



**John Greenwood**  
Chief Economist, Invesco

### Overview

#### The Brexit Shock

- On 24 June immediately following the British referendum vote in favour of exit from the EU, financial markets were hit by an abrupt sell-off. Sterling plunged, equities fell, yield spreads on lower quality debt rose, and gold prices soared.
- Whereas the January-February sell-off was quite gradual, extending over six weeks from yearend until early February, this time the impact was sharper and larger. The FTSE 100 fell over 8.5% in the first hour of trading on 24 June, but by close of business on 29 June it had recovered to a level higher than the close on 23 June (all returns are in sterling on a net total return basis).
- More significantly the FTSE 250, which better represents domestic UK companies, fell almost 12% in the first hour of trading on 24 June, and by close of business on 29 June it had retraced about 4 percentage points of that decline, to end 8% down compared with 23 June.
- Sovereign bond yields in most major markets declined, reflecting a widespread flight to quality, while currencies perceived as safe-havens such as the US dollar and Japanese yen strengthened. Corporate bond yields did not fare so well; in particular yields and spreads on bonds of lower quality rose across the UK and Europe.
- Gold prices jumped from US\$1,255 per ounce on 23 June to US\$1,358 on 24 June, slipping to US\$1,324 by 29 June.

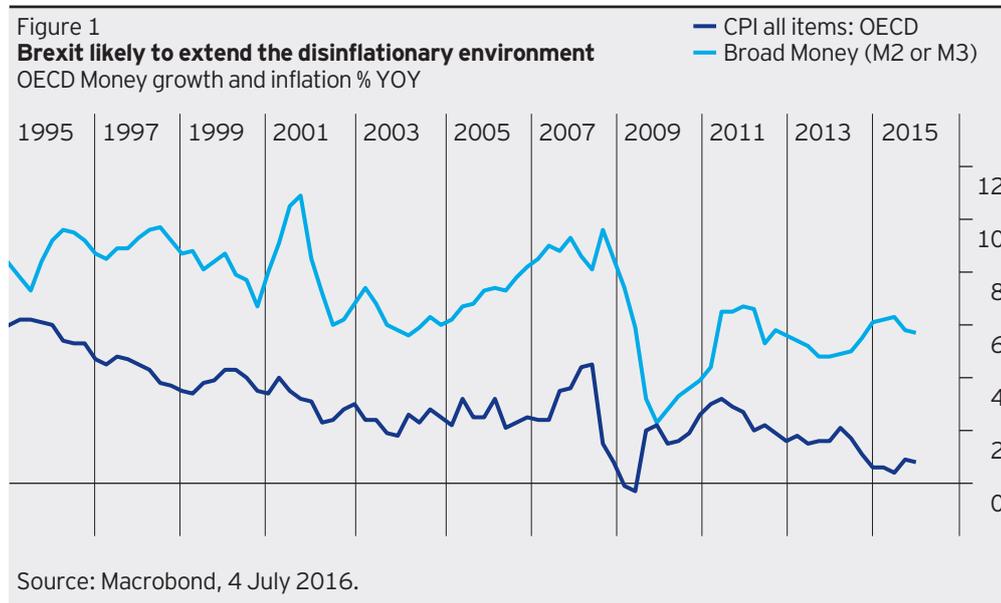
#### Longer term consequences

- Severe sell-offs are typically deflationary. When confidence is hit, investment declines, investors tend to hold higher levels of liquidity, real GDP growth stalls and inflation slows. Money and credit growth slow. In the UK there is likely to be a small rise in inflation as a result of the fall in sterling, but weak spending may offset some of the imported inflation.
- In UK politics there has already been a dramatic unravelling on both the left and the right. Prime Minister Cameron has announced that he will stand down, prompting a Conservative Party leadership contest. A general election may follow. Meanwhile the Labour shadow cabinet has suffered a series of resignations and a motion of no confidence by Labour Party Members of Parliament in their leader, Jeremy Corbyn.
- The major near-term economic impact seems likely to be on capital spending and inward investment into the UK, and on the financial sector as banks and others consider shifting activities from London to European cities where they can expect to continue to do certain kinds of business even after Brexit.
- How much investment will decline and how much of an economic downturn there will be in the UK will depend critically on what kind of deal the UK can negotiate in relation to the EU's four freedoms (trade in goods, services and capital, and the free movement of people) after it triggers Article 50 of the Lisbon Treaty to exit the EU. Both sides have interests to protect, but the EU will likely have the upper hand in the negotiations.
- Across the EU and the Eurozone the effect of the UK vote could have political and economic contagion effects, prompting demands for copycat referenda as many EU economies have been suffering from the same symptoms that gave rise to the UK vote for Brexit.
- Outside the UK and the EU the sustained effects of Brexit are likely to be far smaller, even though financial markets initially exaggerated its impact. Uncertainties will doubtless persist until the shape of the deal between the UK and the EU becomes clearer.

