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Macro

Global Markets Research

# Global Economic Perspectives

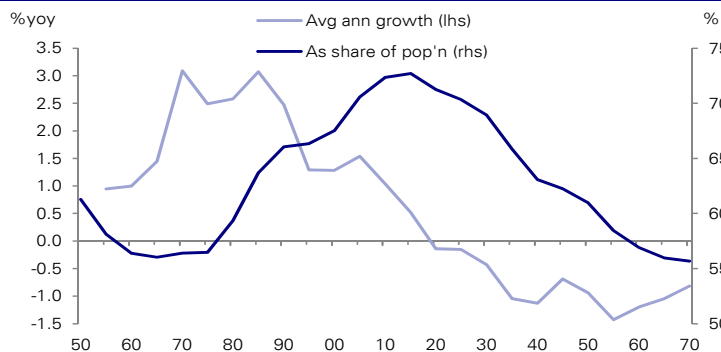
## Demographics and GDP Growth in China

- Investors seem to have had a progressively more bearish view of China's potential growth rate over the past seven or eight years since well before the Global Financial Crisis. This bearish view stems from two assertions: (1) that the era of surplus labour is over, and (2) that productivity growth cannot be sustained.
- However, we think the evidence shows that there is still a vast labour surplus. Indeed, there are potentially more surplus workers in agriculture than the number who have (net) migrated over the past 30 years.
- Similarly, China's productivity growth performance is much more positive than the consensus view seems to hold. Total factor productivity growth has not only been higher than in other Asian economies but it has been rising over time.
- But the evidence we cite also identifies two key features of reforms that the Chinese government needs to continue with to unlock its true growth potential. First, agricultural modernization is needed to free up the remaining surplus labour. Second, financial sector liberalization is needed to encourage the allocation of capital towards the more productive non-state sectors. If these two reforms are pursued – and we believe both have already begun in recent years – then our current estimate of potential GDP growth in China of about 8.5% looks to us to be a reasonable baseline for growth in the medium term.

### Fiscal cliff update

- Public discussions by politicians since the US election suggest that the disagreements between the Democratic and Republican parties over tax rates on upper-income households and entitlement reform persist. Although much of the recent rhetoric can be attributed to political posturing ahead of contentious negotiations, the tone of the discussions – and several additional developments – have made us slightly more pessimistic that the fiscal cliff uncertainty will be resolved in the near term. As such, we expect a continuation of weak economic data, market turbulence, and risk-off sentiment in the weeks to come.

### China's ageing workforce: how much of a constraint is it?



Sources: UN and Deutsche Bank

Deutsche Bank Securities Inc.

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## Economics

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Economics

## Key Economic Forecasts

	Real GDP % growth <sup>b</sup>			Consumer Prices % growth <sup>c</sup>			Current Account % of GDP <sup>d</sup>			Fiscal Balance % of GDP			
	2012F	2013F	2014F	2012F	2013F	2014F	2012F	2013F	2014F	2012F	2013F	2014F	
US	<b>2.1</b>	<b>1.9</b>	3.1	2.1	2.4	2.6	-3.2	-3.5	-3.6	-7.2	-6.3	-5.3	
Japan	<b>1.6</b>	<b>0.2</b>	<b>0.3</b>	-	<b>-0.1</b>	<b>-0.6</b>	1.7	<b>1.0</b>	<b>1.2</b>	<b>1.6</b>	<b>-10.2</b>	<b>-9.8</b>	-7.8
Euroland	-0.5	<b>-0.1</b>	<b>1.1</b>	2.5	1.8	1.7	0.4	0.5	0.7	-3.2	-2.6	-2.0	
Germany	<b>0.7</b>	<b>0.3</b>	1.5	2.0	1.7	1.6	6.1	5.3	5.0	0.0	-0.4	-0.1	
France	<b>0.1</b>	<b>-0.1</b>	<b>1.3</b>	2.3	1.7	1.6	-2.5	-2.9	-2.7	-4.8	-3.6	-2.8	
Italy	-2.4	-0.7	0.5	3.4	2.1	1.7	-0.5	0.3	0.2	-2.6	-2.0	-2.1	
Spain	<b>-1.3</b>	<b>-1.3</b>	<b>1.0</b>	2.5	1.8	1.4	-2.9	-2.1	-1.2	-6.7	-5.3	-4.0	
UK	-0.3	1.0	1.8	2.8	2.3	1.9	-2.3	-2.1	-1.8	-7.1	-7.2	-5.4	
Sweden	1.0	1.5	2.2	1.4	1.7	2.0	6.2	5.4	5.2	-0.5	0.5	1.0	
Denmark	-0.2	1.2	1.6	2.3	2.0	2.0	5.5	5.0	5.0	-4.5	-3.0	-2.0	
Norway	3.5	2.0	2.5	1.0	2.0	2.0	15.0	14.0	13.0	11.0	10.5	10.0	
Poland	2.4	1.9	2.5	3.8	2.6	2.3	-3.9	-3.5	-3.9	-3.6	-3.3	-2.9	
Hungary	-1.3	1.0	2.8	5.6	3.8	3.4	1.6	1.5	0.8	-3.0	-2.9	-2.5	
Czech Republic	-0.8	1.0	3.4	3.2	2.4	2.1	-1.9	-2.0	-2.4	-3.5	-3.2	-2.7	
Australia	3.6	2.4	3.4	1.8	3.0	2.8	-3.5	-4.5	-4.1	-3.0	0.1	0.1	
Canada	<b>2.2</b>	<b>2.3</b>	<b>3.0</b>	1.8	2.4	<b>2.3</b>	-2.6	-1.9	-1.3	-1.7	-1.5	-0.9	
Asia (ex Japan)	6.1	6.7	6.9	3.9	4.0	4.0	1.7	1.1	0.7	-2.9	-2.8	-2.3	
India	5.6	6.7	7.0	7.6	6.9	6.4	-3.2	-3.0	-2.9	-8.0	-7.5	-7.3	
China	7.7	8.2	8.0	2.7	3.0	3.0	2.7	2.0	1.3	-1.5	-1.5	-1.0	
Latin America	2.9	3.9	4.0	7.8	7.8	8.2	-1.1	-1.3	-1.4	-2.2	-1.9	-1.9	
Brazil	1.5	4.2	4.5	5.3	5.1	5.8	-2.2	-2.4	-2.5	-2.0	-1.9	-2.0	
EMEA	3.0	3.6	4.0	5.2	5.7	5.2	1.8	1.4	0.4	-0.7	-0.7	-0.7	
Russia	4.0	4.3	4.2	5.2	7.4	6.1	4.3	3.4	1.5	0.1	0.0	0.2	
G7	1.3	<b>1.2</b>	<b>2.1</b>	1.9	1.8	2.2							
World	2.9	<b>3.1</b>	3.8	3.3	3.3	3.5							

(a) Euroland forecasts as at the last forecast round on 27/09/12. Bold figures signal upward revisions, bold, underlined figures signal downward revisions. (b) GDP figures refer to working day adjusted data. (c) HICP figures for euro-zone countries and the UK (d) Current account figures for Euro area countries include intra regional transactions.

## Forecasts: G7 quarterly GDP growth

% qoq saar/annual: % yoy	Q1 12	Q2 12	Q3 12F	Q4 12F	2012	Q1 13F	Q2 13F	Q3 13F	Q4 13F	2013F	2014F
US	2.0	1.3	2.0	<b>1.3</b>	<b>2.1</b>	1.5	2.0	3.2	3.6	<b>1.9</b>	<b>3.1</b>
Japan	5.2	0.3	-3.5	<b>-1.5</b>	<b>1.6</b>	<b>1.4</b>	<b>1.4</b>	<b>1.7</b>	<b>1.8</b>	<b>0.2</b>	<b>0.3</b>
Euroland	0.0	-0.7	-0.2	<b>-1.4</b>	<b>-0.5</b>	<b>0.1</b>	<b>0.6</b>	<b>1.0</b>	<b>1.1</b>	<b>-0.1</b>	<b>1.1</b>
Germany	2.0	1.1	0.9	<b>-1.2</b>	<b>0.7</b>	<b>0.0</b>	1.2	1.6	0.8	<b>0.3</b>	<b>1.5</b>
France	-0.1	-0.2	0.9	<b>-1.6</b>	<b>0.1</b>	<b>0.0</b>	<b>0.4</b>	0.8	<b>1.2</b>	<b>-0.1</b>	<b>1.3</b>
Italy	-3.1	-2.9	-0.7	<b>-1.6</b>	<b>-2.4</b>	<b>-0.4</b>	0.0	0.8	0.5	<b>-0.7</b>	<b>0.5</b>
UK	-1.2	-1.5	4.1	0.6	<b>-0.3</b>	0.8	1.2	1.6	1.8	<b>1.0</b>	<b>1.8</b>
Canada	1.8	1.9	1.7	3.1	<b>2.2</b>	2.1	2.4	3.4	3.3	<b>2.3</b>	<b>3.0</b>
G7	1.7	0.5	0.9	<b>0.2</b>	<b>1.3</b>	1.0	<b>1.5</b>	2.3	<b>2.5</b>	<b>1.2</b>	<b>2.1</b>

Sources: National authorities, Deutsche Bank

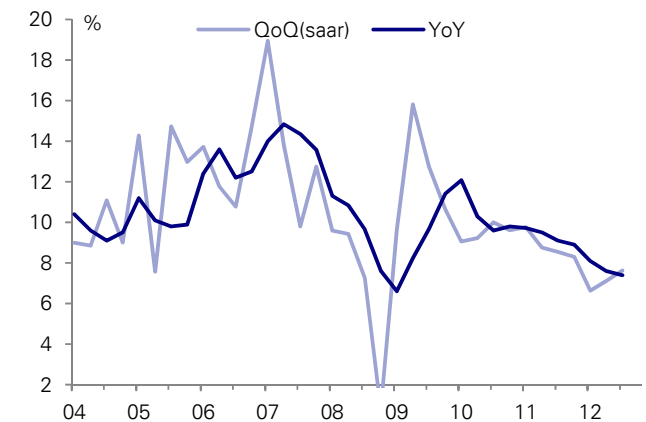
## Demographics and GDP Growth in China

- In our experience, investors have had a progressively more bearish view of China's potential growth rate over the past seven or eight years, since well before the Global Financial Crisis.
- This bearish view stems from two 'observations' which we will argue are really assertions: (1) that the era of surplus labour is over, and (2) that productivity growth cannot be sustained. These two logically mean that potential growth will fall rapidly.
- However, we believe there is compelling evidence that the demographic constraint on growth is not as great as believed. The consensus of academic opinion is that the Lewis Turning Point is still some way off. We would argue that there are perhaps more surplus workers in agricultural today than have moved over the past 30 years.
- Similarly, the academic literature on China's productivity growth performance is much more positive than the consensus view seems to hold. Total factor productivity growth has not only been higher than in other Asian economies, it has been rising over time.
- But the evidence we cite also identifies two key features of reforms that the Chinese government needs to continue with to unlock its true growth potential. First, agricultural modernization is needed to free up the remaining surplus labour. Second, financial sector liberalization is needed to encourage the allocation of capital towards the more productive non-state sectors.
- If these two reforms are pursued – and we believe both have already begun in recent years – then our current estimate of potential GDP growth in China of about 8.5% looks to us to be a reasonable baseline for growth in the medium term.

### Introduction

How much of the slowdown in Chinese growth has been cyclical and how much has been 'structural'? That is essentially the question that investors need to answer as they think about the outlook for the next few years. Our unscientific reading of the consensus opinion – based on conversations with investors over the past few years – is that most of the slowdown is believed to be 'structural'. Consensus investor expectations for growth in the next five years, in our experience, center on about 6.5%. Our forecast would be 8.0% - 8.5%.

