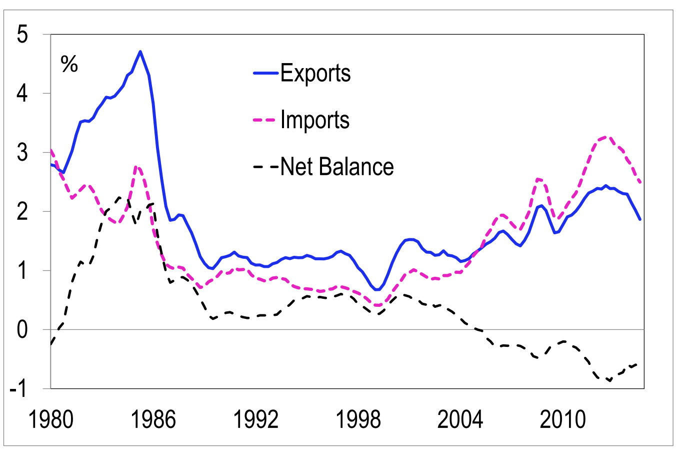
Other Effects

Of course, in aggregate, the drop in oil prices redistributes income from oil producers to oil consumers, so there must be losers as well as winners.

First, oil company profits will be lower, possibly also hitting investment, employment and dividends generated by the oil sector. We doubt this adverse effect on growth will be severe, because the oil-producing sector has a relatively high tendency to save rather than spend. In 2013, oil and gas extraction generated UK corporate revenues of £32.0bn (1.9% of GDP), but employment in oil and gas extraction (and other mining) totals just 22,000 people (in June 2014), only 0.1% of total employment. Profits of oil and gas companies totalled £23.1bn in 2013, 8.2% of aggregate corporate profits, while investment by the oil and gas sector totalled £12.2bn (0.7% of GDP) and accounted for 7.4% of aggregate business investment. Weakness in oil sector investment may be at least partly offset by higher investment elsewhere as lower fuel costs increase firms' confidence in their future profits. We suspect that erosion of oil company profits will be mainly reflected in lower dividend payments to UK and external investors, and lower flows of repatriated profits to foreign-based companies.

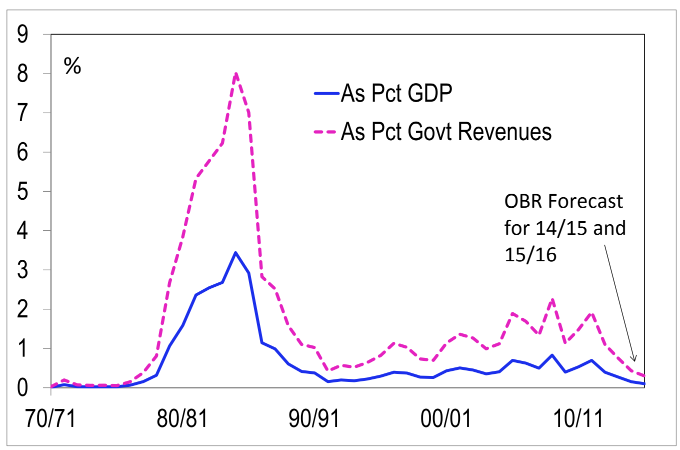
Second, the UK is no longer a net oil exporter, and the direct effect of lower oil prices will cut the UK's trade deficit -- but the effect is modest, only £2-3bn per year. In Q1-Q3 this year, the UK's deficit on oil trade totalled £8.8bn, versus £7.5bn a year earlier, with oil exports of £24.1bn (6.6% of total goods and services exports) and oil imports of £32.8bn (8.5% of total). The effects of swings in oil prices on the trade balance are modest compared with the influence of other factors (e.g. growth differentials etc). But, together with the drop in repatriated profits by foreign-owned oil companies, the net effect will be to shrink the current account deficit slightly, although by less than for oil-importing countries.