Figure 1

#### Brexit likely to extend the disinflationary environment

OECD Money growth and inflation % YOY



Source: Macrobond, 4 July 2016.

### Beyond Brexit

- In June the US Federal Reserve (Fed) again postponed raising interest rates on account of uncertainties in the international arena, this time ahead of the British referendum on EU membership, and voting members simultaneously lowered their expectations of the Fed funds rate in the next two years.
- Meanwhile, money and credit growth in the US continues to grow at moderate rates sufficient to support economic growth and low inflation. Recession risks are minimal.
- By contrast, the Eurozone and Japan are still in the midst of extended programmes of quantitative easing (QE) intended mainly to keep interest rates low along the length of the yield curve (rather than directly to boost the rates of growth of money and credit), and hence to stimulate the two economies.
- However, the QE programmes of the European Central Bank (ECB) and the Bank of Japan (BoJ) both suffer critical design flaws. Hence, both are gaining less traction than under alternative designs, and it is no coincidence that both the Eurozone and Japan are experiencing sub-par growth, near-deflation and negative interest rates.
- In the UK, in the wake of the Brexit decision, Bank of England (BoE) Governor Carney has already indicated that he will consider additional measures to ensure financial stability.
- The overall picture is one in which both growth and inflation will remain subdued against the backdrop of low money and credit growth during the past few years.
- In the emerging economies the slowdown in China, together with on-going recessions in Brazil and Russia are impacting commodity markets. Despite the recent modest upturn in oil and iron ore prices, numerous basic industries have massive excess capacity which will likely weigh on commodity prices. Meantime, global trade volumes remain distinctly weak.
- Beyond that, emerging market (EM) commodity producers are likely to suffer further currency depreciation, while EM manufacturers should start to benefit from the steady recovery in the US.

Figure 2 (%)

#### Consensus Economics

Economies	2015 Actual		2016 Consensus forecasts (Invesco forecast)	
	Real GDP	CPI inflation	Real GDP	CPI inflation
US	2.4	0.1	1.8 (1.8)	1.3 (1.1)
Eurozone	1.6	0.0	1.5 (1.6)	0.3 (0.2)
UK	2.3	0.1	1.4 (1.6)	0.8 (0.7)
Japan	0.6	0.8	0.5 (0.7)	-0.1 (-0.2)
Australia	2.5	1.5	2.9 (2.7)	1.4 (1.3)
Canada	1.1	1.1	1.4 (1.6)	1.6 (1.1)
China	6.9	1.4	6.6 (6.6)	1.9 (1.6)
India	7.6	4.9	7.6 (7.5)	5.1 (5.1)

Source: Consensus Economics, Survey Date: 7 June 2016. Figures for UK, Eurozone and US include post-Brexit data reported on 28 June 2016.

## United States

After a disappointing initial estimate of 0.5% annualised growth, US real GDP for the first quarter of 2016 was revised up to 0.8% and then again by the third estimate to 1.1%. However, at the start of July the "Nowcast" estimate of real GDP for the second quarter by the Atlanta Fed was 2.6% - essentially a return to normal growth. Although still too early to be reliable, this estimate suggests a significant improvement in economic performance compared with what was implied by the very weak non-farm payroll figure of just 38,000 jobs added (compared with 162,000 expected) in the month of May.

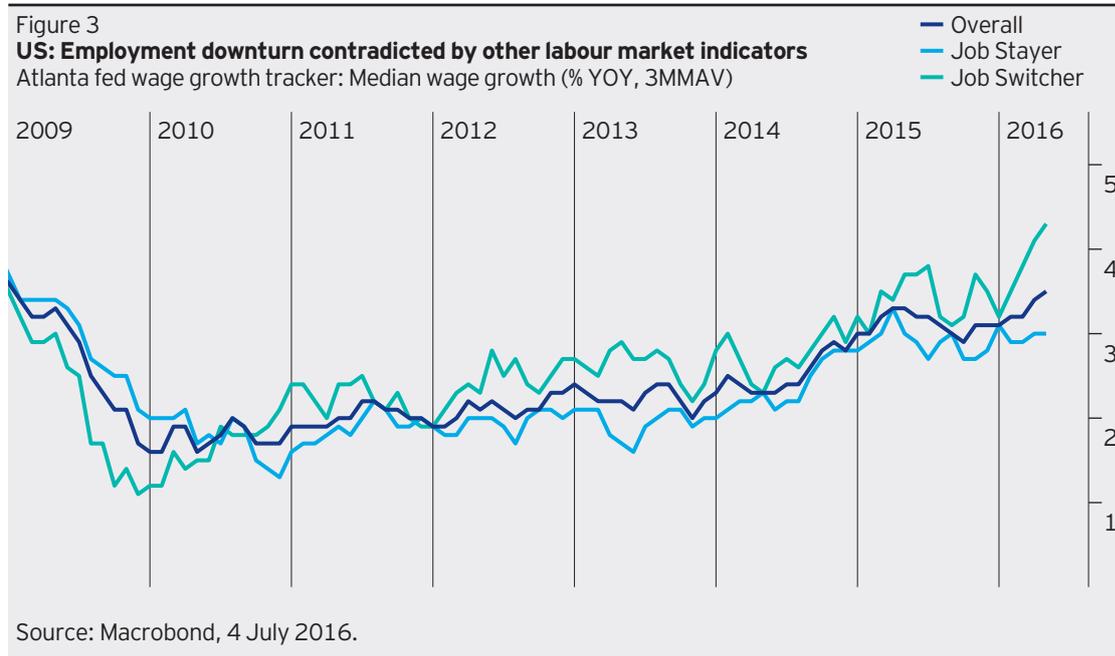
The pause in hiring can probably therefore be seen as a rogue number, partly attributable to the Verizon strike, because many other indicators of the labour market have not weakened at all. For example, weekly initial jobless claims have remained in the downtrend established since 2009, while headline unemployment fell in May to 4.7% and other data such as hiring and wage data all suggest the labour market continues to be in robust health. Notably, the Atlanta Fed's wage growth tracker showed overall wage growth of 3.5% in May, and 4.3% for job switchers, a category that is very sensitive to tightening labour market conditions.