### GDP growth in China, 2004-2012

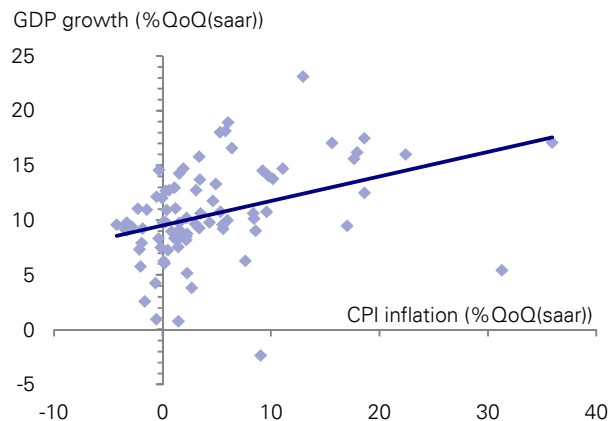


Sources: CEIC and Deutsche Bank

The dichotomy of views we identify above – “cyclical” versus “structural” – is a slightly false one, though. Our 8% - 8.5% medium-term growth forecast is well below the 10% growth rate that China has recorded for most of the last 30 years and slightly below the IMF's medium-term projection of 8.5% growth. So, really, the question is, how much of a 'structural' slowdown can one expect in this economy? We think the answer is much smaller than what we perceive to be the consensus expectation. If so, then investors will be surprised at how rapidly China grows in the coming years.

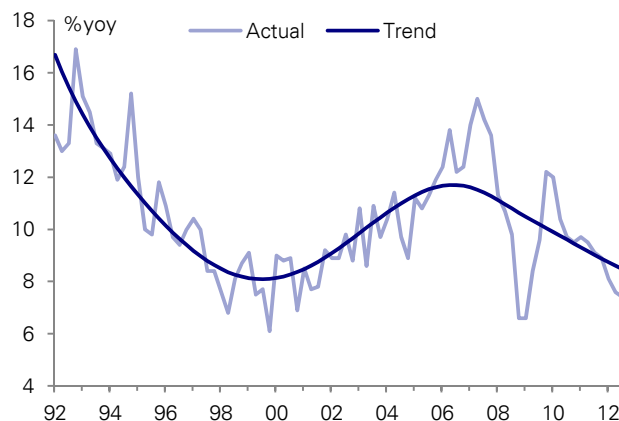
### What is potential growth in China?

We offer two backward-looking measures of China's current potential growth rate. First, reasoning that an economy at full employment and growing at its potential growth rate is likely to see relatively stable prices, we plot GDP growth against inflation. Where the regression line crosses the vertical axis would be one measure of potential growth. By this measure, using data going back to 1992, potential GDP growth is 9.2%. If we use only more recent data – from 2000, say – the estimated potential GDP growth rate is higher since growth recently has probably been well above potential any way you measure it.

**GDP growth and inflation in China, 1991-2012**

Sources: CEIC and Deutsche Bank

Alternatively, and in fact our preferred approach, we estimate the recent time-varying trend rate of growth and use that as a proxy for potential growth. This allows us, for example, to calculate an output gap which we find useful for assessing pressure on policymakers to ease or tighten policy. By this measure, we estimate the current potential rate of growth is 8.5%.

**Trend as "potential" GDP growth in China**

Sources: CEIC and Deutsche Bank

One advantage of looking at long-term trends is that one sees it is possible for potential growth rates to both fall and rise. We would interpret the slowdown in potential growth in the late 1990s as reflecting a reversal of the early liberalization of the rural economy and the pressures on the SOE sector as it was restructured in anticipation of WTO accession and the post-2001 rebound in potential as reflecting the opening up of the economy to foreign trade and investment and the explosion of private sector activity.

**"Structural" factors weighing on growth in China**

The 'structural' factors weighing on growth appear numerous: demographics, over-investment, slower growth in China's trade partners, and doubts about productivity

growth.<sup>1</sup> On the over-investment thesis, we've offered arguments in the past that China's infrastructure spending hasn't created obvious excess capacity – the power and transportation sectors would appear still to need significant investments to provide services to the whole population, although telecommunications infrastructure seems well advanced – and interest rate liberalization offers the prospect for more efficient investment in the non-government sector in the years ahead.<sup>2</sup> So the main drag on investment demand – at least on the growth implications of investment – is likely to come from a decline in residential investment. Our colleague Jun Ma estimates this is worth a drag of about 1.2% off growth.<sup>3</sup>

As an aside, we find that many investors expect a sharp deceleration in corporate investment in the near term as banks withdraw credit in order to repair their own balance sheets. We disagree that government-owned banks will face the same pressure to raise capital quickly as privately-owned banks in the US and Europe have. Banks, in our view, will be expected to "grow out of" their NPL problems rather than shrink their assets to boost capital ratios. But more importantly, while we do think there will be less investment by SOEs, we think this will be largely offset by greater investment by private firms who have, hitherto, largely been excluded from bank lending.

The external drag on growth, from slower US/EU demand growth, is another source of "structural" decline that we acknowledge. Over 2004-2007 US/EU combined GDP growth averaged 2.8%. We would expect that in the medium-term this growth rate could be halved. That's worth about a 2% reduction in China's growth rate relative to the pre-crisis years.

Note that export growth today of about 5%yoy is about one-third what we think could be the new trend growth rate in exports over the medium term. So the US/EU recovery should boost Chinese GDP growth from the 7.6%QoQ(saar) we estimate for Q3 by more than one percentage point.

So, after having grown 12.1%p.a over 2004-07, slower growth in residential investment and exports can be expected to take trend growth in China down to about 9%.

The other parts to the 'structural' slowdown thesis typically come from demographic pressures and productivity growth. So we will, in the rest of this report, take up these two issues. To summarize: we think on both fronts the

<sup>1</sup> We put "structural" in inverted commas here and in the previous paragraphs because these factors aren't really structural (which we think of as politics, rule of law, institutional design) but rather just long-term trends

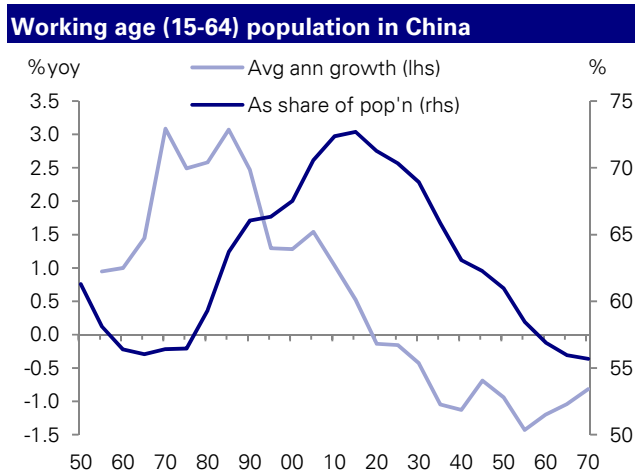
<sup>2</sup> See "The State of Infrastructure in Asia," *Global Economic Perspectives*, Oct 12, 2012 and "China's Financial Revolution," *Global Economic Perspectives*, April 20, 2012.

<sup>3</sup> See Jun Ma, "Lower Growth, Better Structure," *China Macro Strategy*, Sept 16, 2010.

weight of evidence is not nearly as bearish as investor sentiment.

**The demographic dividend and migration**

We trace the origins of the ‘structural decline’ argument to the mid-2000s after research at the Chinese Academy of Social Sciences highlighted the projection that China’s working age population was nearing its peak as a share of the total population and would begin to decline outright soon thereafter. We show the UN’s latest projections in the following chart. The working age population peaks as a share of the total population in 2015 and begins to decline in absolute numbers by 2020.<sup>4</sup>



Sources: UN DESA, Deutsche Bank. Data downloaded from <http://esa.un.org/unpd/wpp/Excel/Data/population.htm> on Nov 16, 2012.

We reject some of the parallels some analysts have drawn between China today and Japan in 1992 when its working age share of the population peaked. China is not today, as Japan was then, an advanced industrial economy with a fully employed population working at the world’s production possibilities frontier. China is a middle-income economy with – as we hope to demonstrate below – a vastly underemployed workforce most of which is working with inferior technology. Furthermore, in 1992 Japan had just experienced the collapse of its property price and equity market bubbles and was entering into a banking crisis lasting many years. China appears to have defused a property bubble without triggering a collapse in prices (indeed, they have been rising since mid-year) and the equity market hardly looks like a bubble.

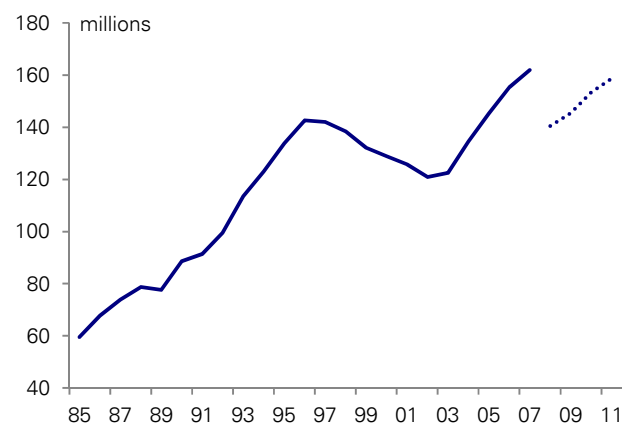
<sup>4</sup>Golley and Tyers (2012) dispute the timing of the rise in the dependency ratio. They note that dependents include the non-working young, the non-working old but mostly the 45% of working-age people who are not in the labour force (e.g., women who leave the workforce to raise children or care for the elderly). Allowing for slight rises in the labour force participation rates of women and the elderly (current retirement ages reflect much more generous pensions in the past – as elsewhere China’s workers will likely work longer in the future), they estimate the demographic dividend will last until 2030 at least. See Golley, Jane and Rod Tyers, “Looking Inward for Transformative Growth in China,” Australian National University CAMA Working Paper No. 15/2012, March 2012.

But the end of the demographic dividend – when a rising share of working age population means lower dependency ratios, higher savings and investment and higher GDP growth – undeniably presents a challenge to medium-term growth. However, this is a challenge the economy has so far met. Labour force growth slowed from about 2.7%pa over the 1970s – 1980s to 1.3% in the 1990s – 2000s and yet GDP growth rose from 7.4% in the 1970s to 9.7% in the 1980s and edged up to 9.9% in the 1990s and 10.3% in the 2000s. Clearly, it is possible for growth to be sustained in the face of slower labour force growth. Output growth per worker in China fell during the second half of the 1990s but rose in the 2000s as described above despite stable or even slightly slower labour force growth. The key during this period was capital accumulation and productivity growth. We’ll discuss the evidence on productivity later, but first we return to the demographic arguments.

What attracted economists’ and investors’ attention in the mid-2000s was not so much the demographic data – projections such as those in the chart above were no surprise – but the claim that China had ‘run out of surplus labour’. This is an empirical question and the early analyses were deeply flawed. But in our experience it is these early reports that have decided the issue for too many investors.

An important challenge for researchers is that so much of the Chinese workforce is on the move. With an estimated workforce of 765mn workers in 2011, the National Bureau of Statistics estimates that 158.6mn people had migrated to the cities from rural areas. This “floating population” accounts for about one-third of the urban workforce but is not well captured in official employment and wage data.

