



Supply and demand

February 2011

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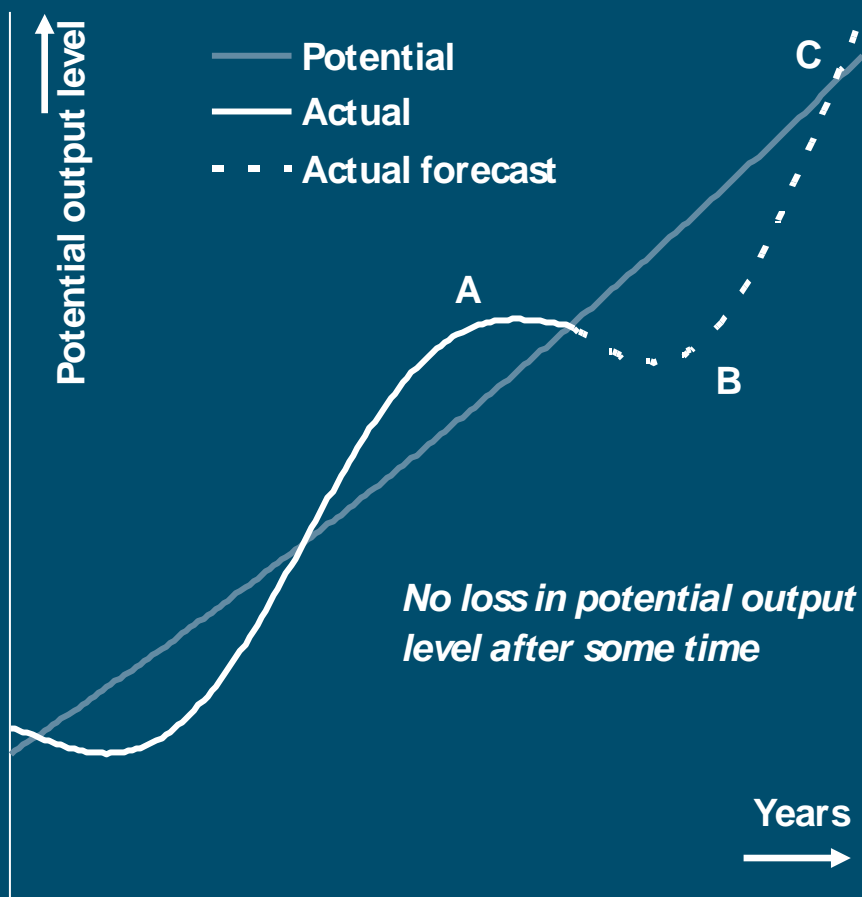
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Summary: Aggregate Supply

- A reminder of why we should care a lot about “aggregate supply”
- How have official estimates of output gap and potential GDP growth evolved over the past year?
- Is the new Office for Budget Responsibility (OBR) right to assume an output gap of just over 4% of potential GDP and potential growth of a little over 2% per annum?

Figure 1 - Why do we care about potential GDP?

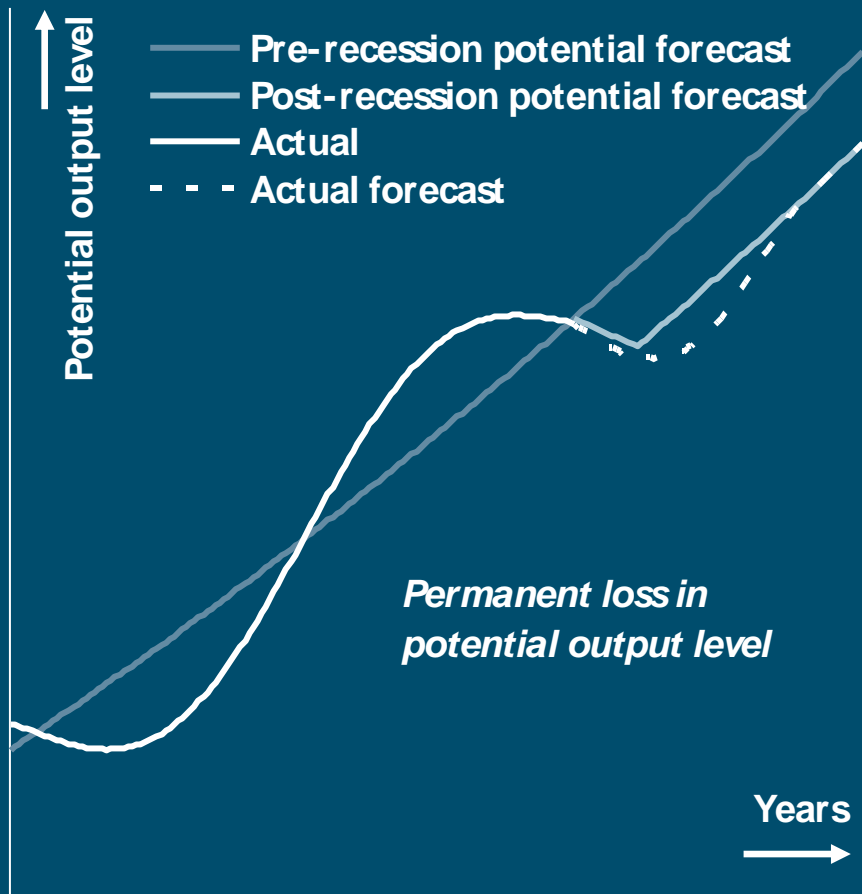
A stylised recession with *no long-run structural costs*



- A ‘no-cost’ or ‘low-cost’ recession may occur if demand has been permitted to rise above aggregate supply, and needs to be lowered again in order to avoid inflation rising above target.
- From the peak of the boom, at A, demand falls back – often temporarily below potential (or ‘trend’) GDP, to a point like B.
- Thereafter, recovery can lead to above-trend growth for a while, returning the economy to a sustainable position such as C. From then on, it should be able to expand at its old trend rate. A

Figure 2 - Why do we care about potential GDP?