More fundamentally, measures of private sector balance sheets continue to strengthen, while credit from the banking system continues to grow at a rate of 7.5% p.a. and M2 (mostly deposits on the liability side of banks' balance sheets) grew by 6.9% over the year to 20 June. Moreover, corporate capital spending remains below normal, in large part due to the downturn in the energy sector. Also, manufacturing generally has been adversely impacted by the strong US dollar, but housing investment is firm with house prices for all transactions rising 5.4% over the year in Q1 2016. Consumer demand is strengthening and recent retail spending figures have been solid.

Taking into account the weakness of GDP in the first quarter and the continuing adjustment of the energy sector, for the year as a whole average I forecast real GDP growth to be 1.8%, down from my previous estimate of 2.2%.

On the inflation front the headline CPI increased by 1.0% in May compared with the year before, while the core CPI, which excludes volatile food and energy items and gives a better sense of the trend, increased by 2.2%. Similarly, the headline personal consumption expenditure (PCE) deflator for May was 1.1% while the core PCE index (which omits food and energy) came in at 1.6% - still below the Fed's 2% target. However, given modest money and credit growth over the past 2-3 years it is unlikely that inflation can increase significantly. For 2016 as a whole I forecast a 1.1% increase in headline CPI inflation, rising to 1.4% in 2017.

Against this backdrop of uncertainty about the strength of the recovery, combined with generally subdued inflation and recurrent episodes of instability abroad, the Federal Open Market Committee again postponed hiking interest rates in June. Furthermore, in view of the financial instability created by the Brexit referendum it seems highly unlikely that the Fed will raise rates in July. This means that the next formal opportunity for a rate adjustment will be in September, at a time when the US presidential election campaign will be in full swing. Unless the economy is markedly stronger by then it would therefore seem likely that any interest rate hike will now be postponed until December.



## The Eurozone

Since the ECB started its QE purchases of government bonds in March 2015, the economies of the Eurozone have gradually started to see some signs of improvement. In addition, the fiscal spending restraints have become less of a drag on overall GDP as state governments have converged on their budgetary targets. Reflecting these factors the revised estimate of real GDP for Q1 2016 showed an expansion of 0.6% quarter-on-quarter - outpacing both the US and the UK for the first time in many years - and 1.7% growth over the previous year. One sign of its recent enhanced performance was the progressive acceleration in the quarter-on-quarter growth rates from 0.3% in Q3 2015 to 0.4% in Q4 and 0.6% in Q1 2016. The latest quarter was also significant because after eight years of stagnation and crisis, the level of Eurozone real GDP finally returned to its pre-crisis level.

The stronger growth has come from a modest increase in investment, more consumption - aided by lower energy prices - and net export growth. However, industrial and manufacturing output growth suffered setbacks in February and March, reflecting erratic figures from Germany, the Euro-area's industrial powerhouse. For example, there was a strong rebound of industrial production in April (+0.8%) following a sharp drop in March (-1.1%). Capital goods output and orders for factory goods in Germany, especially from outside the EU, have been especially volatile making it difficult to be sure of the underlying trends. These factors have resulted in subdued exports for Germany so far this year.

Despite the improved spending growth, prolonged low rates of money and credit growth together with the recent strengthening of the euro have meant that inflation in the Euro-area continues to undershoot official targets. Consumer prices were flat with 0.0% change in Q1 2016 compared with one year before, and reverted to mild deflation in April (-0.2%) and May (-0.1%), far below the ECB's target of "below but close to 2%". To try to overcome this long-running problem, in March the ECB's Governing Council decided to expand their QE asset purchases from €60 billion per month to €80 billion per month, starting in April and to run until March 2017, "or beyond, if necessary and in any case until the Governing Council sees a sustained adjustment in the path of inflation". They also expanded the range of their purchases to include €5-10 billion per month of corporate

bonds and to launch four targeted longer-term refinancing operations (TLTRO II), with both the latter programmes starting in June.