Figure 7. UK – Exports, Imports and Trade Balance in Oil and Gas Products, Pct of GDP, Four-Quarter Averages, 1980-2014



Sources: ONS and Citi Research

Figure 8. UK – Oil and Gas Tax Revenues as Pct GDP and as Pct Total Government Revenues, Fiscal Years 1970/71-2015/16F



F OBR Forecast. Sources: OBR and Citi Research

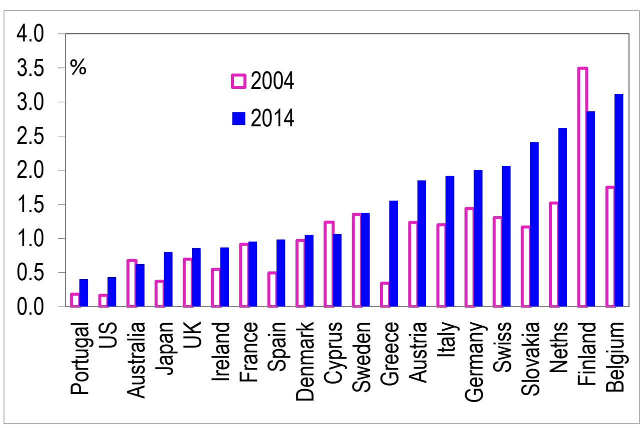
Third, the government's oil tax revenues will fall further. Thirty years ago, oil and gas tax revenues were 3-4% of GDP, 8% of total tax revenues. But, with lower production and rising costs, oil and gas tax revenues (Corporation Tax, Petroleum Revenue Tax and the Supplementary Charge), already fell to 0.7% of GDP (£11.3bn) in 2011/12 and to just 0.3% of GDP (£4.7bn) in 13/14. Assuming oil prices level off at $83/barrel for the year ahead, the OBR expects oil and gas tax revenues to fall to £2.8bn in 14/15 (0.2% of GDP) and £2.0bn in 15/16 (0.1% of

GDP). Revenues clearly will fall further if oil prices stay at current levels ($68/barrel). Nevertheless, in our view, oil and gas tax revenues are now so low that a further drop in them would not be significant at the overall fiscal level. Note, however, that if the Scottish referendum had produced a vote for independence, the fiscal position of an independent Scotland (which would be highly dependent on oil revenues) would be significantly worsened by the recent oil price decline.

Fourth, the UK's exports to major oil producers might slip, reflecting weaker incomes (including fiscal positions) in those countries. Again, this is unlikely to be a major headwind for the UK, because the UK's exports are overwhelmingly geared to advanced economies for which oil and gas production is not the dominant sector of the economy. For example, exports of goods to the Middle East plus Russia account for just 0.9% of GDP for the UK, near the low end among EU countries. And, of course, the UK's exports to other oil-consuming countries may benefit because of real income gains in those countries.

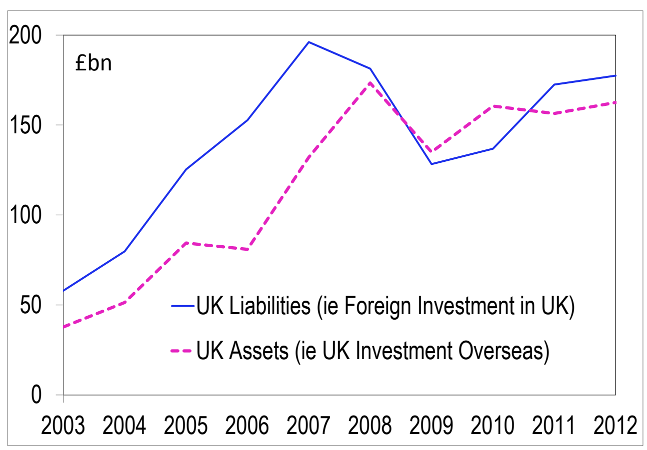
Fifth, capital inflows to the UK from oil producers might shrink. The ONS estimate that the stock of investment in UK from Saudi Arabia, other Gulf countries and Russia combined in 2012 totalled £177bn (10.7% of GDP), up from £58bn (4.9% of GDP) in 2003. Within that, the ONS estimate that investment in the UK from Saudi Arabia and other Gulf Arabian countries is up from £40bn in 2003 to £147bn in 2012, with a roughly matching rise in UK investment in those countries from £25bn to £114bn. Perhaps surprisingly, the ONS estimate that the level of investment in the UK from Russia is down from £71bn in 2007 to £30bn in 2012. Nevertheless, while these amounts are large in absolute terms, they account for just 1.6% of the total stock of foreign investment in the UK: the UK economy as a whole is not heavily dependent on the recycling of funds from oil producers.