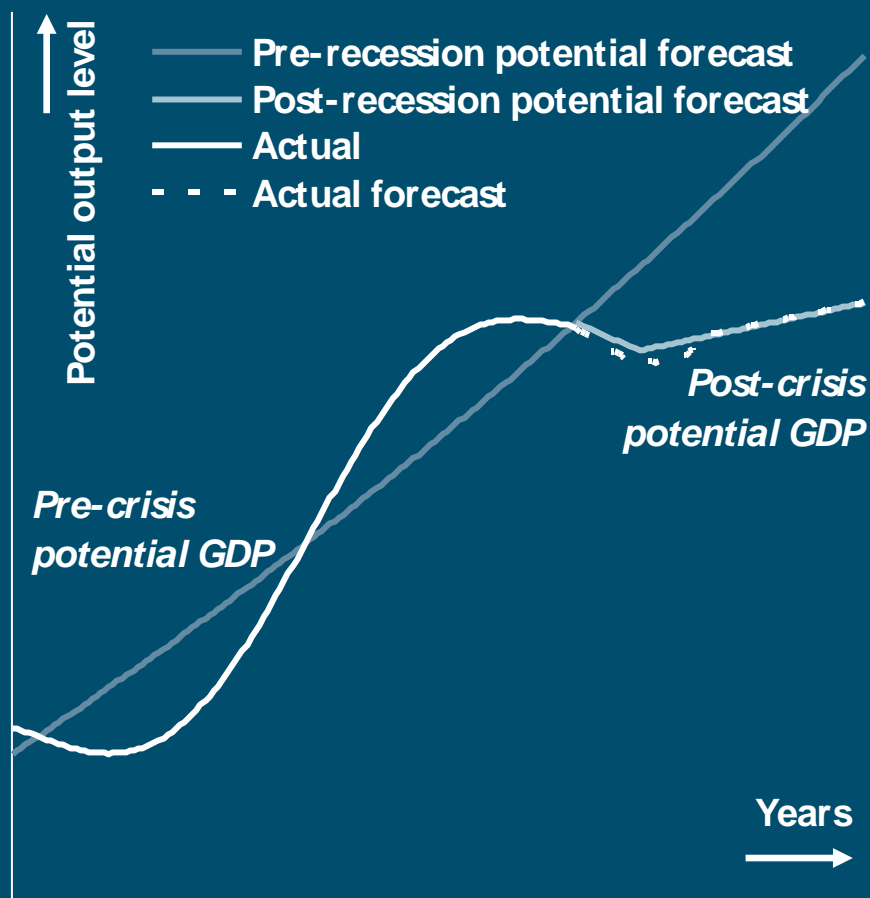
A stylised recession with *constant* long-run structural costs



- A second – more painful – possibility occurs when potential GDP also takes a leg down during the recession, say because capital gets scrapped.
- In an extreme form, potential may drop almost as much as actual GDP during the recession, as illustrated here.
- If that happens, the economy can resume growing at its old potential growth rate, but there is a long-term cost equal to the drop in the level of potential GDP.
- In the 2009 *Pre-Budget Report*, the Treasury assumed that this is what had happened, with a drop in aggregate supply of 5% from mid-2010 onwards.

Figure 3 - Why do we care about potential GDP?

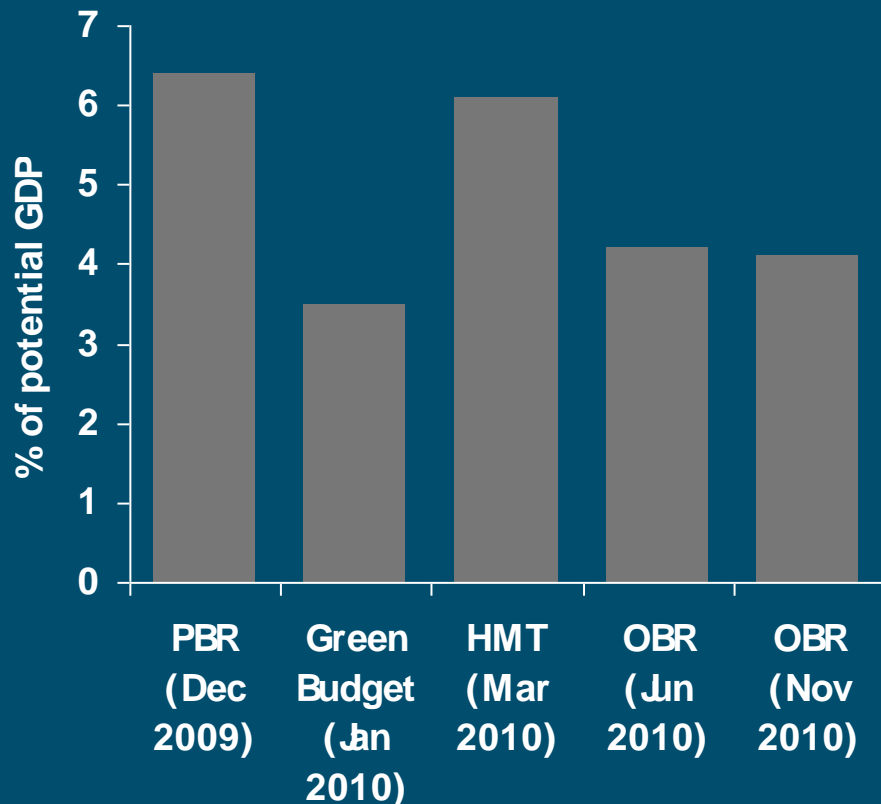
A stylised recession with *increasing* long-run structural costs



- The worst of all worlds is when both the level of potential *and* its growth rate decline.
- In such a situation, the amount of ‘lost output’ grows and grows. And the output gap is very small.
- Before the 2010 election, the Treasury remained optimistic about the rate of growth of UK potential before the crisis – reckoning it to be 2¾% per annum.
- They had also surmised that that is what the economy will manage to achieve again from 2011 onwards.