The ECB's QE programme remains less stimulating to markets and the broader Euro-area economy than it should be due to basic design flaws. It is no coincidence that the two main areas which are experiencing negative interest rates, sub-par growth and near-deflation, i.e. Japan and the Eurozone (plus spill-over effects in the three euro-linked economies of Sweden, Denmark and Switzerland) - are also the economies where the major central banks have implemented flawed versions of QE.

The fundamental problem is that the ECB and the BoJ are trying to implement QE through the normal credit creation channels of the banking system (which aren't working). Instead they could create new deposits or money in the hands of firms and households outside of the banking system by asset purchases directly from these non-bank entities. This is in effect what the Fed and the BoE did. In other words it would be better for the ECB to circumvent the banks, not to rely on them to create loans and hence deposits at a time when the banks are suffering impaired balance sheets - as illustrated by the on-going efforts of the Italian government to secure a multi-billion euro bail-out for their banks. While the new purchases of corporate bonds will create new deposits in the hands of non-bank entities, the remainder and largest part of the programme (additional sovereign bond purchases and TLTROs) are once again designed to operate through the - broken - transmission mechanism of the banking system. Simply cutting interest rates, even into negative territory, is not guaranteed to ensure faster deposit or money growth because banks will still be reluctant to lend, whereas direct purchases from non-banks will ensure quicker M3 growth.

Given these problems in the implementation of QE, and the need for further balance sheet repair across the region, euro-area growth will continue to be moderate rather than strong. In addition, while the long-term consequences of the Brexit referendum should favour the rest of the EU at the expense of the UK, in the short term the shocks to activity that will flow from a weaker sterling and the slowdown in the UK will adversely affect the other EU economies. For 2016 as a whole I therefore expect real GDP growth of 1.6% and CPI inflation of 0.2%.



## United Kingdom

Before the Brexit referendum the UK economy was growing modestly at 0.4% quarter-on-quarter in the first quarter of 2016, and 2.0% year-on-year. Growth in value-added terms was led by services which increased across the board (+0.6%), but production (which includes manufacturing) decreased by 0.4% while construction also declined by 1.0%. Measured on the expenditure basis in volume terms, household final consumption expenditure increased by 0.7%, gross fixed capital formation increased by 0.4%, while general government increased by 0.3%. However, these gains were offset by a widening of the trade deficit from £16.4 billion to an estimated £18 billion, and a current account deficit of £326 billion, almost 7% of GDP, resulting in GDP growth of only 0.4%. Overall, the economy was decelerating at a moderate pace, as was evident in the lower growth of employment. In part this was associated with the early signs of a Brexit-induced slowdown as inward foreign direct investment and property development projects were being delayed pending the results of the referendum.

Compared to the situation two years ago, the economy was in the process of gradually overcoming the three main headwinds that had been holding it back. First, the continuing repair of household and financial sector balance sheets had continued to the point where household appetite for debt was recovering, and bank lending had recently turned positive. With regulatory pressures easing, the banks were making credit more readily available again. However, much of this could now be jeopardised by the renewed uncertainty, lower capital inflows, reduced investment, and possible job losses in the wake of the Brexit decision.

Second, the fall in commodity prices over the past year had helped reduce headline inflation and enabled personal incomes to grow in real terms, thus boosting the crucial consumer sector. However, the fall in the pound to around US\$1.33 as a result of Brexit will again boost the price of imports for British consumers, adding to CPI inflation and eroding their real earnings. This effect will not be as large as in 2011-13 due to the lower level of most commodity prices resulting from weaker growth in the larger emerging economies of China, Brazil and Russia. On the other hand, upward pressure on prices will be offset to a degree by weaker domestic demand in the