Figure 9. Selected Countries – Exports of Goods to Russia and Middle East as Pct GDP, 2004-14



Note: Figure for 2014 is based on H1 data, annualized. Sources: IMF and Citi Research

Figure 10. UK – External Assets and Liabilities Versus Russia, Saudi Arabia and Other Gulf Arabian Countries, £bn, 2003-12



Sources: ONS and Citi Research

Overall Effect

Combining all this, we expect the drop in oil prices to cut the CPI directly by 0.8% or so (ie the drop in oil costs as a share of GDP), with roughly a third of this coming through lower petrol prices and the rest through broad-based weakness in other goods and services for which oil is an input. The total downward impact on prices may be a little greater than 0.8% because that the UK's nonoil imports probably are more oil-intensive than the UK's nonoil exports, given the higher weight of goods in

the UK's imports. Moreover, this effect will be magnified by weakness in some key nonoil commodities (e.g. food).

This drop in inflation will boost household incomes roughly one-for-one, and – together with solid job growth and higher pay growth -- we expect that household real income growth will pick up from about 2% in 2014 to 3-3½% in 2015. The drop in petrol prices is likely to come through quickly, and indeed prices (as of 1 December) are already down by 7.5% from the July average, enough to directly cut 0.26% off the CPI. The speed of the drop in petrol prices hints that the disinflationary effects of lower oil prices may be even greater than our estimate. Last week we estimated that the December CPI would rise by 0.8%-0.9% YoY. With the further drop in oil prices of recent days, our forecast is now down to 0.8% YoY. The broader disinflationary effects of lower oil prices (e.g. air fares, other travel costs, and non-travel prices) are likely to feed through over several quarters. We expect CPI inflation in January-August 2015 to average about 1% YoY, with several more sub-1% monthly readings likely in that period.

In gauging the impact of the drop in oil prices on real GDP growth, there are several factors at work. The overall boost to real GDP may be less than 0.8% if oil companies cut investment sharply or household savings rise, the global economic slowdown (that has partly caused weakness in oil) hits UK business confidence or households and businesses anticipate the nonoil tax burden will rise to replace the erosion of oil revenues. Conversely, the boost to real growth may be greater than 0.8% if the lift to real incomes of households and nonoil businesses expands confidence in future income gains and hence produces an outsized surge in spending. Nevertheless, even allowing for these uncertainties, we regard the drop in oil prices – and the likelihood that the BoE will regard low headline inflation rates as a reason to keep rates low for longer – as key drivers in our bullish UK growth outlook. UK growth markedly overshot consensus expectations this year and, fuelled by cheaper oil plus cheap money, we expect growth to stay around 3% in 2015.