Figure 4 – Estimates of the output gap in FY2009-10

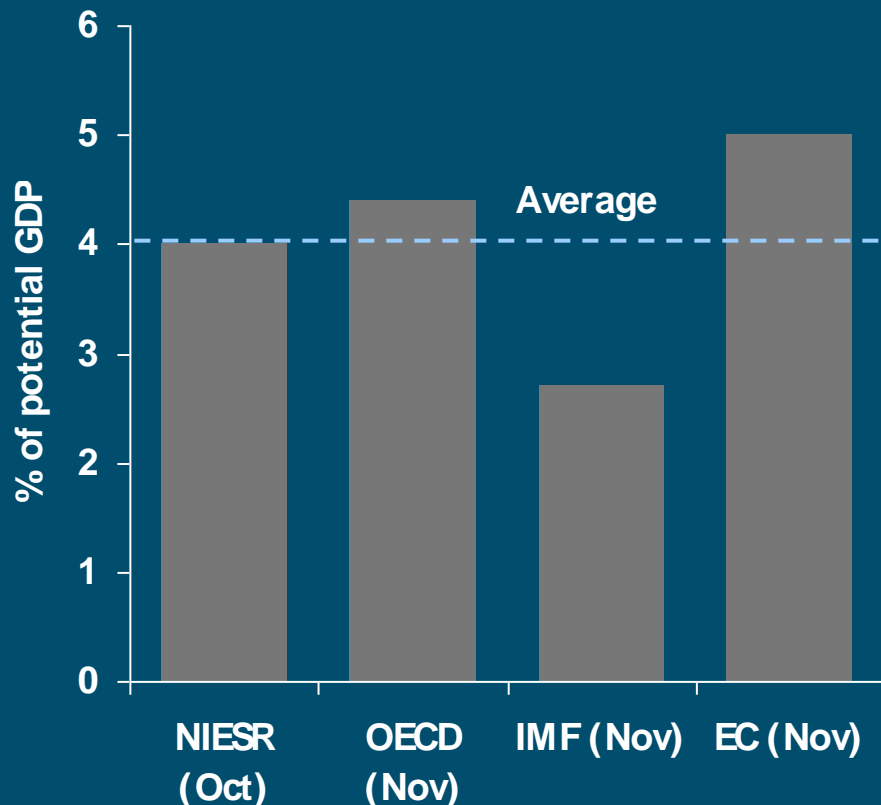
How official estimates of the size of the output gap in FY2009-10 have evolved



- In March 2010, before the election, the Treasury reiterated its earlier analysis that the output gap exceeded 6% of potential by end-2009.
- After the election, the new Office for Budget Responsibility estimated it was only about 4% – much closer to our estimate of ~3% made last year.
- This more gloomy assessment helped the government justify more aggressive fiscal tightening.
- In late November, the OBR made only mere tweaks to its initial assessment.

Figure 5 – 2010 output gap estimates of other forecasters

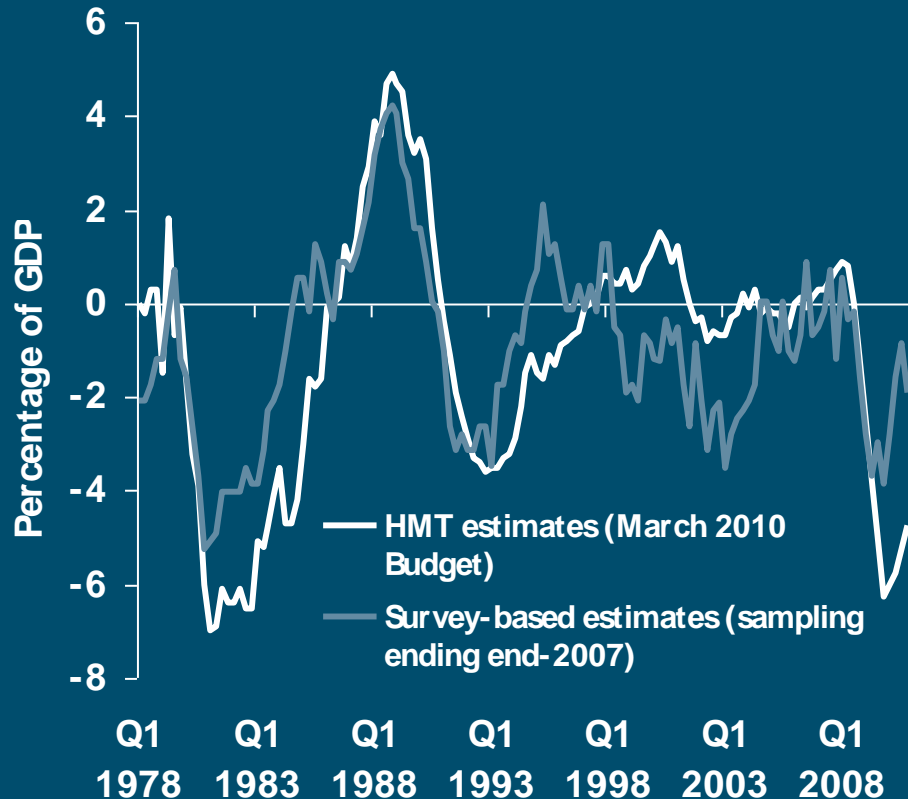
Comparing outside forecasters' assessments of the size of the 2010 output gap



- One of the approaches used by the OBR to gauge the output gap is to consider other forecasters' assessments.
- Researchers at all of these institutions use production functions to gauge the amount of slack in the economy.
- The average of these estimates is similar to the OBR's 4% estimate published in November 2010.