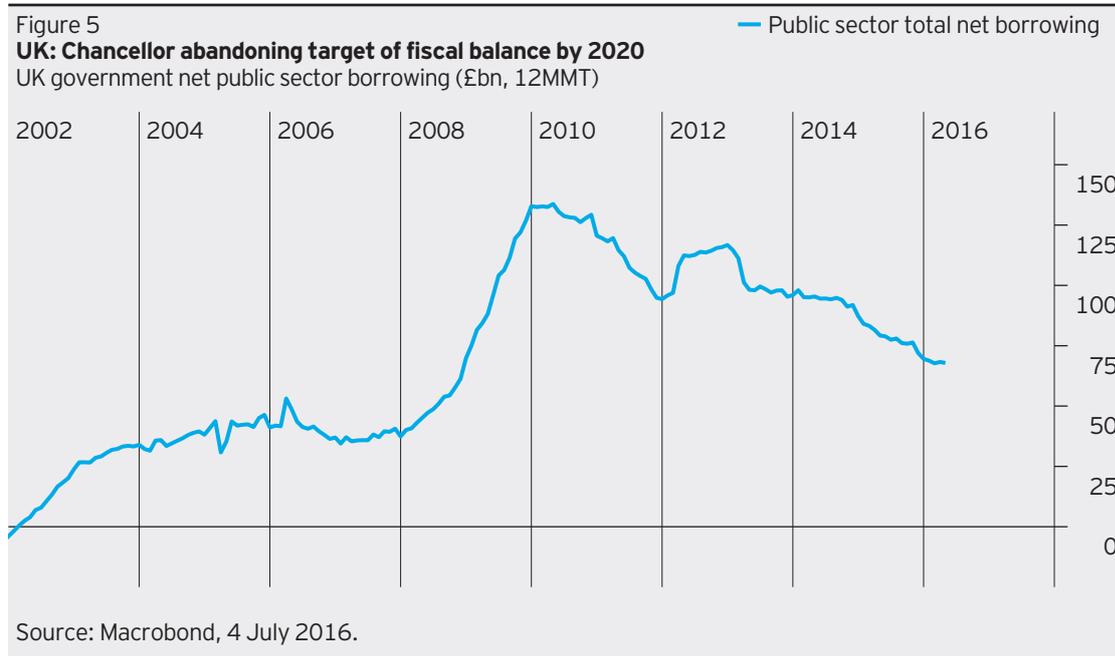
UK. Even so, I expect inflation to pick up moderately as a result of Brexit, rising from 0.3% year-on-year to 0.7% for 2016 as a whole. Core CPI inflation - which omits food and energy prices - was 1.2%.

Third, as explained above, there are signs of gradual improvement in economic activity in the euro-area, the UK's largest trading partner, although this may not accelerate much further in the year ahead. Also, the post-Brexit depreciation of the pound will help to make the UK more competitive, aiding British exports.

In the immediate aftermath of the Brexit decision the Governor of the BoE pledged that as much as £250 billion would be available to support financial markets and ensure adequate liquidity. Subsequently the Governor made a longer statement to the effect that "The economic environment has deteriorated and some monetary policy easing will likely be required over the summer." A cut in the bank rate is unlikely to have more than symbolic significance since if lenders and borrowers have been reluctant at 0.5%, they will not suddenly change their attitudes at 0.25%. It is therefore more likely that the BoE will either undertake additional asset purchases (QE) in the event there are signs of a credit freeze, or more likely, ease its macro-prudential restrictions on bank lending standards.

On the fiscal policy side the Chancellor of the Exchequer has made it clear that the financial projections made at the time of the March Budget can no longer be expected to hold. Revenues are certain to fall below target, while the government may need to undertake further expenditure to support economic activity in particular sectors. Either way the previous target of achieving a budget surplus by 2020 will now be set aside as the economy adjusts to the post-Brexit environment.

With all these changes flowing from the Brexit decision, I now expect the economy to grow at 1.4% this year as a whole (compared with my previous forecast of 2.2%), and about 1% in 2017. Since the bulk of this slowdown will come in the second half of 2016 and in early 2017 there is some possibility of a technical recession (i.e. two successive quarters of decline in real GDP). However, with consumer spending buoyant and with fiscal easing in prospect, the risk of recession should not be overstated.



## Japan

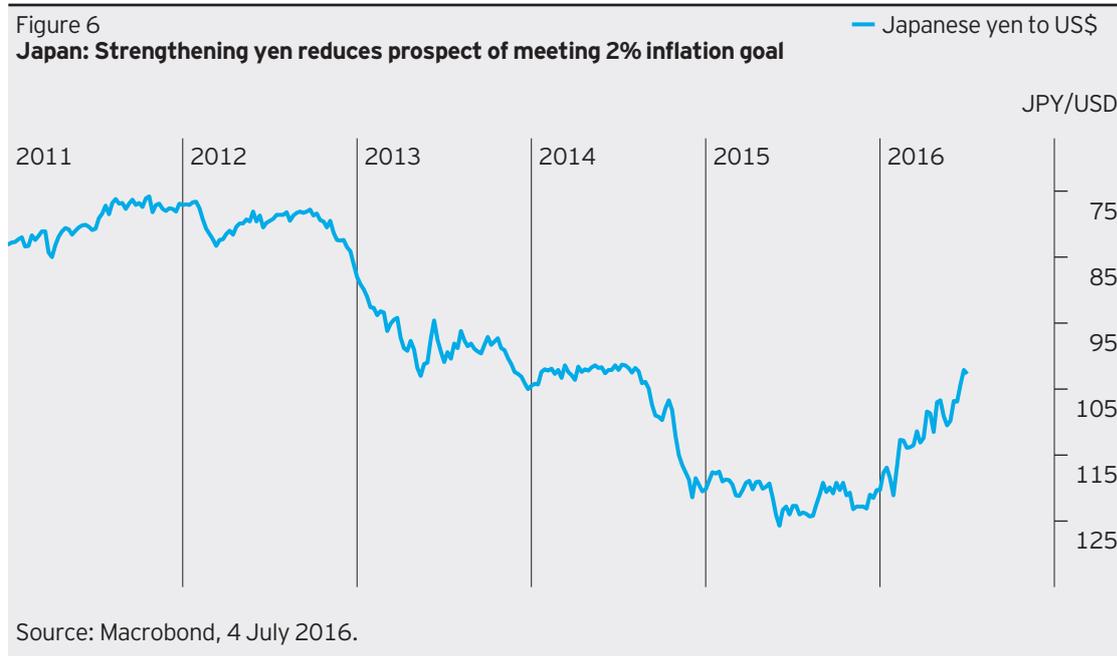
After the slump in real GDP growth in Q4 2015 (-0.3%), the economy experienced a surprising bounce-back in the first quarter of 2016, growing by 0.5% (quarter-on-quarter, or 2.0% at an annual rate), led mainly by personal consumption (+0.6% quarter-on-quarter) and despite a fall in investment spending (-0.7%). On a year-to-year basis the GDP growth rate was exactly 0.0%, reflecting the persistent structural weaknesses such as the ageing population, a declining labour force and the strengthening yen. The longer term weak performance also reflects the disappointing outcome of three years of Abenomics since the election of December 2012.