**The estimated migrant worker population**



Sources: MoA, NBS and Deutsche Bank Ministry of Agriculture estimates from 1985 to 2007; National Bureau of Statistics estimates from 2008 to 2011.

We find most Chinese data to be of acceptable quality. Price, money and credit data are very reliable, real economic data less so but not materially worse than in other economies. Unfortunately, China’s employment data are seriously lacking. Too often, demographic and

employment data in China identify people on the basis of their *hukou* rather than on where they actually live and work. So data on the urban population and employment under-represent migrant workers, most of whom still carry a rural/agricultural *hukou*.

So, for example, the official data show 265.9mn people – 34.8% of the workforce – engaged in “primary” industry (agriculture and mining) work in 2011. But this likely counts all agricultural *hukou* holders as farmers, over-stating the true agricultural workforce perhaps by 100% (only about half of rural workers are farmers) and similarly understating the industrial and services workforce. But we simply don’t know the extent of the bias. Similarly, official wage data only include wages of employees (excluding farmers and the self-employed) in the formal sector (so excluding most small private firms). So they may exclude more than one-third of the urban workforce and the vast majority of the rural workforce.

### Has China reached the Lewis Turning Point?

Much of the debate over Chinese demographics has been framed in terms of the Lewis Turning Point. Lewis’ canonical model postulates that in the early stage of development there is a vast labour surplus in agriculture that is paid a subsistence real wage despite having a zero marginal product. Hence, it is possible to extract labour from agriculture, redeploy it into more productive activities with no cost to food production or prices. Even after this pure surplus labour is gone, marginal product rises as the agricultural workforce falls but for a time remains below the subsistence wage, so from the perspective of the urban employer the marginal wage for migrant labour is still constant. Finally, the Lewis Turning Point is reached at which the marginal product of agricultural labour rises above the subsistence wage and migrant labour can only be attracted at higher wages – the labour supply curve slopes upwards.

The original reports on this issue came from the Chinese Academy of Social Sciences and involved estimates of the composition of the rural workforce and judgments regarding how much was truly surplus. For example, Cai (2007)<sup>5</sup> estimated the remaining surplus labour at only 40mn and declared that the Lewis Turning Point had been reached in 2004 when he observed a sudden rise in urban wages. However, Cai’s estimates in early reports made some simplifying assumptions: for example that workers over 40 had no skills that were useful in the urban workforce. Cai and Wang (2008)<sup>6</sup> start with a rural workforce of 715mn, subtract the 230mn already working

off-farm or migrated and assume that China needs 180mn farmers. The resulting estimate of a 75mn labour surplus essentially comprises the visibly unemployed rural workers and few others.

Such numerical calculations, however, make no allowance for productivity growth in agriculture. Instead, if we assume that as China puts agricultural production – especially animal husbandry – on a more efficient scale, it can shed labour as other countries have and then the estimated stock of surplus labour rises. For example, South Korea, with a smaller endowment of arable land and fresh water per person than China, has about 8% of its workforce in agriculture. The OECD average is 5%. If we assume a labour force participation rate of 88% for the working age population (and assume people over 65 don’t work, which is clearly incorrect) and even assume that as much as 10% of the labour force would have to be employed in agriculture even if it was fully modernized, then today’s primary sector workforce would be 83mn, not 265.9mn. So we would say the true surplus of labour is at least 183mn today if China could adopt international best practices in agriculture immediately.

The point is, counting heads in the countryside quickly becomes a highly subjective exercise depending upon what assumptions one uses. But allowing for productivity growth in the least productive part of the Chinese economy must surely be part of the effort to measure the labour surplus.

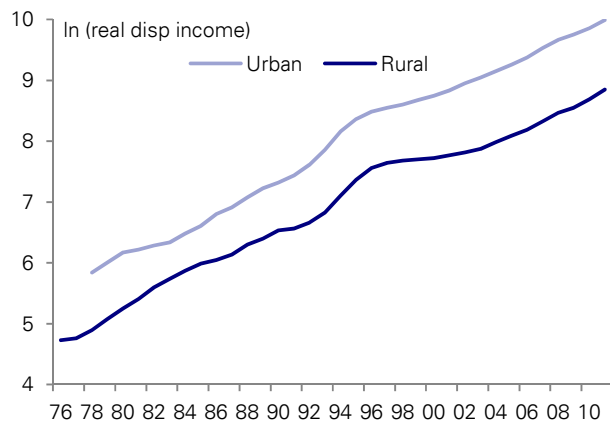
But a proper test of the Lewis Turning Point should rest on wage data. The Lewis model implies stagnant real wages in both the urban and rural economies for unskilled (i.e., migrant) labour, then after the turning point is reached rising real wages for unskilled/rural labour relative to skilled/urban labour.

It is tempting to start to assess whether China has reached the Lewis Turning Point by examining real wages in urban and rural China. Unfortunately, the best official data we can get are disposable or net income data, which we deflate by the urban and rural CPI indexes. These are plotted (in logs for ease of viewing) in the chart below. The data show no period in which rural incomes were unchanged for many years except perhaps the period 1998-2000. Urban incomes rise just about every year.

<sup>5</sup>Cai, Fang, “Lewisian Turning Point During China’s Economic Growth,” cited in Golley, Jane and Xin Meng, “Has China Run Out of Surplus Labour?”, *China Economic Review*, Vol. 22, No. 4, pp. 555-572, 2011.

<sup>6</sup>Cai, Fang and Meiyun Wang, “A Counterfactual of Unlimited Surplus Labour in Rural China,” *China and the World Economy*, Vol 16, 51-65, 2008.

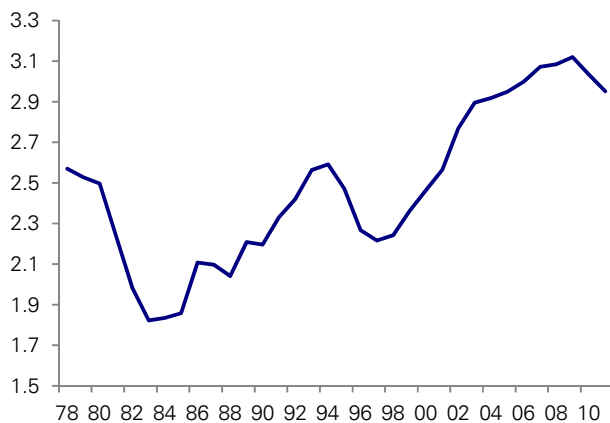
### Real urban disposable and rural net incomes



Sources: CEIC and Deutsche Bank

More importantly, for LTP purposes, real urban incomes rise and fall relative to rural incomes – falling in the early years of (rural-biased reforms)<sup>7</sup> but rising for most of the subsequent period (except during the late 1990s) as growth in China has tended to be biased towards urban areas. If suddenly migrant labour had become scarce in 2004 urban incomes should have fallen relative to rural incomes.

### Ratio of real urban to rural incomes



Source: Deutsche Bank

A couple of observations might follow from the chart above. First, urban incomes have tended to rise faster than rural incomes except for a handful of years. Second, the income gap appears to be huge – urban real incomes are more than three times rural real incomes – creating a powerful and growing incentive to migrate. However, the data above likely over-state urban incomes by under-representing lower-paid migrant workers – who may account for one-half of the urban workforce – so don't provide a proper test of the Lewis model.

Because the official data are so misleading, economists have turned to conducting surveys of rural households. We discussed some such surveys in our August 3 report (cited above) where we talked about farmers' use of credit and adoption of technology. These surveys don't clear up all of the confusion – for example, two surveys we've seen have conflicting results on what happened to migrant workers' wages during the global financial crisis (one says they went down, one – surprisingly – says they went up). But the surveys offer a much richer perspective on the Chinese labour market than the official data can.

### China has a very flexible but inefficient labour market

Golley and Meng (2011) sample the rural labour force in 2008 and estimate that 49% of workers are in agricultural work although they appear to be significantly under-employed, working only an average of 154 days in farming and another 3.4 days a year in non-farm work. 30% of the rural labour force has non-agricultural rural jobs and 22% has migrated to the cities. Their and other surveys find that the typical male migrant is in his early/mid-20s, the typical female migrant is in her early 20s. But both men and women move in and out of the urban workforce. Men move in and out of agricultural work seasonally or for years at a time. Women may work in the city until they marry and have a child, then move back to their village to raise the child for a few years, returning to the city for another stint of urban employment before returning home again to care for their parents. This is a very flexible labour force, but at the expense of a weak attachment to urban employment and periods back in the villages where their job skills presumably deteriorate.<sup>8</sup>

The NBS estimates charted above suggest that about 140mn migrant workers worked in China's cities in 2011. Against an official estimate of an urban workforce (likely the number of employees with urban *hukou*) of 321mn, it is possible that migrants make up nearly one-third of the true urban workforce. But the pattern of repeated migrations between rural and urban employment means that the urban migrant workforce is constantly in flux.

Golley and Meng (2011) follow 5000 migrant workers over 2001-09 and compare their employment and wage history with surveys of urban households performed by the NBS. They find that between 2001 and 2009, the urban/migrant wage gap widened considerably but was never as wide as the disposable income data suggest. Even controlling for skill levels (education) migrants' wages rose 3%p.a. in real terms while urban wages for similarly skilled workers rose 9% - 10%p.a. This widening skilled/unskilled wage gap

<sup>7</sup>See "Property Rights in China" *Global Economic Perspectives*, August 3, 2012 for a discussion of the sequence of reforms in China.

<sup>8</sup>This behavior does suggest that Cai's assertion that rural workers 40 years and over don't have skills that are needed in urban China is wrong – these people are often returned migrants.

and urban/rural wage gap is again inconsistent with a growing scarcity of rural labour.<sup>9</sup>

Ge and Yang (2010)<sup>10</sup>, follow 17 years of data on more than 13,000 urban and rural households and find that the urban/rural wage differential widened from 2% in 1989 to 28% in 2006 – far narrower than the differential implied by the official household income surveys used to construct the data in the two charts above. They reckon that the wage gap can be explained almost entirely by skill differentials between rural and (less educated) migrant workers. Their find that between 1993 and 2006 real wages for urban unskilled workers rose 300% while real wages for migrant workers rose 218% and those for rural non-agricultural workers rose 240%. Their findings also do not support the LTP thesis.

Huang et al (2011)<sup>11</sup> follow 1160 rural households through the first year of the global financial crisis, from September 2008 to August 2009. They found that the Chinese labour market is remarkably flexible. They estimate that of the 500mn or more rural workers, 265mn worked off-farm, of which about half had migrated. This estimate is consistent with the NBS estimate reported in the chart above. While the NBS estimated in March 2009 that 23mn migrant workers had lost their jobs, Huang et al estimated that in fact 49mn migrant workers lost their jobs sometime between September 2008 and April 2009. This represents perhaps more than 10% of the true urban workforce. No other Asian economy saw such an impact on employment from the global financial crisis.

However, half of the laid-off workers had been re-employed by April 2009 and another one-third found re-employment by August 2009. Most of the rest returned to farming. Consequently, they estimate that only 8.3mn migrant workers had returned to their villages and not found work and a similar number had remained in the city and not found work. Huang et al also asked households for their wage history and found that average wages for migrants fell 10.5% between September 2008 and April 2009. The wage decline in Northern China was 20% while in Southern China it was only 7%, but Southern China saw a higher share of job losses.