Figure 6 – Using survey data to gauge “supply”

Using survey-based models to explain past Treasury estimates of the output gap



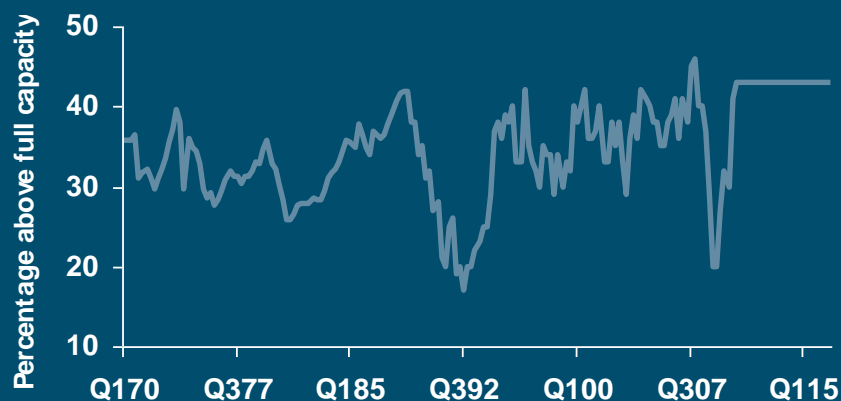
- A weighted average of some survey measures provide a good fit to the Treasury estimates of the output gap prior to the financial crisis.
- Running the model forward, through 2009, this approach was almost spot on our own production-function-based estimate of the output gap in last year's *Green Budget*.
- Running the model up to Q3 of 2010, this model suggests that the output gap shrank to under 2% of potential GDP by end-year.

Figure 7 – Combining survey data and a production function

Utilisation rates in manufacturing



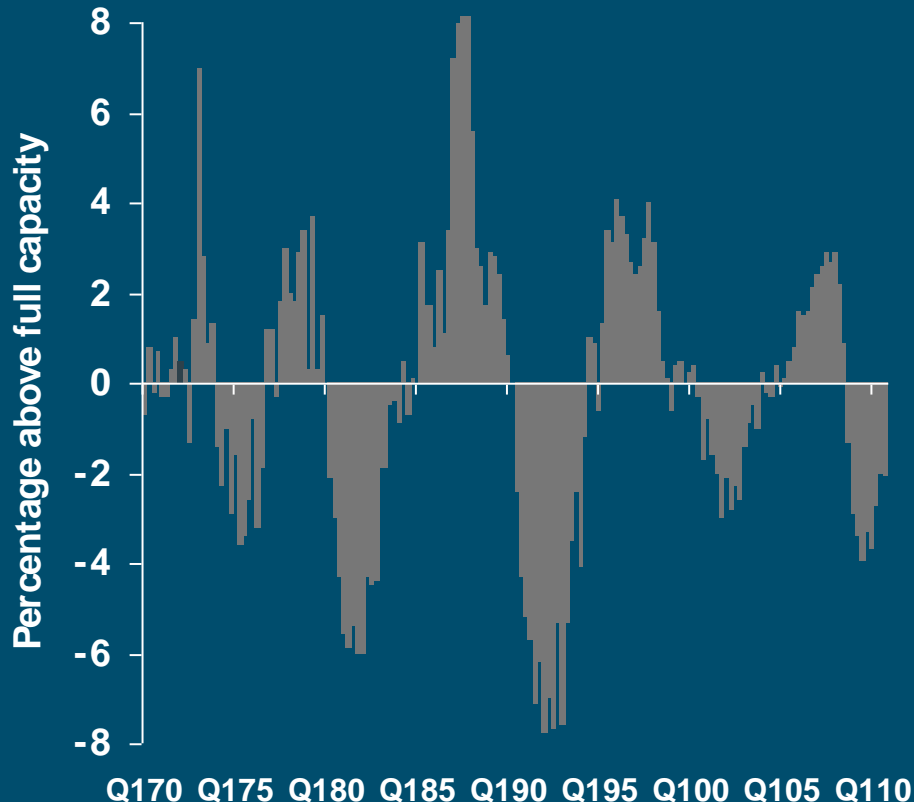
Utilisation rates in services



- IMF researchers suggest that survey-based measures of capacity utilisation provide a better way of gauging the TFP than using a simple filter.
- One potential problem with the IMF's approach is that they have used only a manufacturing-based estimate of capacity utilisation.
- We use a weighted average of manufacturing and services measures of capacity to create our own gauge of "adjusted" TFP.