This underlying economic weakness was the main reason why Prime Minister Abe announced on 31 May that he would postpone once more the long-planned sales tax hike. The increase from 8% to 10% is now scheduled to take place in October 2019 instead of April 2017. However, unless the economy strengthens significantly before then it seems highly likely that it will again be delayed. The last sales tax hike (2014) and the plan to raise it to 10% had been inherited from the previous government. However, the economy fell into recession when the tax was raised in 2014 in the first phase of the plan, and was due to be raised again in October 2015, before being delayed by Abe's government. Another tax hike imposed on a weak economy will almost certainly push the economy into recession. Moreover, there is widespread opposition to the tax. A poll published by the Nikkei newspaper in early June showed that nearly two-thirds of respondents opposed next year's hike.

Against this weak growth background, inflation has again returned to negative territory. In April the headline and core CPI rates both recorded -0.3%, and in May -0.4% year-on-year. These results fall far short of BoJ Governor Kuroda's target of 2% year-on-year growth in core CPI inflation. Immediate factors explaining the return to deflation include the strengthening of the yen from around 125 per US dollar a year ago to 102 at the end of June 2016, together with the failure of oil prices to rise back above \$50 per barrel.

On the monetary policy front there have been no major decisions since the adoption of negative rates by the BoJ Policy Board on 29 January with a narrow majority of five to four. As with the ECB, the shift to negative rates is the sad consequence of an ill-designed QE programme. If the BoJ had concentrated on buying long-term securities only from non-banks instead of from banks, the results would have been very different, directly creating new deposits and hence M2 in the hands of the non-bank public. M2 growth rates of 5-6% or more in turn would have triggered the portfolio re-balancing plus increased investment and consumption spending effects that were achieved by the US and the UK QE programmes. Instead, Japan's M2 continues to grow at just 3.4% in May, about half the optimal rate of M2 growth, basically because loan growth - the matching item on the other side of banks' balance sheets - is growing very slowly. In May loan growth was only 2.2%.

Together these challenging circumstances mean that I forecast Japan's real GDP to grow just 0.7% in 2016, and the country to record another year of deflation with a CPI change of -0.2% year-on-year for the year as a whole.



## China and non-Japan Asia

Real GDP in China grew at 6.7% in the January-March quarter compared with the same period a year ago. This was the slowest growth in seven years, but in line with expectations and China's own growth targets set out in Premier Li's 2016 Government Work Report. In view of the need to adjust to overinvestment in basic industries such as steel and chemicals in recent years and the slump in global prices for the output of some of these state-owned enterprises, the government has set the GDP growth target for 2016 at a lower range of 6.5%-7%.

The gradual slowdown in the economy was reflected in the official manufacturing PMI which slipped to 50.0 in June versus 50.1 in May and the unofficial Caixin PMI - a survey that focuses on medium and smaller sized companies - which declined to 48.6 in June from 49.2 in May. The continuing slowdown reflects not only the adjustment to excess capacity at home, but also the start of a shift of some activities to lower wage economies in south-east Asia. Official policies to reform the state-owned enterprises (SOEs) - such as the 2013 decision to rely more on market forces - have achieved little, yet the bulk of bank credit is still being allocated to the inefficient and less profitable SOEs.

To alleviate the slowdown and offset the liquidity drain due to continuing capital outflows the People's Bank of China, the central bank, has undertaken further easing measures, injecting funds into the money market at the going rate of 2.25% by means of a series of reverse repos. Also, China's trade-weighted currency basket has been allowed to depreciate by about 10% since last August when the bilateral rate against the US dollar was unexpectedly adjusted downwards in a move that shocked markets. Further measures are likely during the year as the authorities grapple with slowing growth, adverse capital flows, and the desire not to allow too much currency depreciation.