Knight et al (2011)<sup>12</sup> after reporting other surveys that confirmed many of the findings reported here above estimate the probability of a rural agricultural worker in 2007 migrating based on their gender, age and skill characteristics. They estimate that 80mn non-migrants had a high probability of migrating – their measure of the prevailing labour surplus. But if they allowed for greater work effort by farmers (working 300 days a year versus the prevailing 183 days) then the number of surplus workers rose to 148mn, roughly the NBS' most recent estimate of the stock of migrant workers. Again, this makes no allowance for changes in agricultural production technology only for agricultural labour effort.

### China's productivity growth record

We've identified the role of agricultural productivity growth in releasing potentially more surplus labour than already has migrated to the cities. But we also noted that the slowing labour force growth over the past 20 years and the coming end of the demographic dividend – whether that is 2015 or 2030 – mean that to sustain growth China needs to sustain productivity growth. But because of the work of Alwyn Young (2000)<sup>13</sup> many economists and investors have inherently pessimistic views of China's ability to do this – even though objectively it has over the past two decades.

The usual approach to estimating total factor productivity (TFP) growth is to estimate a simple representative production function for the economy with (human and physical) capital and labour as inputs and extract an estimate of TFP growth as the constant in the regression. Felipe and McCombie (2003)<sup>14</sup> in a series of articles have repeatedly drawn attention to the significant methodological problems with this approach, calling into serious question the results. So we prefer to think of these growth accounting models more like calibrated simulations than genuine estimates.

But for the record, most growth accounting studies estimate that TFP growth in China has not only been consistently higher than in most other Asian economies, they often find that productivity growth has been rising over time. Some examples: Park (2010)<sup>15</sup> estimates TFP growth was 1.83% during 1970-80, 2.93% during 1980-90,

<sup>9</sup>The do find that in 2005-06 the wage gaps narrowed. They note that this followed the end of US penalties on Chinese textile exports in 2004 – resulting in a surge in demand for unskilled labour, the removal of agricultural taxes, which raised rural incomes and a temporary dip in the cohort of young workers in China that year – the second-generation echo of the 1959-61 famine and the echo of the beginning of the one-child policy in 1980.

<sup>10</sup>Ge, Suqin and Dennis Tao Yang, "Labor Market Developments in China: A Neoclassical View," IZA Discussion Paper No. 5377, December 2010.

<sup>11</sup>Huang, Jikun, Huayong Zhi, Zhurong Huang, Scott Rozelle and John Giles, "The Impact of the Global Financial Crisis on Off-Farm Employment and Earnings in Rural China," World Bank Policy Research Working Paper No. 5439, October 2010.

<sup>12</sup>Knight, John, Quheng Deng, and Shi Li, "The Puzzle of Migrant Labour Shortage and Rural Labour Surplus in China," *China Economic Review*, vol. 22, No. 4, 585-600, 2011.

<sup>13</sup>Young, Alwyn, "Gold into Base Metals: Productivity Growth in the People's Republic of China During the Reform Period," NBER Working Paper 7856, August 2000.

<sup>14</sup>Felipe, Jesus and J.S.L. McCombie, "Some Methodological Problems with the Neoclassical Analysis of the East Asian Miracle," *Cambridge Journal of Economics*, vol. 27, 695-721, 2003.

<sup>15</sup>Park, Jungsoo "Projection of Long-Term Total Factor Productivity Growth for 12 Asian Economies," ADB Economics Working Paper Series No. 227, October 2010.



3.72% during 1990-2000 and 6.04% during 2000-07. He also finds that TFP growth in China is consistently higher than in India, the Newly Industrialized Economies and ASEAN. Brandt and Zhu (2010)<sup>16</sup> find that TFP growth was 4.19% during 1978-88, 3.05% during 1988-98 and 4.58% during 1998-2007. So, TFP growth was rising from the initiation of reforms in the late 1970s right up to the onset of the Global Financial Crisis.

The Brandt and Zhu article is interesting for our purposes because having estimated their growth accounting model separately for the state and non-state industrial and the agricultural sectors they then are able to quantify, given these calibrated models, the effect of labour migration from agriculture into the industrial sector. The paper supports intuition: throughout the post-reform period TFP growth has been very strong (but slowing) in the non-state sector but largely – until the most recent period of 1998-2007 – negligible in the state sector. Through 1978 – 2007, the non-state sector's TFP growth was three times that of the state sector.

But their findings show that the main contribution to growth historically was not the reallocation of labour from agriculture to industry but the shedding of labour from the state-owned enterprises to the non-state enterprises. While agricultural labour has moved into the non-state sector in large numbers, the restricted access to credit in the non-state sector has meant that capital accumulation has been too slow to fully exploit this additional labour efficiently.

So, we come back to financial reforms. The state sector continues to dominate capital accumulation, accounting for more than 50% of fixed investment, but is clearly less efficient than the non-state non-agricultural sector. We argued in our April 20 report on "China's Financial Revolution" that financial sector reform fundamentally alters China's growth model and offers prospects for a more efficient allocation of capital. Brandt and Zhu (2010) are able to put that into concrete growth terms. They estimate that had capital been allowed to flow freely between the state and non-state sectors, TFP growth during 1978-2007 would have been 0.82% higher than the 3.92% they estimated. Put another – and compelling – way, "absent capital market distortions, China could have achieved the same growth performance without any increase in the aggregate investment rate" (p. 28).

### Conclusions

We have gone into great detail in making our argument because in our experience these academic results are not only not known by but also run strongly counter to most investors' views. So we'll summarize it all here.

The bearish China view that we saw emerging in the mid-2000s rests on two assertions: (1) the days of labour surplus are or will soon be over, leading to a rapidly rising cost of labour to industry throughout China; and (2) productivity growth cannot make up for this, leading to a sudden drop in potential output growth.

Instead, however, the academic literature on the labour surplus question finds no evidence for a sudden increase in real wages in the early or mid-2000s when it was supposed to have begun. Instead, a conventional neoclassical labour market emerges in which migrant workers must be paid a premium to their reservation wage – what they would earn as farmers. So the fact that urban wages rose rapidly in 2010 doesn't necessarily mean there was a shortage of labour. If migrants' wages fell in 2009 while food prices were rising – and given that for the first time migrants realized urban jobs were not secure – it would have been necessary to raise migrants' wages much higher than usual in 2010 to restore the proper incentive to migrate.

Attempts to 'count' surplus workers must, in our view, allow for productivity growth in agriculture – this sector will not always be stuck with ancient technologies if China is to become an advanced economy. And even a very loose reckoning of the amount of labour that could potentially be shed if agriculture were suddenly modernized suggests that there may still be more potential migrants than have migrated over the past thirty years.

Secondly, the record on productivity growth in China appears to be remarkably good. Conventional measures of total factor productivity growth show it to be consistently higher than in other Asian economies and rising over time. To be sure, capital accumulation has also been an important contributor to Chinese growth, and Brandt and Zhu's (2010) demonstration of the distortions caused by the capital subsidy given to the SOEs is compelling and consistent with investors' experience. We state their key result slightly differently: it is possible that financial liberalization, which evidence suggests is already underway, by allowing for the reallocation of capital away from the SOE sector to the private sector, could allow productivity growth to be maintained without an increase in the investment/GDP ratio.

In our view, a combination of labour-shedding investment in agricultural production allowing for continued migration of surplus farm workers into the private industrial and services sectors combined with financial liberalization allowing a more efficient allocation of capital in favor of the private sector could see Chinese GDP growth continue to grow much faster than investors expect for many more years.

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<sup>16</sup>Brandt, Loren and Xiaodong Zhu, "Accounting for China's Growth," IZA Discussion Paper No. 4764, February 2010.

## Fiscal Cliff Update

- Public discussions by politicians since the US election suggest that the disagreements between the Democratic and Republican parties over tax rates on upper-income households and entitlement reform persist. Although much of the recent rhetoric can be attributed to political posturing ahead of contentious negotiations, the tone of the discussions – and several additional developments – have made us slightly more pessimistic that the fiscal cliff uncertainty will be resolved in the near term. As such, we expect a continuation of weak economic data, market turbulence, and risk-off sentiment in the weeks to come.**

Beginning with this week's issue of the GEP, we will be providing an update of our assessment of progress on and prospects for the fiscal cliff and beyond (including a potential 'grand bargain' for resolving longer-term fiscal problems). Every third GEP will be devoted to a more in-depth analysis of various fiscal topics. We begin next week with a look at several key tax-related issues.

The post-election political agenda has clearly been focused on dealing with the fiscal cliff, as President Obama and House Speaker Boehner have both held several press conferences about this issue since the election. The President has already held meetings with labor leaders and CEOs this week discussing the fiscal cliff and prospects for a deal on deficit reduction and is scheduled to meet with political leaders of both parties on the date of this publication. Have we learned anything from these events that suggests the sides are closer to a deal?

### Where they disagree

The Bush tax cuts for upper-income households remain the primary source of disagreement between the two sides. Despite Speaker Boehner's acknowledgement of the need for additional revenues, he insists that they not result from higher tax rates. Rather, he and his party are willing to accept higher revenues from a more efficient tax code that lowers or eliminates deductions (so called "base broadening") and which, in their estimation, supports economic growth and thus further tax revenues. This view was reinforced by a letter from House Majority Leader Eric Cantor to his Republican colleagues this week, in which he stated, "The American people will not accept and we will not support the plan of some in the President's party to

simply raise taxes to fund failing programs they refuse to reform."<sup>1</sup>

On the other side of the political spectrum, President Obama has not explicitly confirmed that a deal to avoid the fiscal cliff will require raising tax rates on upper-income households and has stated that he is "encouraged" by Boehner's acceptance of a need for higher revenue. However, the President has argued that closing "loopholes" and limiting or eliminating deductions cannot generate enough revenue. The logical conclusion must be that, in the President's estimation, tax rates on upper-income households must rise to sufficiently raise revenue. And Treasury Secretary Geithner has supported this assertion, stating that raising rates on upper-income households is a critical part of deficit reduction.

A second source of disagreement is entitlement reform. This is more pertinent to the prospects for a grand bargain; however, it has remained a topic of discussion for both sides since the election, and this reform and raising the debt ceiling may be used in the fiscal cliff bargaining process. Here again, although both sides have acknowledged the need for long-term entitlement reform for a grand bargain deal on the deficit, they appear to disagree on the extent of the reform, and neither side has presented specifics.

### Prospects for a deal

Although the acknowledgements by President Obama and Speaker Boehner for the need for entitlement reform and higher tax revenues could be seen as a positive sign for a deal, the gulf in terms of the details remains significant. In our view, despite rising market pressure, there is little that suggests the two sides are closer to a deal post-election than they were two weeks ago. It is quite possible (and perhaps likely) that much of this talk is political posturing ahead of what are sure to be contentious negotiations and that neither side (rightly) sees value in forfeiting their strong bargaining chips beforehand. However, there has been little to raise the perceived probability of a deal, and if anything, this past week's developments marginally shift our view in a pessimistic direction.

Lending further support to this pessimistic tone: a possible shift to the center for the Democratic leadership in the House, which we thought would bode well for a fiscal cliff deal, has not materialized, as Nancy Pelosi announced she will seek to remain the top Democrat in the House. Moreover, there has been discussion that President Obama plans to start negotiations using his most recent budget

<sup>1</sup> See Cantor's letter here: <http://thehill.com/homenews/house/266743-cantor-suggests-tax-revamp-as-fiscal-cliff-solution-in-leadership-plea>.

proposal, which was projected to raise taxes on corporations and the wealthy by \$1.6 trillion over the next decade – a proposal that will not be greeted positively by congressional Republicans.