Figure 8 – Output gap estimates using our gauge of the TFP

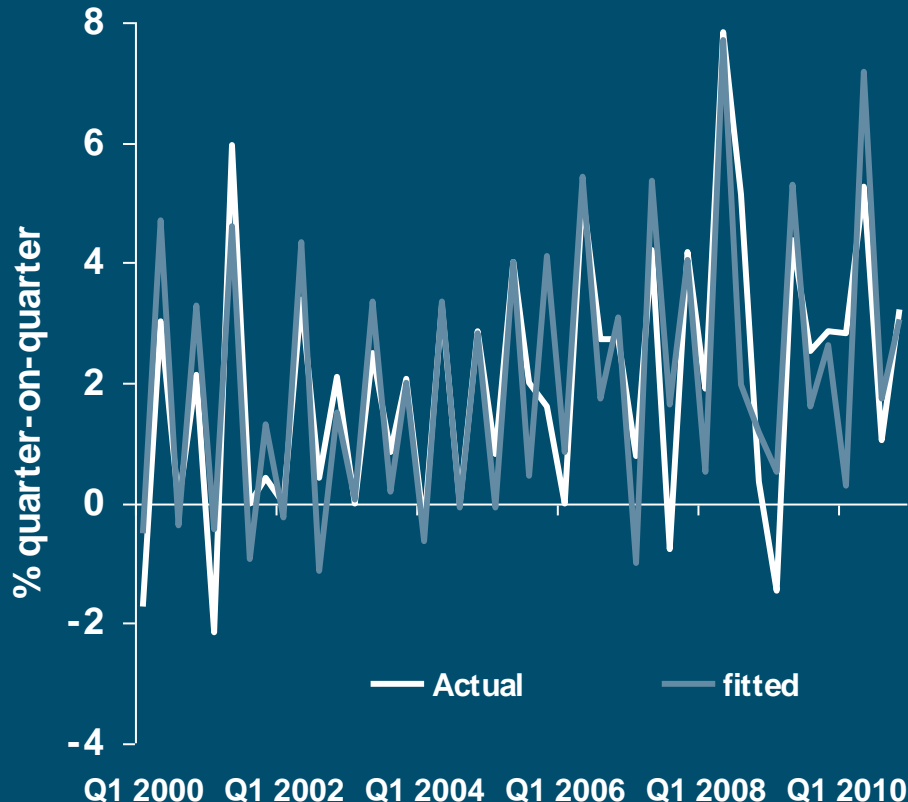
Producing a new set of IMF-style output gap estimates with our own TFP gauges



- Using this “amended-IMF” approach to gauge “adjusted” TFP, we can produce new IMF-style potential GDP estimates.
- Comparing these with actual GDP, we find that the output gap was close to 4% of potential national income at its maximum – i.e., much less than what a typical production function reckons.
- In Q3 2010, our output gap estimate with this method was around 2 1/2 % of potential GDP – i.e., more than a full percentage point smaller than IMF’s estimate.

Figure 9 – One last check on our output gap estimates

Recent actual and fitted values for our model of inflation



- Replicating a recent (output-gap-based) Treasury model of inflation, we find that it under-predicted price pressures for all of last year.
- Re-estimating the model but by incorporating our own gauge of the output gap (and a few other tweaks) does a good job at tracking quarter-on-quarter changes in the CPI.
- This more pessimistic assessment of the output gap did a much better job than the Treasury's model at explaining "high" inflation in 2010.

Conclusions on Supply

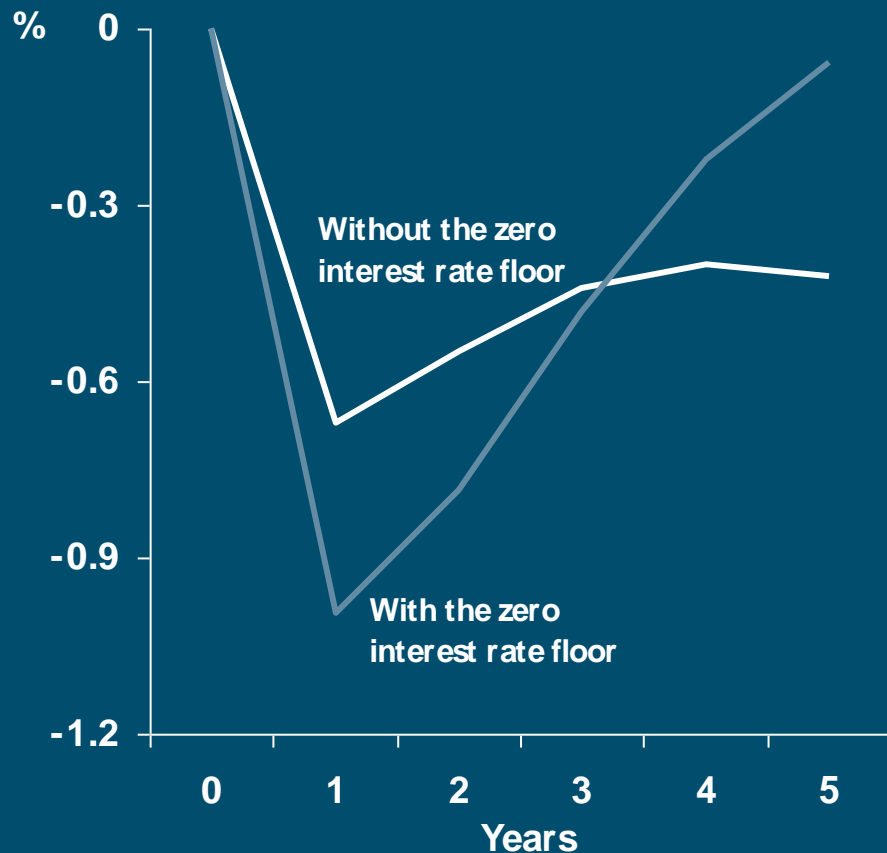
- Last year, we argued that the UK output gap was *much* lower than the Treasury estimate of more than 6%.
- We also argued that potential growth rate would be close to 1¾% per annum by 2014, instead of the 2¾% assumed by the Treasury.
- The official view has changed dramatically, with the new OBR revising down sharply both the output gap (to just over 4% of potential) and potential growth (to just over 2% per annum) – i.e., now much closer to our estimates.
- Using a variety of methods, we estimate that the output gap and potential GDP growth are probably still a little smaller than what the OBR is assuming.
- An updated forecast of our supply-side analysis suggests that productivity growth will only rise gradually, averaging about 1% p.a. over the next five years.
- Accordingly, our predicted annual growth rate of potential GDP does not reach its long-run sustainable rate (of 1¾%) until 2014.
- We continue to worry that the official view is still a little too complacent, with implications for both future inflation risks and the scale of the required fiscal consolidation.