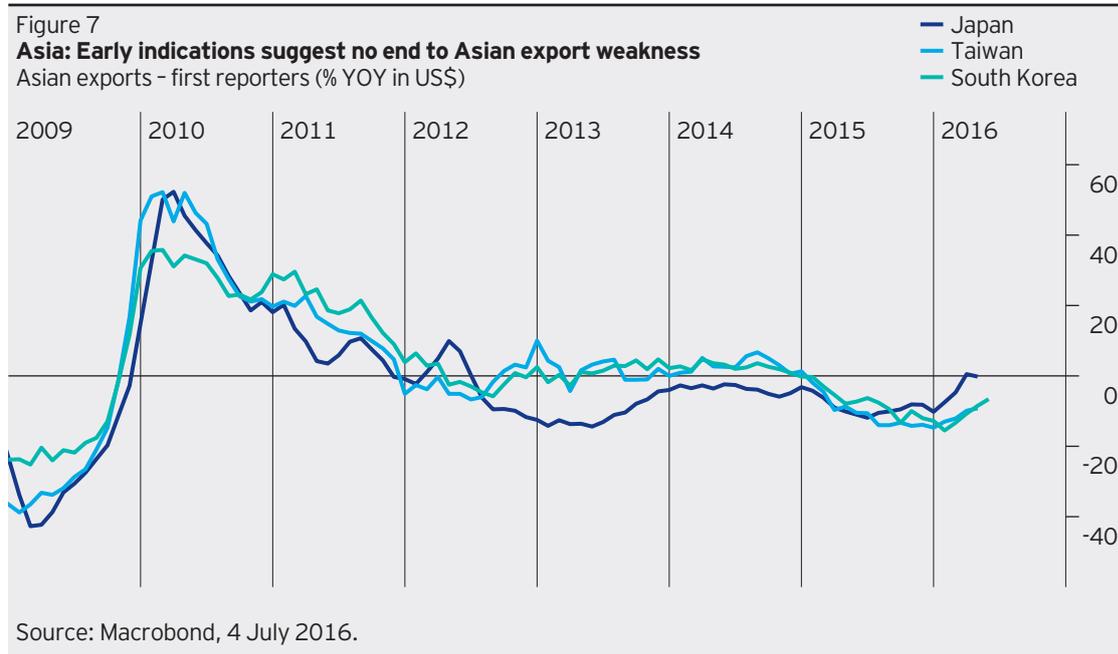
Other strategies to offset the domestic slowdown include the OBOR (One Belt, One Road) plan to develop economies along the historic "silk road" as well as more southern maritime trade routes, and the launch of the new Asian Infrastructure Investment Bank. Under the OBOR initiative, China plans to expand the market for Chinese exports, secure raw materials, provide outlets for domestic excess capacity and to promote further internationalisation of their currency.

Given the need to deleverage the economy after seven years of very rapid credit growth and given the slow growth of China's more developed trading partners, it seems inconceivable that there could be any significant upturn in the growth rate anytime soon. For 2016, I expect real GDP growth to slow to 6.6%, and inflation to remain broadly unchanged at 1.6%.

The slowdown in China and in world trade has hit the smaller East Asian economies especially hard. Asian emerging markets are heavily reliant on exports. Therefore declines in exports are having a dramatic effect on East Asian economies' reported GDP, many of which have slowed to low single digit growth rates.

In addition to seeing declines in their exports, these economies have also experienced a depreciation of their currencies against the US dollar. For example the Malaysian ringgit was down nearly 25% against the US dollar at the end of June 2016 compared to two years earlier and the Korean won had fallen 12.5% in the same period. These depreciations have coincided with the fall in exports that began in early 2015 and has persisted since, affecting almost all the smaller East Asian economies.

Until global demand strengthens - especially in the Euro-area and Japan - and China succeeds in stabilizing its growth rate, it seems likely that the smaller East Asian economies will not regain their past vigour. They may benefit marginally from cheaper commodity prices, but those price declines are hurting some of their key export markets such as Brazil and Indonesia. Finally, even the export of semi-manufactured items and components to China has declined, as more of the Asian supply chain has been relocated to China itself.