### Implications for the economy and markets

Given the heightened uncertainty regarding this issue, we expect to see weak economic data, market turbulence, and a decidedly risk-off market environment until there is a successful resolution. As we showed previously, uncertainty about economic policies has a quantitatively important negative impact on the US economy and has already weighed on the recovery by causing delays in hiring, orders, and business investment plans.<sup>2</sup> We expect this weakness to continue as long as the uncertainty persists.

Finally, the CBO provided a detailed update about the impact of the fiscal cliff, with estimates for how each major component will impact real GDP and employment in 2013. Besides providing this additional detail, the bottom line was that the CBO's view for the aggregate impact of the full fiscal cliff is unchanged from its August report: If allowed to go through, it would plunge the US economy into a recession in 2013 with real GDP growth of -0.5% and the unemployment rate rising to 9.1%. This contraction is concentrated in the first half of 2013, with real GDP projected to decline by 2.9 percent at an annual rate during the first half of the year and expand at an annual rate of 1.9 percent in the second half. This forecast may also downplay the negative impact of investor and business confidence and uncertainty on the US economy, suggesting that the full fiscal cliff could yield a larger and more protracted contraction in real GDP than the CBO projects. Table 1 shows CBO's estimates for how extending combinations of different components of the fiscal cliff will positively impact real GDP and employment in 2013, relative to a full fiscal cliff baseline scenario.

**Table 1. Impact of fiscal cliff components in 2013**

	Real GDP (% diff from CBO's baseline)	Full-Time-Equivalent Employment (Diff from CBO's baseline in millions)
Eliminate BCA's automatic reductions in defense spending	0.4	0.4
Extend most expiring tax provisions and index AMT for inflation	1.4	1.8
Extend most expiring tax provisions - except for lower rates on high-income HHS - and index AMT for inflation	1.3	1.6
Extend reduction in employees' portion of payroll tax and extend emergency UE ben.	0.7	0.8
Implement policies assumed in alternative fiscal scenario	2.2	2.7

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<sup>2</sup> See: "US Election, Fiscal Cliff, and Uncertainty," *Global Economic Perspectives*, October 31, 2012.

## Central Bank Watch

### US

The Fed gave us both a very strong verbal easing and a new quantitative expansion policy at its September meeting. It said that it expects to extend its holding of policy rates near zero to at least mid-2015 and that it will not begin to exit until well after the economic recovery has strengthened. It also implemented an adjustable and open-ended new program of security purchases while retaining its existing maturity program and its reinvestment of principal payments on its security holdings. Its QE3 purchases focus for the time being on MBS (USD40bn per month). This program is to continue until the outlook for the labor market has improved substantially and could well be expanded before it ends. We expect an extension of QE3 into longer-term Treasury purchases to be announced at the December meeting. With near-term US fiscal uncertainties looming larger, we see the Fed making a total of USD600-900bn purchases of MBS and Treasuries over the year ahead before winding the program down in the second half of 2013.

	Current	Dec-12	Mar-13	Dec-13
Fed funds rate	0 – 0.25	0 – 0.25	0 – 0.25	0 – 0.25

### Japan

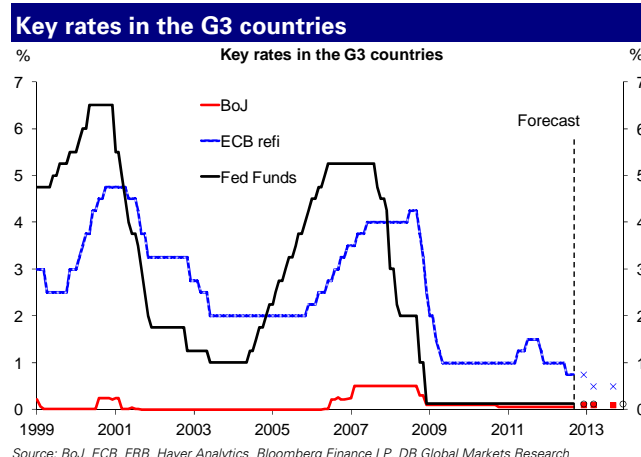
Japanese voters will likely go to the polls before year-end and the LDP are favored to win. Party leader Abe has vowed to assign the BoJ a 3% inflation target, which would likely force the central bank to expand its balance sheet much more aggressively to weaken the yen. But this could also lead to upward pressure on JGB yields exposing the fragility of government finances especially if an LDP government tries to pursue a more expansionary fiscal policy.

	Current	Dec-12	Mar-13	Sep 13
ON rate	0 – 0.1	0 - 0.1	0 - 0.1	0 - 0.1

### Euroland

Back in September, Draghi delivered as good a sovereign bond purchasing facility as might have been expected. In November, the ECB left policy unchanged. The tone was modestly dovish, however. The ECB appears less convinced of a 2013 economic recovery. Financial conditions are improving thanks to the OMT and are equivalent to a monetary easing, but Draghi left open the stance on standard monetary policy next year. The sense is that if activity remains weak into Q1, a rate cut will be on the agenda. This is consistent with our view that the ECB will deliver one 25 bps refi cut in Q1 2013 and only cut the deposit rate into negative territory in the event of a further material economic deterioration. Elsewhere, on OMT, the ECB is clear that the ball is in Madrid's court and that Rajoy will be getting no assurances about OMT in advance of an application.

	Current	Dec-12	Mar-13	Sep-13
Refi rate	0.75	0.75	0.50	0.50



### UK

The Bank of England decided to pause its QE programme at the November meeting, the third such suspension since the Bank began buying gilts back in early 2009. If we and the MPC are correct in forecasting a slow recovery in economic growth going forward then we might have seen the last of QE. However, recent weakness in the PMI surveys raises the risk that growth begins to contract again after the post-Jubilee bounce in Q3. If the PMIs were to remain where they are or fall further then this could easily support further monetary intervention from the Bank of England. If this really does turn out to be a cessation of the QE programme then we would expect to see interest rates being raised modestly by the end of 2014.

	Current	Dec-12	Mar-13	Sep-13
Bank rate	0.50	0.50	0.50	0.50

### Sweden

The Riksbank surprised by cutting rates in September. The risks have risen for further action though we currently do not expect a move at the next meeting: 18 December.

	Current	Dec-12	Mar-13	Sep-13
Repo rate	1.25	1.25	1.25	1.25

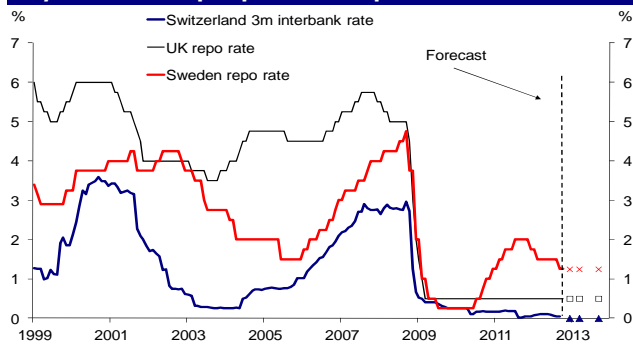
### Switzerland

The SNB opted to keep its EUR/CHF floor at 1.20 at its September meeting, but downgraded the outlook for growth and inflation. Next meeting: 13 Dec.

## Central Bank Watch

	Current	Dec-12	Mar-13	Sep-13
3M Libor tgt	0.00	0.00	0.00	0.00

### Key rates in the peripheral European countries



Source: SRB, SNB, BoE, Haver Analytics, DB Global Markets Research

### Canada

As we have noted previously, "there is growing evidence that a more favorable global economic environment will contribute to stronger growth early in 2013" and assuming that the US avoids hitting the "fiscal cliff", the Bank of Canada will likely adopt a more restrictive policy stance. However, given that headline inflation, currently at 1.2%/y, is well below the Bank of Canada's 2% target and in light of Governor Carney's comment that rates are likely to increase **over time**, we don't expect that the Bank will adopt a more restrictive policy stance until late in the second quarter of next year at the earliest.

	Current	Dec-12	Jun-13	Dec-13
ON rate	1.00	1.00	1.50	2.00

### Australia

Overall, we see little new in the Statement, with the bulk of the substantive changes relative to the August SMP having being flagged in RBA communication (speeches, post meeting statements etc) over the past few months. The Bank's forecasts are also largely as expected, and are consistent, in our view, with a strong easing bias (as is the use of the phrase "for the time being" in the SMP as well as in Tuesday's post meeting statement). We will retain our target of a 3.00% cash rate by year end and further cuts to 2.50% by mid 2013 given the limited 'new' news in the SMP.

	Current	Dec-12	Jun-13	Dec-13
OC rate	3.25	3.00	2.50	2.50

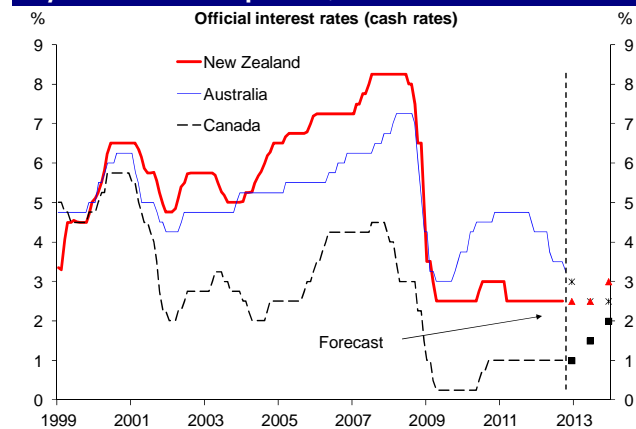
### New Zealand

We think that a case can be made for further monetary policy easing in New Zealand as far as the RBNZ is concerned. Recent commentary from new RBNZ Governor Graeme Wheeler suggests that a rate cut - whilst not ruled out - has not been on his agenda. We think that the recent domestic data flow confirms that there is more slack in the economy than the RBNZ has

estimated. Whether the RBNZ concludes that there is scope for policy easing will depend on the extent to which the Bank shares this conclusion and the extent to which recent data changes the RBNZ's forecast for growth going forward.

	Current	Dec-12	Jun-13	Dec-13
OC rate	2.50	2.50	2.50	3.00

### Key rates in the Peripheral \$-bloc



Source: RBNZ, BoC, RBA, Haver Analytics, DB Global Markets Research

### China

CPI inflation slowed to 1.7% yoy in October, slightly below the market consensus and September's 1.9%. The deceleration was mainly due to the sharp drop in vegetable prices (by 13% mom). We believe food prices will rise soon as snow is already hitting Northern China now. As a result, CPI inflation will likely rise towards 2.4% yoy in December. PPI deflation narrowed further to 2.8% yoy, compared with September's 3.6% yoy PPI decline. On a mom basis, the PPI rose 0.2% mom, the first sequential increase since May. In general, we believe the Chinese economy is on track to a Q4 recovery. We maintain our forecast that Q4 GDP growth will rise to 7.7% yoy from 7.4% in Q3. We do not expect any rate cut from PBOC anytime soon.

	Current	Dec-12	Mar-13	Sep-13
1-year rate	3.00	3.00	3.00	3.00

### India

Noting that that "the persistence of inflationary pressures even as growth has moderated, remains a key challenge," the RBI left key policy rates unchanged and cut the cash reserve ratio by 25bps at the October Q2 FY12/13 review of monetary policy. The RBI is encouraged by the government's recent measures to reduce fiscal risks, but is understandably waiting to see actual progress toward reducing the fiscal deficit. Particularly helpful would be greater clarity on a mechanism for fuel price adjustment, details on expenditure reduction, and contingency

## Central Bank Watch

measures to maintain fiscal discipline if the targeted non-tax revenues (related to disinvestment and 2G spectrum auctions) do not materialize.