Summary: Aggregate Demand

- Will fiscal multipliers turn out bigger than what the OBR is assuming?
- Will consumers perhaps be more reluctant to spend than the official forecasts assume?
- Might investment “surge” given how fast, and far, it dropped?
- Can exports really provide as much support for the economy as generally expected?
- What is going on in the labour market?

Figure 10 – The impact of fiscal tightening: the fiscal multiplier

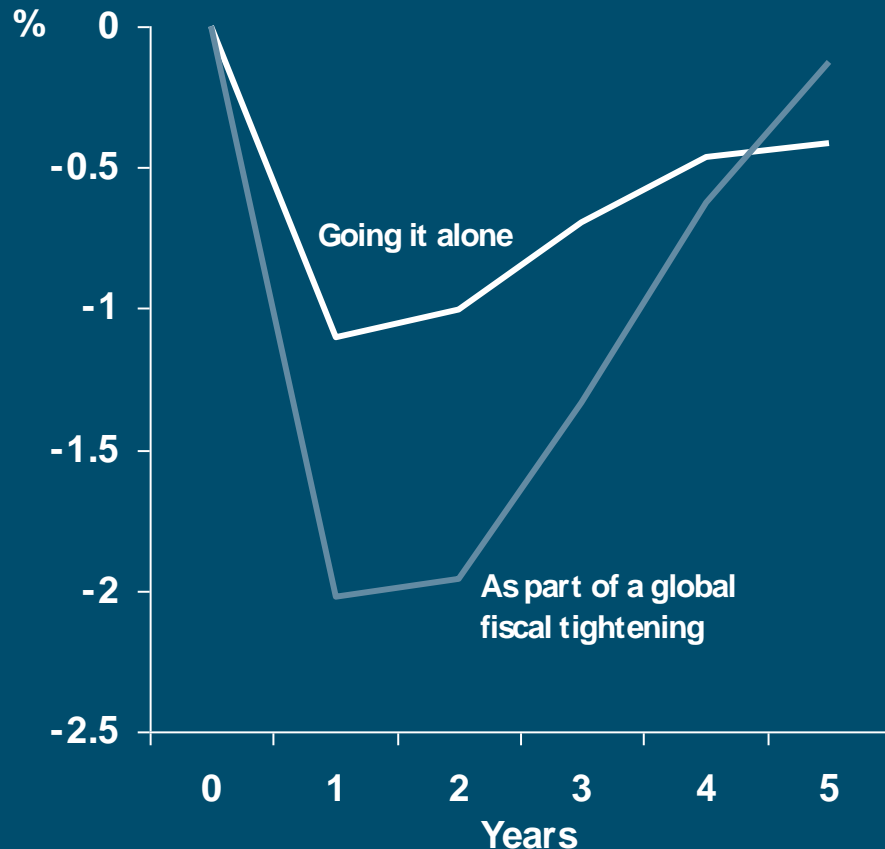
The effect on real GDP of a 1% of GDP fiscal tightening with and without the restriction of a zero interest rate floor



- IMF analysis suggests that, in a medium-sized economy like the UK, the 1st-year fiscal multiplier is typically around 2/3.
- However, this assumes that the central bank simultaneously cuts interest rates to offset the impact on inflation.
- When, by contrast, the zero interest rate bound bites – and rates are stuck at zero – the multiplier is around unity.

Figure 11 – The impact of fiscal tightening: the fiscal multiplier

The effect on real GDP of a 1% of GDP fiscal tightening when “going it alone” and when “everyone tightens together” (with zero rate floor binding)



- The IMF simulation results also vary, depending on whether or not the country involved acts in isolation or at the same time that others do so.
- The first-year multiplier increases from a little above 1 to around 2 if all other countries tighten policy simultaneously.
- Most major developed economies are planning to make a start on the fiscal tightening process soon.