Figure 11. Economic Indicators

Tue 9 Dec	***Industrial Production (Oct)***	**Forecast: 0.3% MM, 2.0% YY**	**Prior: 0.6% MM, 1.5% YY**
	Manufacturing Output (Oct)	**Forecast: 0.3% MM, 3.3% YY**	**Prior: 0.4% MM, 2.9% YY**
	Business surveys suggest that manufacturing output continues to grow quite strongly, and hence we anticipate another solid gain this month. A figure in line with our forecast would put the level of IP 0.6% above the Q3 average and hence would set the stage for another strong quarterly gain.		
Wed 10 Dec	***Trade Balance – Goods & Services (Oct)***	**Forecast: £-2.5 billion**	**Prior: £-2.8 billion**
	The trade figures have been a little volatile recently, but the deficit in January-September as a whole totalled £21.4bn, a little below the deficit for the same months of 2013 (£23.2bn). Both exports and imports are sluggish, according to the ONS data, and we do not anticipate any change in this trend in the October data.		
Mon 15 Dec	***CBI Industrial Trends Survey (Dec)***		
	Monthly Output Expectations Net Bal. (Dec)	**Forecast: +15%**	**Prior: +12%**
	Monthly Order Books Net Balance (Dec)	**Forecast: +3%**	**Prior: +3%**
	Monthly Selling Prices Net Balance (Dec)	**Forecast: -3%**	**Prior: -1%**
	The November survey showed a marked improvement in the order books index to a 3-month high, whereas output expectations were the weakest since Oct-13. For the December survey, we expect output expectations to catch up with the last month's gain in orders. Expectations for selling prices are likely to soften further, reflecting recent weakness in commodity prices.		
Tue 16 Dec	***Consumer Prices (Nov)***	**Forecast: 0.0% MM, 1.2% YY**	**Prior: 0.1% MM, 1.3% YY**
	Ex Food, Drink, Tobacco, Energy (Nov)	**Forecast: 0.1% MM, 1.5% YY**	**Prior: 0.2% MM, 1.5% YY**
	Retail Prices (Nov)	**Forecast: 0.0% MM, 2.2% YY**	**Prior: 0.0% MM, 2.3% YY**
	RPIX – Ex Mortgages (Nov)	**Forecast: 0.0% MM, 2.3% YY**	**Prior: 0.0% MM, 2.4% YY**
	Another drop in petrol prices is likely to pull CPI inflation lower again this month, and continued weakness in food and energy is likely to cut CPI inflation below 1% in the December data, hence triggering an open letter from the BoE Governor to explain why inflation is so low. We expect CPI inflation will stay around 1% YoY until roughly Sep-15, assuming commodity prices now stabilise.		
Tue 16 Dec	***Producer Input Prices (Nov)***	**Forecast: -1.2% MM, -9.0% YY**	**Prior: -1.5% MM, -8.4% YY**
	The continued sharp decline in oil prices is likely to cause another large drop in input prices, producing the largest YoY decline since mid-2009. All this points to further weakness in CPI inflation in coming months.		
Tue 16 Dec	***Producer Output Prices (Nov)***	**Forecast: -0.3% MM, -0.6% YY**	**Prior: -0.3% MM, -0.5% YY**
	Output Prices Ex Tax (Nov)	**Forecast: -0.3% MM, -0.4% YY**	**Prior: -0.3% MM, -0.2% YY**
	Ex Food, Drink, Tobacco, Energy (Nov)	**Forecast: 0.0% MM, 1.0% YY**	**Prior: 0.1% MM, 0.9% YY**
	Weakness in oil prices is likely to produce another very weak reading for output prices, with the YoY rate negative for the fifth month in a row. The headline YoY rate was negative for six consecutive months in 2009, and that record may be broken in coming months.		
Wed 17 Dec	***LFS Unemployment, 3-M Avg (Aug-Oct)***	**Forecast: -95,000 QQ, 5.9% Rate**	**Prior: -115,000 QQ, 6.0% Rate**
	LFS Unemploym't, Single Month (Oct)	**Forecast: 5.7% Rate**	**Prior: 6.1% Rate**
	Claimant Count Unemployment (Nov)	**Forecast: -20,000 MM, 2.8% Rate**	**Prior: -20,400 MM, 2.8% Rate**
	Average Earnings Ex Bonus YoY (Oct)	**Forecast: 1.8% YY, 1.6% 3-mo avge**	**Prior: 1.8% YY, 1.3% 3-mo avge**
	Surveys suggest that firms' hiring intentions remain very strong, and there also is a sizeable backlog of unfilled job vacancies. At the same time, the previous rise in the participation rate seems to be stalling. As a result, we expect the jobless rate will continue to fall. Average earnings ex bonuses rose 0.7% MoM in September, well above the recent trend, and it will be important to see if that higher pace is repeated this month.		
Thu 18 Dec	***Retail Sales Volumes (Nov)***	**Forecast: 0.4% MM, 4.4% YY**	**Prior: 0.8% MM, 4.3% YY**
	We anticipate another solid gain in retail sales volumes, given that surveys suggest that retail sales growth remains fairly strong as well as the boost to spending power from lower oil prices. A figure in line with our forecast would put the average level of volumes in October and November roughly 0.9% above the Q3 average, hence pointing to another solid quarter.		
Fri 19 Dec	***Public Sector Net Borrowing (Nov)***	**Forecast: £16.3bn deficit, £82.5 billion deficit fiscal year to date**	
	(Ex Public Sector Banks)	**Year Ago: £15.7bn deficit, £76.2 billion deficit fiscal year to date**	
	We expect the fiscal deficit will again come in a little above last year's level, reflecting sluggish revenue growth. Revenues from income tax are undershooting markedly, reflecting the expansion of pay in low-pay sectors and the erosion of the tax base on people in low-paid work.		