We are not inclined to read a great deal in the RBI's policy guidance that "the baseline scenario suggests a reasonable likelihood of further policy easing" in Q4 FY12/13. Our forecast suggests inflation could come down to 7% by March, but that forecast is subject to substantial margin of error, given lingering risks to food and non-food prices. Hence we are maintaining our call that the first cut in this cycle will likely have to wait until March 2013.

	Current	Dec12	Mar 13	Sep 13
Repo rate	8.00	8.00	7.75	7.00

### Brazil

The Central Bank cut the SELIC overnight rate by 25bps to 7.25% in October, and signaled the end of the easing cycle. According to the COPOM statement, "considering the balance of risks to inflation, the Committee understands that stability of monetary conditions for a sufficiently long period is the most adequate strategy to ensure convergence of inflation to the target." Moreover, the decision was not unanimous, as five board members voted for a rate cut, and three voted for no cut. Thus, we now expect the SELIC rate to remain at 7.25% until the end of 2013. Nevertheless, given that the government's main priority is to boost GDP growth, and considering the Central Bank's dovish bias, we cannot completely rule out additional rate cuts in the near future, especially if global economic conditions deteriorate further.

	Current	Oct12	Dec12	Mar13
CBR refi rate	7.25	7.25	7.25	7.25

### Russia

CBR keeps rates on hold

The Board of Directors of the Central Bank of Russia (CBR) on 9 November announced its decision to keep key interest rates on hold as expected: refinancing rate at 8.25%, auction repo at 5.50% and fixed depo at 4.25%. The CBR stated that this decision was driven mainly by inflationary risks and economic growth prospects.

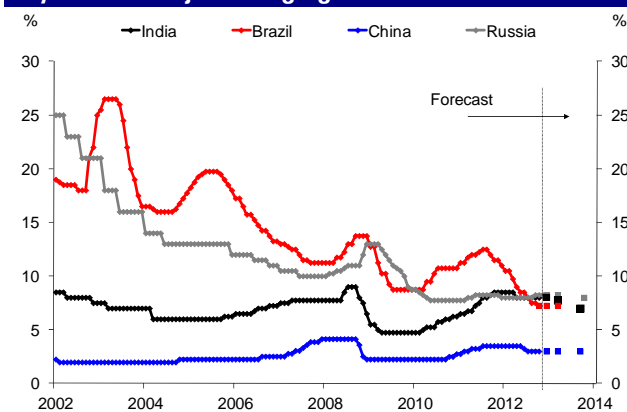
With regard to monetary conditions, the CBR stated that in October and the beginning of November the pace of inflation declined slightly but stayed above the target range of 5-6% yoy. As of 6 November inflation amounted to 6.4% yoy, while core inflation amounted to 5.8% yoy in October. Stabilization was registered in food prices, the key driver of accelerated inflation in recent months. The CBR added that the deceleration in food prices and the September 2012 hike in interest rates could contribute to a further moderation of inflation expectations.

On the production front, the CBR for the first time explicitly admitted that the key macroeconomic indicators point to a certain slowdown in the economic activity: household consumption and industrial production growth rates were largely unchanged, while fixed investment continued to decelerate. According to the CBR, economic confidence indicators remain positive along with the still favorable labour market conditions and retail credit growth that support robust domestic demand. Despite the slower economic growth observed in 2H12, the CBR sees the GDP close to its potential level. Banking credit growth continued to show certain signs of stabilization. However, the risks of a significant economic slowdown stemming from somewhat tighter monetary conditions are considered to be insignificant.

Overall, the CBR policy rate decision was in line with our expectations. As in the previous months, the CBR did not include the paragraph on the short- and medium-term adequacy of interest rates in the statement. In this respect it seems that the CBR is aiming to secure some room for maneuverability going into the end of this year, though clearly compared to earlier statements the tone of the CBR is more dovish. The next policy rate decision meeting is scheduled in the first ten days of December, and we note that given the tone of the statement and recent developments on the inflation front, the probability of a hike at the end of this year is diminishing.

	Current	Dec12	Mar13	Oct13
CBR refi rate	8.25	8.25	8.25	8.00

### Key rates in major emerging markets



Source: PBoC, RBI, BCB, CBRF, Haver Analytics, DB Global Markets Research

	Global central bank policy rate changes since August 2009																												Net Chan												
	Trough 2009	2010												2011												2012															
policy rate	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	
Israel	0.50	0.75		1.00	1.25		1.50					1.75		2.00				2.25	2.50	3.00		3.25				3.00		2.75	2.50							2.25			2.00	150	
Australia	3.00		3.25	3.50	3.75		4.00	4.25	4.50						4.75												4.50	4.25						3.75	3.50			3.25	25		
Norway	1.25		1.50		1.75				2.00													2.25						1.75		1.50										25	
Vietnam	7.00				8.00										9.00			11.00	12.00	13.00	14.00						15.00			14.00	13.00	12.00	11.00	10.00					300		
Malaysia	2.00						2.25	2.50		2.75												3.00																		100	
India	4.75				5.00	5.25			5.75	6.00	6.25		6.50	6.75	7.25	7.50	8.00		8.25	8.50										8.00									325		
Brazil	8.75					9.50		10.25	10.75						11.25	11.75	12.00										12.00	11.50	11.00		10.50	9.75	9.00	8.50		8.00	7.50	7.25		-150	
Peru	1.25						1.50	1.75	2.00	2.50	3.00				3.25	3.50	3.75	4.00	4.25																					300	
Canada	0.25							0.50	0.75		1.00																													75	
Chile	0.50					1.00	1.50	2.00	2.50	2.75	3.00	3.25		3.50	4.00	4.50	5.00	5.25										5.00												450	
New Zealand	2.50							2.75	3.00												2.50																			0	
Taiwan	1.25						1.38			1.50		1.63				1.75		1.88																						63	
Sweden	0.25							0.50	0.75	1.00		1.25		1.50		1.75												1.75		1.50								1.25		100	
S Korea	2.00								2.25		2.50		2.75		3.00		3.25																		3.00			2.75		75	
Thailand	1.25								1.50	1.75					2.00	2.25	2.50	2.75									3.00	3.25	3.50		3.25	3.00								150	
Serbia	8.00									8.50	9.00	9.50	10.50	11.50	12.00																			10.00	10.25	10.50		10.75	10.95	295	
Uruguay	6.25	8.00			6.25										6.50			7.50												8.75							9.00		275		
Nigeria	6.00															6.25		6.50	7.50	8.00									8.75	9.25	12.00								600		
China	2.25									2.50	2.75		3.00	3.25		3.50																		3.25	3.00				75		
Hungary	5.25	8.0	7.5	7.0	6.5	6.25	6	5.75	5.5	5.25					5.50	5.75	6.00											6.50	7.00							6.75	6.50	6.25	100		
Poland	3.75																3.75		4.00	4.25	4.50													4.75				4.50	75		
Indonesia	5.75																	6.75									6.50	6.00		5.75										0	
Colombia	3.00	4.5	4.0		3.5						3.0																									5.00	4.75		175		
Russia	7.75	10.75	11	10.0	9.0	8.75		8.5	8.25	8.0	7.75							8.00																				8.25		50	
Philippines	4.00																																							-50	
Kazakhstan	7.00	7.5	7.0																7.50															7.00	6.50		6.00	5.50	-150		
Euroland	1.00																																				0.75		-25		
Denmark	0.80	1.35	1.3		1.05																																		-60		
Iceland	4.25	12.00		11.00	10.0	9.50		9.00		8.50	8.00		7.00	6.25	5.50	4.50																						6.00	175		
Czech Republic	0.75	1.25	1.0								0.75																									0.50		0.25	0.05	-70	
Romania	5.25	8.50	8.00			7.50	7.00	6.50		6.25																													0		
Sri Lanka	8.50	11.0	11		9.75							9.5	9.0						8.5																9.00	9.75			125		
South Africa	5.50	7.0					6.5									6.0	5.5																				5.00		-50		
Switzerland	0.00																																						0		
Egypt	8.25																																						9.25		100
Turkey	5.75																																							0	

Source: Deutsche Bank, government data

## Global data monitor: Recent developments and near-term forecasts

	B'bergcode	Q4-11	Q1-12	Q2-12	Q3-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12
<b>OECD leading indicators</b>											
<b>(6M change, %, ann.)</b>											
OECD		0.2	0.3	0.6		0.7					
US	OLEDUSA	0.9	1.0	1.3	1.8	1.4	1.6	1.8	2.0	2.0	
Euro area	OLEDEU12	-1.3	-1.6	-1.5		-1.4					
Japan	OLEDJAPN	0.4	0.4	0.4		0.4					
China	OLEDCHIN	0.4	0.4	0.4		0.4					
India	OLEDINDI	5.1	5.6	5.7		5.6					
Russia	OLEDRUSS	1.8	1.3	0.3		-0.1					
Brazil	OLEDBRAZ	0.4	0.9	2.3		2.9					
<b>Purchasing manager indices</b>											
Global (manufacturing)		50.1	51.2	50.0	48.7	48.9	48.4	48.4	49.2	49.2	
US (manufacturing ISM)	NAPMPMI	52.4	53.3	52.7	50.3	49.7	49.8	49.6	51.5	51.7	
Euro area (composite)		47.2	49.6	46.4	46.3	46.4	46.5	46.3	46.1	45.7	
Japan (manufacturing)	SEASPMI	50.0	50.8	50.4	47.9	49.9	47.9	47.7	48.0	46.9	
China (manufacturing)	EC11CHPM	49.2	48.9	48.6	48.3	48.2	49.3	47.6	47.9	49.5	
India (manufacturing)		52.4	56.3	54.9	52.8	55.0	52.9	52.8	52.8	52.9	
Russia (manufacturing)		51.6	50.8	52.3	51.8	51.0	52.0	51.0	52.4	52.9	
<b>Other business surveys</b>											
US dur. goods orders (%pop1)	DGNOCHNG	2.7	-2.2	0.9	2.1	1.6	3.3	-13.1	9.8	-1.0	
Japanese Tankan (LI)	JNTSMFG	-4.0	-4.0	-1.0	-3.0						
Euro area EC sentiment	EUESEMU	93.6	94.1	91.1	86.4	89.9	87.9	86.1	85.2	84.5	
<b>Industrial production (%pop1)</b>											
US	IP CHNG	5.1	5.9	2.6	-0.4	0.0	0.7	-1.4	0.4	-0.1	
Euro area	EUITEMUM	-7.1	-1.9	-1.9	1.2	-0.4	0.5	0.9	-2.5		
Japan	JNIPMOM	1.7	5.1	-7.7	-15.8	0.4	-1.0	-1.6	-4.1		
<b>Retail sales (%pop1)</b>											
US	RSTAMOM	8.5	6.6	-1.0	5.3	-0.7	0.7	1.0	1.3	-0.3	
Euro area	RSSAEMUM	-4.2	0.8	-2.7	1.5	0.1	-0.1	0.2	-0.2		
Japan (household spending)		2.0	3.4	1.2	-3.4	-1.3	-1.3	2.2	-1.9		
<b>Labour market</b>											
US non-farm payrolls <sup>2</sup>	NFP TCH	164	226	67	104	45	181	192	148	171	
Euro area unemployment (%)	UMRTEMU	10.6	10.9	11.3	11.5	11.4	11.5	11.5	11.6		
Japanese unemployment (%)	JNUUE	4.4	4.5	4.4	4.2	4.3	4.3	4.2	4.2		
<b>CP inflation (%yoy)</b>											
US	CPICHNG	3.3	2.8	1.9	1.7	1.7	1.4	1.7	2.0		
Euro area	ECCPEMUY	2.9	2.7	2.5	2.5	2.4	2.4	2.6	2.6	2.5	2.2
Japan	JNCPIYOY	-0.3	0.3	0.2	-0.4	-0.1	-0.4	-0.5	-0.3		
China	CNCPIYOY	4.6	3.8	2.8	1.8	2.1	1.7	2.0	1.8	1.6	
India		9.0	7.4	7.5	7.8	7.6	7.5	8.1	7.9	7.5	
Russia	RUCPIYOY	6.7	3.9	3.8	6.0	4.3	5.6	6.0	6.6	6.6	
Brazil		6.7	5.8	5.0	5.2	4.9	5.2	5.2	5.3	5.4	
<b>Current account (USD bn)<sup>3</sup></b>											
US (trade balance, g+s)	USTBTOT	-48.8	-49.5	-46.4	-42.6	-41.9	-42.5	-43.8	-41.5		
Euro area		2.6	8.1	13.3	10.4	19.1	9.9	10.9			
Japan		7.2	6.2	6.3	3.9	9.6	4.2	9.2	-1.8		
China (trade in goods)		8.1	8.8	25.9	20.9	29.4	14.4	22.5	25.6	20.2	
Russia (trade in goods)		19.1	18.0	16.0	14.9	13.7	11.8	14.9	18.0		
<b>Other indicators</b>											
Oil prices (Brent, USD/b)	EUCRBRDT	109.5	118.4	108.5	109.7	95.3	102.8	113.4	113.0	111.9	
FX reserves China (USD bn)	CNGFOREX	3181.1	3305.0	3240.0	3285.1	3240.0	3240.0	3272.9	3285.1		