Figure 12 – The vulnerability of households

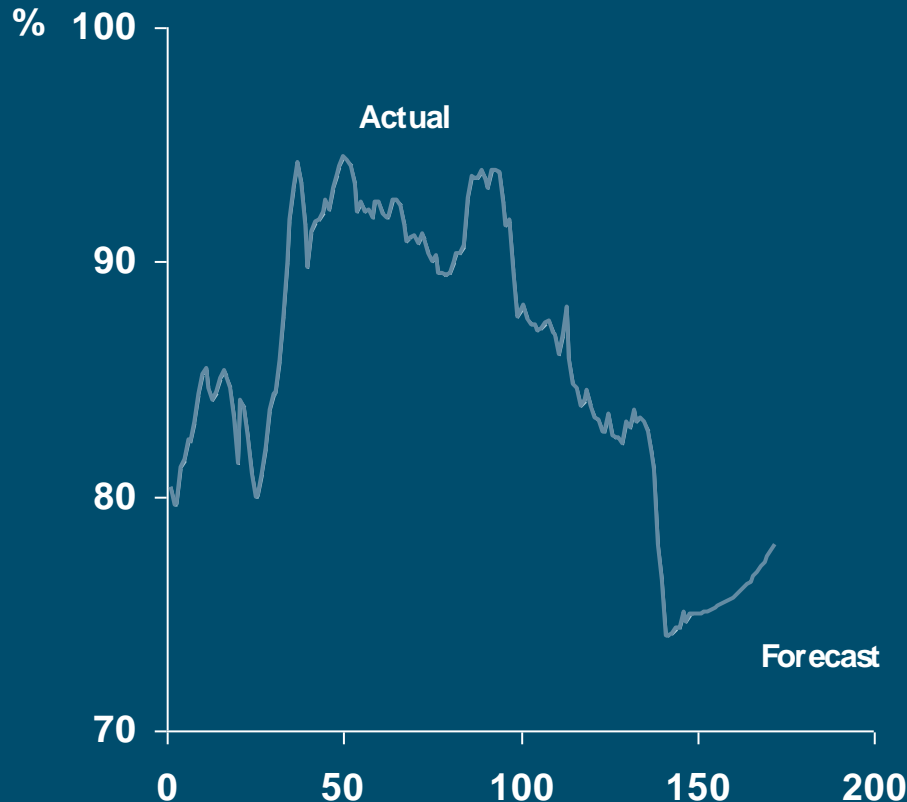
Annual rates of change of real household disposable income (RHDI) and “permanent” income



- Given the feeble outlook for wages and employment, we expect RHDI to be broadly stagnant in 2011, with a real possibility of a small contraction.
- A useful proxy for permanent income growth looks set to increase materially only from 2012 onwards.
- So, for consumption to surge, it will be necessary for the saving ratio to fall further and smartly so.

Figure 13 – Consumer spending to grow only sluggishly

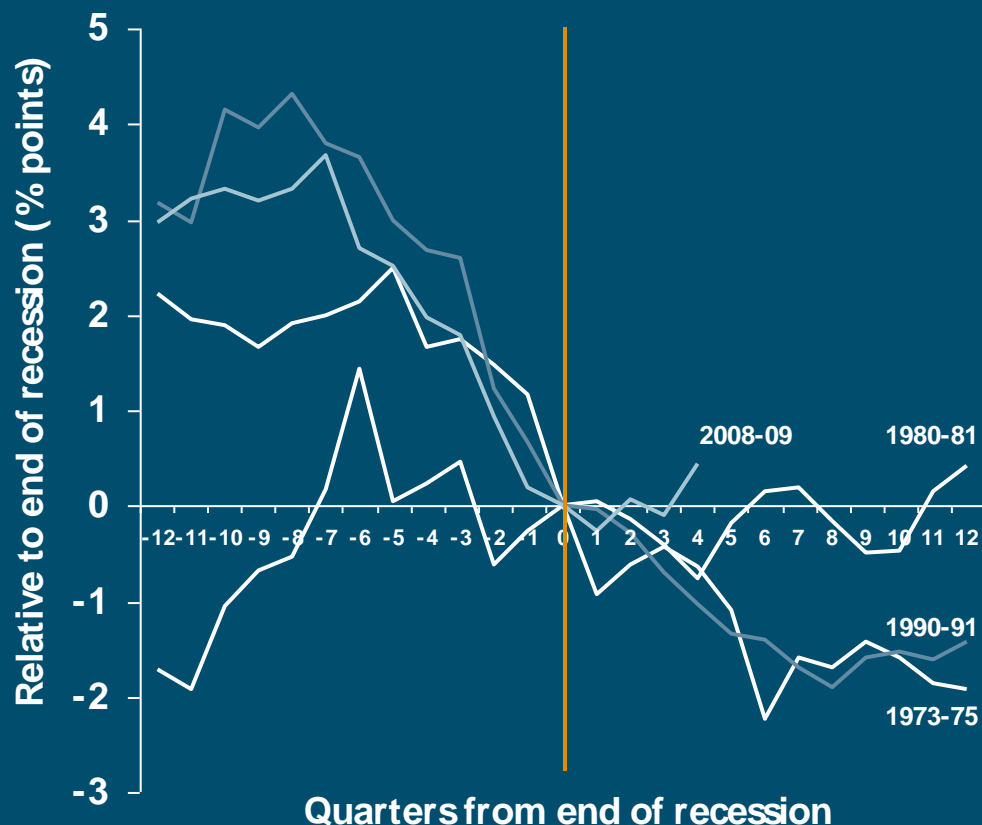
The loan-to-value ratio for first-time buyers



- For that to happen, the housing market needs to warm up, not cool further. Credit conditions are much tighter than they were pre-crisis and will probably only mend slowly.
- This points to an only sluggish pickup in consumer spending this year, thanks to a slow slide in the saving ratio.
- Looking further ahead, we are more optimistic, as we expect RHDl to stabilise in 2012 and accelerate thereafter.

Figure 14 – The renaissance of British industry?