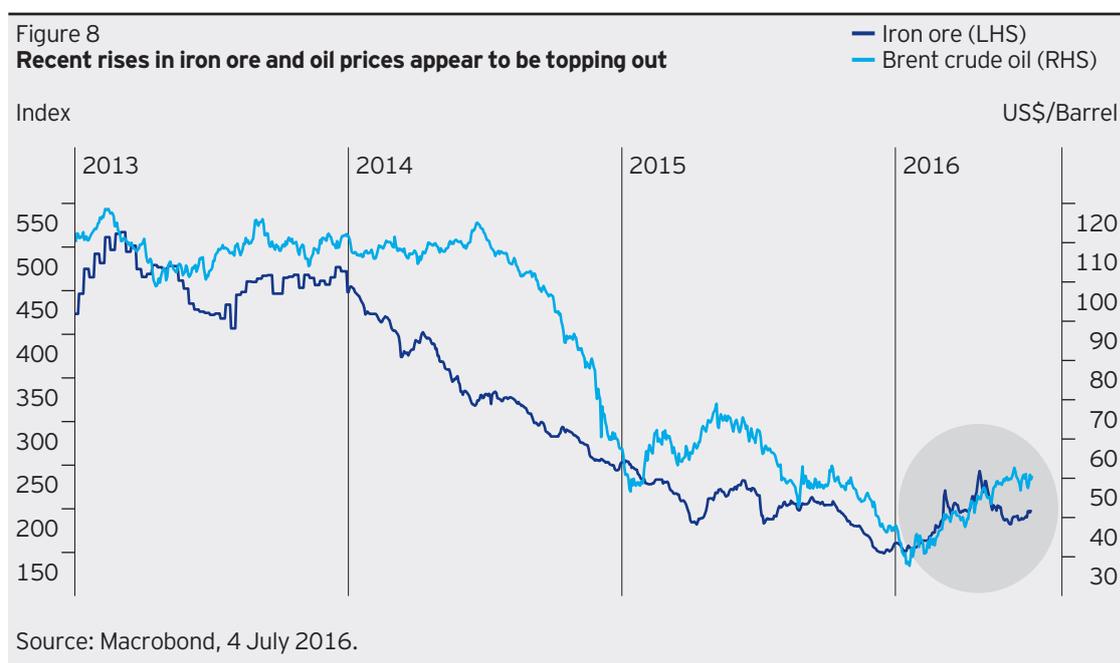


## Commodities

Although most commodities have seen a modest increase in prices since the end of 2015, prices are still far below their levels of five years ago. In a number of the basic industrial commodity markets such as iron ore, coal, copper and oil, excess supplies continue to be the hallmark of market conditions. In the case of iron ore, for example, the current price is US\$54 per tonne compared with US\$184 in January 2011. Across a range of similar products the supply/demand balance suggests that the slump in key raw materials prices is far from over. The problem is that during the commodity super-cycle of 2002-2011 demand for commodities pushed prices so high that massive investments were made, leading to the current glut of capacity. This is why so many mining or oil companies generally have excess inventories of product.

In the markets for soft commodities the pattern has been more varied and because the products are mostly produced and consumed within a year the overhang of excess production is not so severe. Nevertheless, demand remains tepid and, in the absence of special factors on the supply side such as natural disasters or harvest failures, prices seem unlikely to surge any time soon.

Given that the fundamentals for most industrial commodities have not improved, the recovery in commodity prices during the first half of 2016 seems destined to be a false dawn for commodity prices. From a broader economic standpoint low prices are a requirement to cut supply and reduce excess capacity across a range of commodities. This adjustment is likely to take several years. Equally, both lower prices and reduced capacity are required to raise prices in the medium to long term.



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## Conclusion

Global financial markets have been shocked by the result of the British referendum on membership of the EU - a true "black swan" in view of the widespread predictions that the result would be a majority in favour of Britain remaining in the EU. The longer term consequences for financial markets and for economic activity in the UK and economies closely connected to it are likely to add uncertainty and hence volatility for some time to come. Financial service activity and exports are much more important to the UK than to most other leading economies (except perhaps the city states of Hong Kong and Singapore) so they must expect a substantial setback while the terms of the UK's future trading relationship with the EU are negotiated. During that period new investments in UK-based financial activity and the building of new facilities in London will suffer.

Outside the UK the EU itself will initially experience some downturn due to the uncertainty, but in the longer term it seems likely that there will be compensating benefits to European cities and industries as investment - foreign and domestic - is diverted from the UK towards the EU. All of this will be superimposed upon the broader picture that has been developing of divergent business cycles.

In the US, where the effects will be quantitatively least in relation to the size of the economy, I would expect only a minimal direct real economic impact, but a possibly greater indirect impact from a stronger US dollar. Having said that, the US remains most advanced in terms of its business cycle recovery, and therefore the Fed will be able to resume interest rate hikes at some stage over the next 6-12 months.

In the Eurozone there could be some net benefits over time, but the region is lagging in terms of its business cycle recovery and this underperformance will continue to have an impact on financial markets. The euro is likely to strengthen relative to sterling and the downturn in the UK will have a distinct impact on Europe-based exporters.

Finally, some of the large EM economies are at such a different stage of their credit cycle - having recently witnessed rapid credit growth - that the effects of de-leveraging and bank work-outs will dominate the outlook in these economies for the next several years, much more than the direct or indirect effects of Brexit.

For the world as a whole Brexit will act to delay the overall upswing, keeping growth and inflation more subdued in most economies than it would otherwise have been, but its impact will be much greater in the UK and the Euro-area than in either the US, Japan or the EM arena.

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**John Greenwood**  
Chief Economist, Invesco  
4 July 2016

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**Important information**

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