Quarterly data in shaded areas are quarter-to-date. Monthly data in the shaded areas are forecasts.

(1) % pop = % change this period over previous period. Quarter on quarter growth rates is annualised.

(2) pop change in '000, quarterly data are averages of monthly changes.

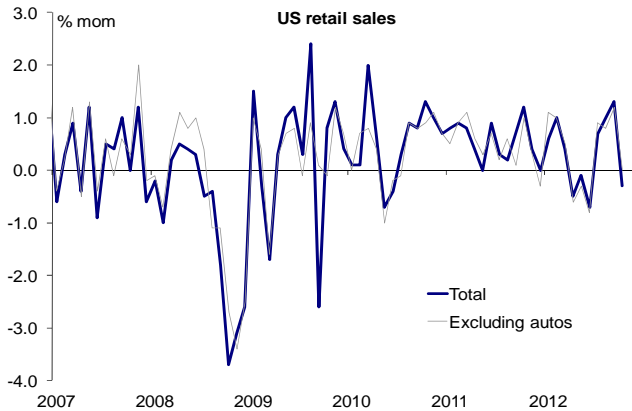
(3) Quarterly data are averages of monthly balances.

Sources: Bloomberg Finance LP, Reuters, Eurostat, European Commission, OECD, Bank of Japan, National statistical offices.



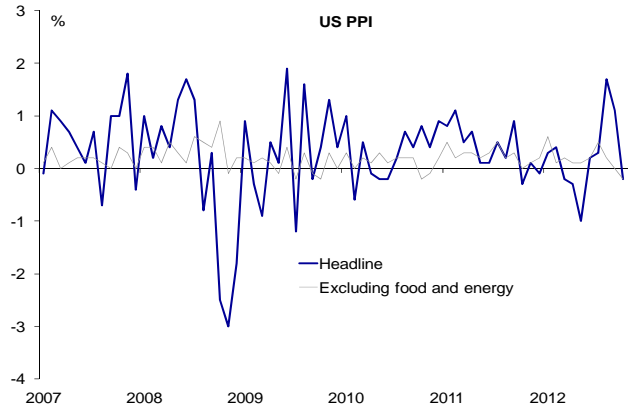
**Charts of the Week**

**Chart 1. In the US, retail sales for October came out soft following an upward revision in September...**



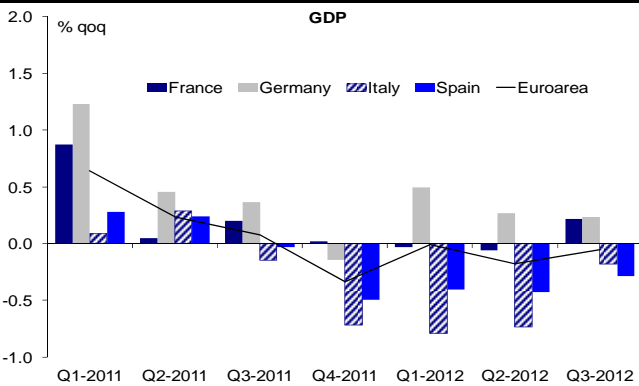
Source: FRB, DB Global Markets Research

**Chart 2...while PPI fell 0.2% mom in the headline in October due to falling energy prices particularly gasoline**



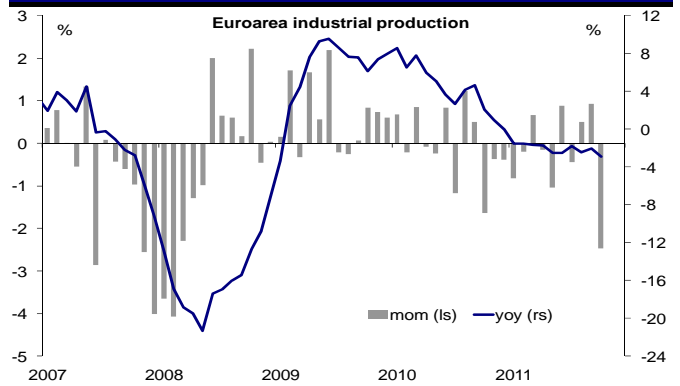
Source: BLS, DB Global Markets Research

**Chart 3. In Euro area, economy slipped into recession for the second time in four years in Q3...**



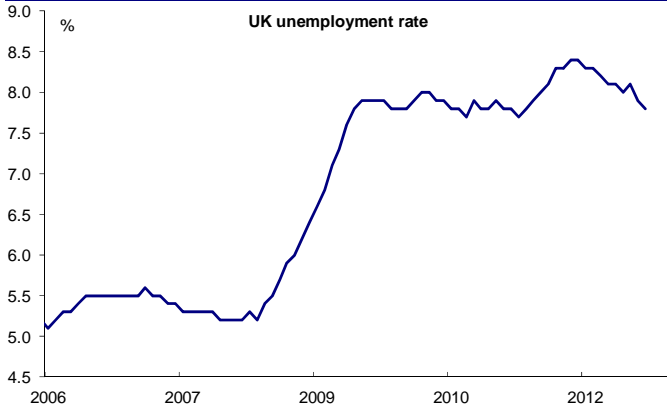
Source: Eurostat, DB Global Markets Research

**Chart 4...also IP in Euro area in September ended on a downbeat note pointing to downward risk to Q4 GDP**



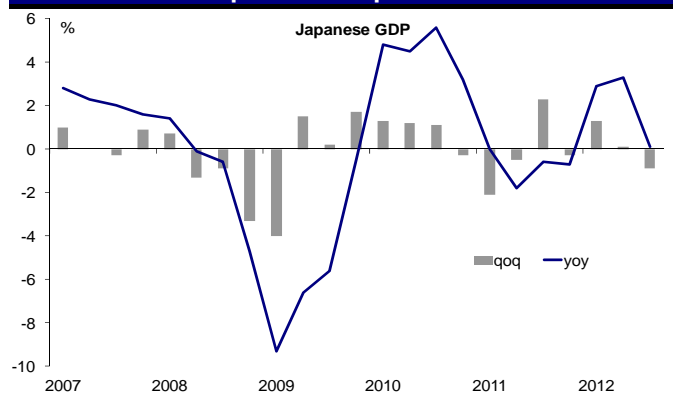
Source: Eurostat, DB Global Markets Research

**Chart 5. In UK, unemployment rate fell slightly to 7.8% in the quarter to the end of September ...**



Source: ILO, DB Global Markets Research

**Chart 6...while in Japan, GDP contracted in Q3 led by household consumption and exports**



Source: ESRI, DB Global Markets Research

**Global Week Ahead: Thursday, 16 November– Friday, 23 November**

- **Dollar Bloc:** In the **US**, we forecast IP for October to fall by 0.1%. In soft data, consumer sentiment is likely to improve. There is also a gamut of housing data due for release this week. In **Australia** minutes of the RBA meeting will be crucial. In **Canada**, consumer prices and retail sales are due.
- **Europe:** In the **Euroland**, all eyes will be on the Nov 20 Euro group finance ministers meet on Greece. On the data front, some key surveys like German IFO, French INSEE, Belgian BNB business confidence and flash PMI reports will indicate the economic sentiment of the region. In hard data, the final Q3 German GDP will be an important release. Alongside trade balance for the region as a whole Italy and Spain are the other releases due in the week ahead. In **UK**, attention will be focused on the minutes of the Nov MPC meeting. On the data front public sector borrowing and CBI industrial survey is due. In **Switzerland**, trade balance is due. In **Scandinavia**, the Norwegian GDP will be in focus. In **CE3**, Polish net core inflation and industrial production are due.
- **Asia incl. Japan:** In **Japan**, the BoJ will announce the target rate for December. In addition, the all industry activity index is the other major release.

Country	GMT	Release	DB Expected	Consensus	Previous
<b>Friday, 16 November</b>					
EUROLAND	07:00	New car registration (Oct)			(-10.8%)
HUNGARY	08:00	Industrial production (Sep)			(1.4%)
EUROLAND	09:00	Current account (Sep)			EUR8.8bn
ITALY	09:00	Trade balance (Sep)			-EUR6.0bn
EUROLAND	10:00	Trade balance (Sep)		EUR9.5bn	EUR9.9bn
MEXICO	14:00	GDP constant (Q3)	(3.5%)	0.7% (3.6%)	0.9% (4.1%)
US	14:00	Net foreign sec purchase (Sep)		USD50.0bn	USD90.0bn
US	14:15	Capacity utilization (Oct)	78.2%	78.3%	78.3%
US	14:15	Industrial production (Oct)	-0.1%	0.2%	0.4% (2.8%)
<b>Events and meetings: EUROLAND:</b> EU's Rehn & Barnier to hold speech in Moscow. <b>US:</b> Fed's Dudley to hold speech in New York – 01:00 GMT. <b>EUROLAND:</b> ECB's Asmussen to hold speech in Berlin – 08:00 GMT. <b>EUROLND:</b> ECB's Costa to hold speech in Lisbon – 09:00 GMT. <b>EUROLND:</b> ECB's Weidmann to hold speech in Berlin – 10:30 GMT. <b>EUROLAND:</b> EU's Rompuy to hold speech in Vienna – 16:15 GMT. <b>US:</b> Fed's Lockhart to hold speech in Charlottesville – 20:45 GMT.					
<b>Sunday, 18 November</b>					
NEW ZEALAND	21:45	Input PPI (Q3)			0.6% (1.9%)
NEW ZEALAND	21:45	Output PPI (Q3)			0.3% (0.5%)
<b>Events and meetings:</b> No significant events scheduled.					
<b>Monday, 19 November</b>					
ITALY	09:00	Industrial orders (Sep)			0.7% (-9.0%)
ITALY	09:00	Industrial sales (Sep)			2.9% (-2.6%)
EUROLAND	10:00	Construction output (Sep)			0.7% (-5.5%)
CHILE	11:30	GDP (Q3)			(5.5%)
US	15:00	Existing home sales (Oct)	4.7m	4.8m	4.8m
US	15:00	NAHB housing market index (Nov)	40.0	41.0	41.0
<b>Events and meetings: EUROLAND:</b> EU's Barnier to hold speech in Brussels – 08:30 GMT. <b>EUROLAND:</b> ECB's Coeure & Liikanen to hold speech in Brussels – 09:00 GMT.					
<b>Tuesday, 20 November</b>					
JAPAN	-	BOJ target rate (Dec)			0.10%
JAPAN	04:30	All industry activity index (Sep)	-1.8%	-0.6%	0.1%
GERMANY	07:00	PPI (Oct)			0.3% (1.7%)
SWITZERLAND	07:00	Trade balance (Oct)			CHF1.9bn
NORWAY	09:00	GDP (Q3)			1.2%
NORWAY	09:00	GDP mainland (Q3)			1.0%
TURKEY	12:00	MPC meeting (Dec)			5.75%
POLAND	13:00	Industrial production (Oct)		4.1% (2.8%)	6.1% (-5.2%)
POLAND	13:00	PPI (Oct)		0.0% (1.6%)	0.5% (1.8%)
US	13:30	Building permits (Oct)	880.0k	865.0k	894.0k