Source: Citi Research

Figure 12. Economic Calendar, 1 December — 19 December 2014

1 December	2 December	3 December	4 December	5 December
Manufacturing PMI (Nov) Oct 53.3 Nov 53.5 **Mortgage Approvals (Oct)** Sep 61,234 MM, -8.8% YY Oct 59,426 MM, -13.1% YY	**Construction PMI, Nov** Oct 61.4 Nov 59.4 **Mergers & Acquisitions Involving UK Companies (Q3)**	**Services PMI (Nov)** Oct 56.2 Nov 58.2 **MPM Meeting Starts** **Autumn Statement** **OBR's *Economic & Fiscal Outlook*** **Bank of Canada:** Rate Unchanged at 1.00%	**Halifax House Prices (Nov, 08:00)** Oct -0.4% MM, 7.7% YY Nov 0.4% MM, 7.3% YY **MPC Outcome:** Rate Unchanged at 0.50% QE Unchanged at £375bn **ECB Outcome:** Refi Rate Unchanged at 0.05%	**KPMG/REC Report on Jobs (00:01)** **BoE/GfK Inflation Attitudes Survey**
8 December	**9 December**	**10 December**	**11 December**	**12 December**
BoE *Quarterly Bulletin* **Extraordinary Eurogroup Meeting** (Brussels)	**Industrial Production (Oct)** Sep 0.6% MM, 1.5% YY OctE 0.3% MM, 2.0% YY **Manufacturing Output (Oct)** Sep 0.4% MM, 2.9% YY OctE 0.3% MM, 3.3% YY **EcoFin Meeting** (Brussels)	**Trade Balance – Goods & Services (Oct)** Sep £-1.8bn OctE £-2.5bn	**RICS House Price Survey (Nov, 00:01)** **Swiss National Bank Monetary Policy Assessment & Press Conference (08:30)** **Norges Bank Interest Rate Decision & Monetary Policy Report (09:00)**	**Construction Output (Oct)** *During the Weekend* **Japan: General Election** (12 Dec)
15 December	**16 December**	**17 December**	**18 December**	**19 December**
CBI Industrial Trends Survey (Dec, 11:00) **Output Expectations (Dec)** Nov +12% DecE +15% **Order Books (Dec)** Nov +3% DecE +3% **Selling Prices (Dec)** Nov -1% DecE -3%	**BoE's Half-Yearly *Financial Stability Report* *Report (07:00)*** **Consumer Prices (Nov)** Oct 0.1% MM, 1.3% YY NovE 0.0% MM, 1.2% YY **CPI Ex F, D, T, E (Nov)** Oct 0.2% MM, 1.5% YY NovE 0.1% MM, 1.5% YY **Retail Prices (Nov)** Oct 0.0% MM, 2.3% YY NovE 0.0% MM, 2.2% YY **RPIX – Ex Mortgages (Nov)** Oct 0.0% MM, 2.4% YY NovE 0.0% MM, 2.3% YY **Producer Input Prices (Nov)** Oct -1.5% MM, -8.4% YY NovE -1.2% MM, -9.0% YY **Producer Output Prices (Nov)** Oct -0.3% MM, -0.5% YY NovE -0.3% MM, -0.6% YY **Ex F, D, T, E (Nov)** Oct 0.1% MM, 0.9% YY NovE 0.0% MM, 1.0% YY **FOMC Meeting**	**LFS Unemployment (Aug-Oct)** Jul-Sep -115K QQ Aug-OctE -95K QQ **LFS Unemployment Rate, 3-Month Avg (Aug-Oct)** Jul-Sep 6.0% Aug-OctE 5.9% **LFS Unemployment Rate, Single Month (Oct)** Sep 6.1% OctE 4.7% **Claimant Count Unemployment (Nov)** Oct -20.4K MM, 2.8% Rate NovE -20.0K MM, 2.8% Rate **Avg Earnings Ex Bonus (Oct)** Sep 1.8% YY, 1.3% 3M YY OctE 1.8% YY, 1.6% 3M YY **MPC Minutes (4 Dec)** **BoE Agents' Summary of Business Conditions (Dec)** **FOMC Outcome (19:00)**	**Retail Sales Volumes (Nov)** Oct 0.8% MM, 4.3% YY NovE 0.4% MM, 4.4% YY **European Council Meeting** (Brussels)	**Public Sector Net Borrowing (Ex Banks) (Nov)** Nov13 £15.7bn Deficit Nov14E £16.3bn Deficit **Fiscal Year To Date** Apr-Nov13 £76.2bn Deficit Apr-Nov14E £82.5bn Deficit **European Council Meeting** (Brussels)

E Citi estimate. B Billion. P Provisional. R Revised. Note: All data are released at 9.30 a.m., except those marked otherwise.
Sources: BoE, CBI, ONS, national sources and Citi Research.

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

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