Country	GMT	Release	DB Expected	Consensus	Previous
<b>Tuesday, 20 November (continued)</b>					
US	13:30	Housing starts (Oct)	875.0k	840.0k	872.0k
CANADA	13:30	Wholesale sales (Sep)			0.5%
JAPAN	23:50	Merchandise trade balance (Oct)	-JPY413.0bn	-JPY600.0bn	-JPY980.3bn
<b>Events and meetings: JAPAN:</b> BoJ to announce interest rate decision. <b>AUSTRALIA:</b> RBA to release minutes of its November MPC meeting – 00:30 GMT. <b>AUSTRALIA:</b> RBA's Stevens to hold speech in Melbourne – 07:00 GMT. <b>TURKEY:</b> Central Bank of Turkey to announce interest rate decision – 12:00 GMT. <b>US:</b> Fed's Lacker to hold speech in New York – 14:00 GMT. <b>EUROLAND:</b> Euro group finance minister to meet in Brussels – 16:00 GMT.					
<b>Wednesday, 21 November</b>					
SPAIN	-	Trade balance (Sep)			-EUR3.1bn
UK	09:30	PSNB (Oct)			GBP10.7bn
UK	09:30	PSNCR (Oct)			-GBP0.6bn
POLAND	13:00	Net core inflation (Oct)		0.2% (1.8%)	0.0% (1.9%)
US	14:55	Consumer sentiment (Nov)	85.0	84.9	82.6
<b>Events and meetings:</b> No significant events scheduled.					
<b>Thursday, 22 November</b>					
SOUTH AFRICA	-	SARB rate decision (Nov)		5.00%	5.00%
DENMARK	08:00	Consumer confidence (Nov)			-5.5
DENMARK	08:00	Retail sales (Oct)			1.0% (-1.4%)
EUROLAND	09:00	PMI manufacturing, flash (Nov)			45.4
EUROLAND	09:00	PMI services, flash (Nov)			46.0
EUROLAND	09:00	PMI composite, flash (Nov)			45.7
UK	11:00	CBI industrial trends survey (Nov)			12.0
CANADA	13:30	Retail sales (Sep)			0.3%
MEXICO	14:00	Bi-weekly core CPI (Nov)			0.1%
<b>Events and meetings: SOUTH AFRICA:</b> SARB to announce rate decision. <b>UK:</b> BoE to publish minutes of its Nov 7-8 MPC meeting – 09:30 GMT.					
<b>Friday, 23 November</b>					
GERMANY	07:00	GDP (Q3)	0.4%	0.2%	0.3% (1.0%)
FRANCE	07:45	INSEE business confidence (Nov)			85.0
FRANCE	07:45	Personal production outlook (Nov)			-8.0
FRANCE	07:45	Production outlook indicator (Nov)			-56.0
FRANCE	07:45	Recent output trend index (Nov)			-23.0
SPAIN	08:00	PPI (Oct)			-0.1% (3.8%)
GERMANY	09:00	IFO - business climate (Nov)	99.4		100.0
GERMANY	09:00	IFO - current assessment (Nov)			107.3
GERMANY	09:00	IFO - expectations (Nov)			93.2
ITALY	10:00	Retail sales (Sep)			0.0% (-1.0%)
CANADA	13:30	CPI (Oct)			0.2% (1.2%)
BELGIUM	14:00	BNB business confidence (Nov)			-13.5
MEXICO	14:00	GDP current (Q3)			(8.5%)
MEXICO	14:00	Unemployment rate (Oct)			5.0%

**Events and meetings:** No significant events scheduled.

Source: Australian Bureau of Statistics; Bank of Canada; Bank of Japan; BEA; BLS; Bundesbank; Bureau of Labor Statistics, U.S.

Department of Labor; Cabinet Office, Government of Japan; ECB; Eurostat; Indian Central Statistical Organization; INE; INSEE; ISTAT; ISTAT.IT; Ministry of Finance Japan; National Association of Realtors; National Bureau of Statistics; National Statistics Office; OECD - Composite Leading Indicator; People's Bank of China; Reserve Bank of Australia; Reserve Bank of New Zealand; Statistics Canada; Statistics Netherlands; Statistics of New Zealand; U.S. Census Bureau; U.S. Department of Labor, Employment & Training Administration; U.S. Department of the Treasury; U.S. Federal Reserve.

**Note:** Unless otherwise indicated, numbers without parenthesis are either % month-on-month or % quarter-on-quarter, depending on the frequency of release, while numbers in parenthesis are % year-on-year. \* on the release time means indicative release time. \* on indicator name means indicative/earliest release date.

**Financial Forecasts**

		US	Jpn	Euro	UK	Swe*	Swiss*	Can*	Aus*	NZ*	
<b>3M Interest</b>	<b>Actual</b>	0.31	0.32	0.19	0.52	1.25	0.00	1.00	3.25	2.50	
	<b>Rates<sup>1</sup></b>										
	<b>Dec-12</b>	0.35	0.30	0.25	0.65	1.25	0.00	1.00	3.00	2.50	
<b>DB forecasts &amp; Futures</b>	<b>futures</b>	(0.32)	(0.31)	(0.18)	(0.51)	—	—	—	—	—	
	<b>Mar-13</b>	0.35	0.30	0.25	0.65	1.25	0.00	1.50	2.50	2.50	
	<b>futures</b>	(0.32)	(0.27)	(0.15)	(0.48)	—	—	—	—	—	
	<b>Sep-13</b>	0.35	0.30	0.25	0.65	1.25	0.00	2.00	2.50	2.75	
	<b>futures</b>	(0.34)	(0.24)	(0.19)	(0.46)	—	—	—	—	—	
<b>10Y Gov't<sup>2</sup></b>	<b>Actual</b>	1.60	0.74	1.33	1.75	1.42	0.41	1.70	3.02	3.41	
	<b>Bond</b>										
	<b>Dec-12</b>	2.00	0.80	1.75	2.20	1.80	0.85	2.00	3.25	4.00	
	<b>Yields/</b>										
	<b>futures</b>	1.67	0.78	1.41	1.82	—	—	—	—	—	
	<b>Spreads<sup>3</sup></b>										
	<b>Mar-13</b>	2.50	0.90	2.00	2.40	2.10	1.00	<b>2.50</b>	3.50	4.00	
<b>DB forecasts &amp; Forwards</b>	<b>futures</b>	1.74	0.82	1.47	1.89	—	—	—	—	—	
	<b>Sep-13</b>	2.50	1.00	2.50	2.80	2.70	1.40	<b>3.00</b>	3.50	4.25	
	<b>futures</b>	1.89	0.90	1.61	2.03	—	—	—	—	—	
<b>Exchange Rates</b>	<b>Actual</b>	<b>EUR/USD</b>	<b>USD/JPY</b>	<b>EUR/GBP</b>	<b>GBP/USD</b>	<b>EUR/SEK</b>	<b>EUR/CHF</b>	<b>CAD/USD</b>	<b>AUD/USD</b>	<b>NZD/USD</b>	
		1.28	81.1	0.80	1.59	8.64	1.20	1.00	1.03	0.81	
		<b>3M</b>	1.35	82.0	0.84	1.61	8.50	1.21	0.98	1.06	0.83
		<b>6M</b>	1.31	84.0	0.84	1.57	8.38	1.21	0.98	1.06	0.83
		<b>12M</b>	1.24	88.0	0.82	1.52	8.13	1.22	0.99	1.02	0.82

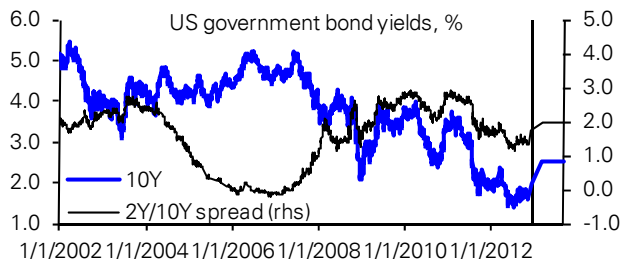
(1) Future rates calculated from the December, March and September 3M contracts. Forecasts are for the same dates. \* indicates policy interest rates.

(2) Forecasts in this table are produced by the regional fixed income strategists. Forwards estimated from the asset swap curve for 2Y and 10Y yields.

(3) Bond yield spreads are versus Euroland. US 10Y Govt. bond yield forecasts has been taken from US Fixed Income Weekly.

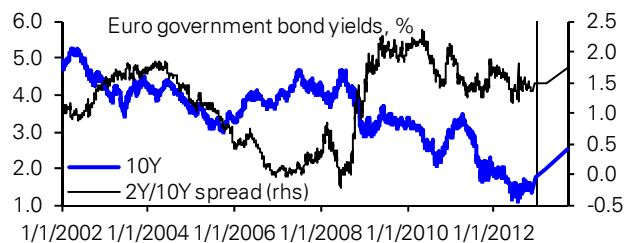
Sources: Bloomberg Finance LP, DB Global Markets Research. Revised forecasts in bold type. All current rates taken as at Tuesday at 11:00 GMT.

**US 10Y rates**



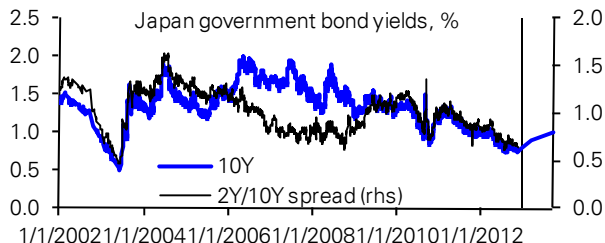
Source: DB Global Markets Research, Bloomberg Finance LP

**Euroland 10Y rates**



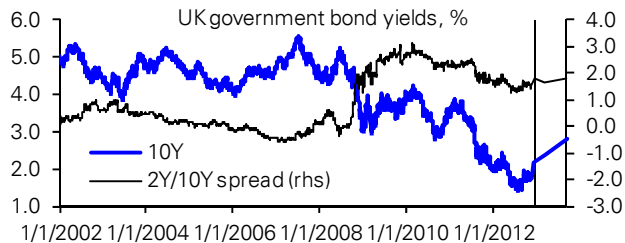
Source: DB Global Markets Research, Bloomberg Finance LP

**Japan 10Y rates**



Source: DB Global Markets Research, Bloomberg Finance LP

**UK 10Y rates**



Source: DB Global Markets Research, Bloomberg Finance LP

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# Appendix 1

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