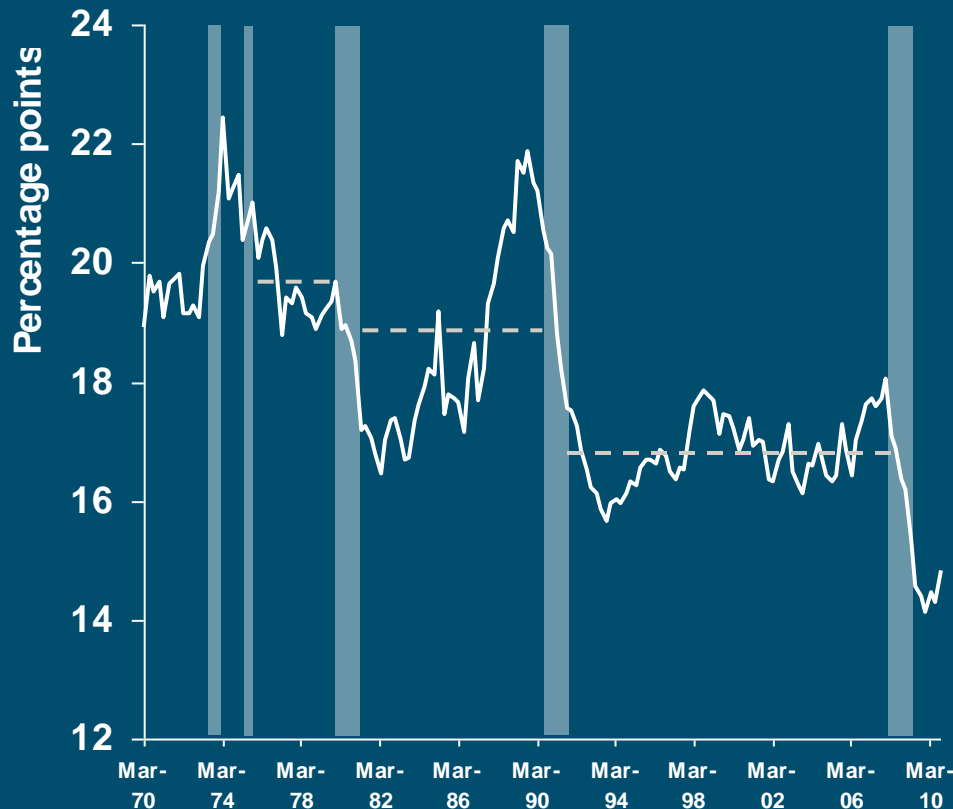
Investment-to-GDP ratio



- All recessions, excluding that in 1973-1975, show a secular decline in investment in relation to GDP in the run up and during the recession.
- Crucially, investment is not a key driver of growth during the recovery: the investment-to-GDP ratio continues to decline after the end of the recession.
- In the current episode, investment seems to be staging a slightly more robust recovery compared with earlier ones. This is unlikely to be sustained.

Figure 15 – Investment: the historical performance

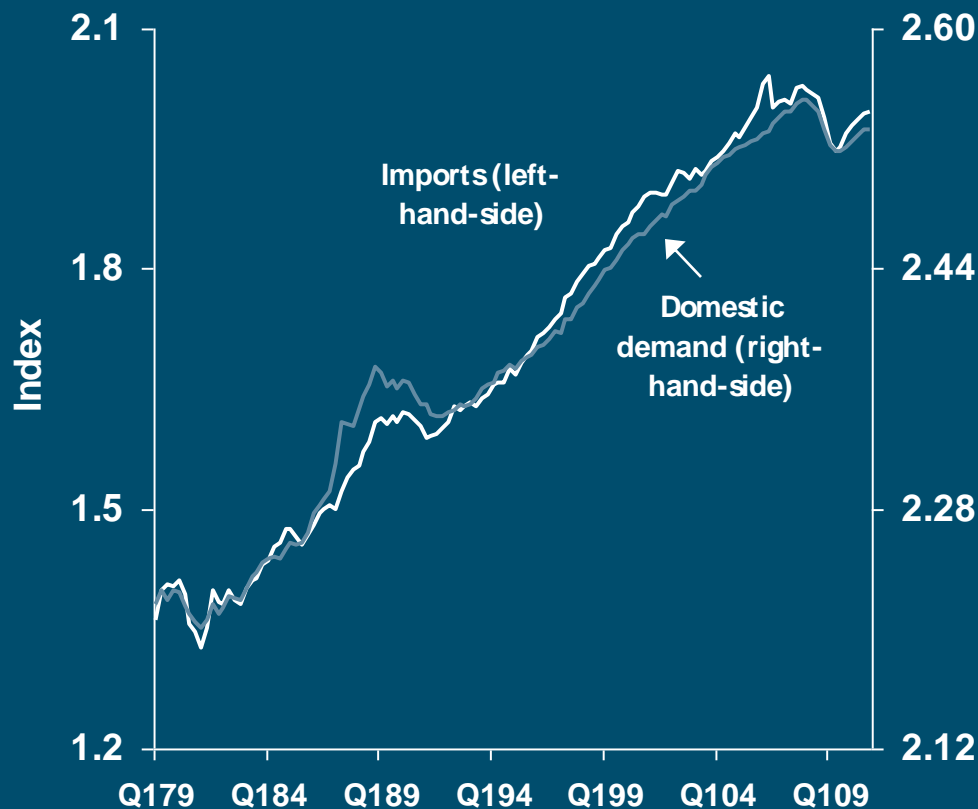
Investment-to-GDP ratio



- The 1980-81 recession provides a good comparable example, with no pre-crisis investment boom.
- In this case, investment did increase slightly after recession but did not mount a sustained recovery until the end of 1983.
- Thus, we do not expect a rapid reversion to pre-recession levels, and the rapid growth in investment seen in Q3 2010 should not be maintained in the short- to medium-term.
- Our central projection for investment sees a decline in the quarterly rate of growth in 2011, compared to 2010.

Figure 16 – A surge in imports despite cheap currency

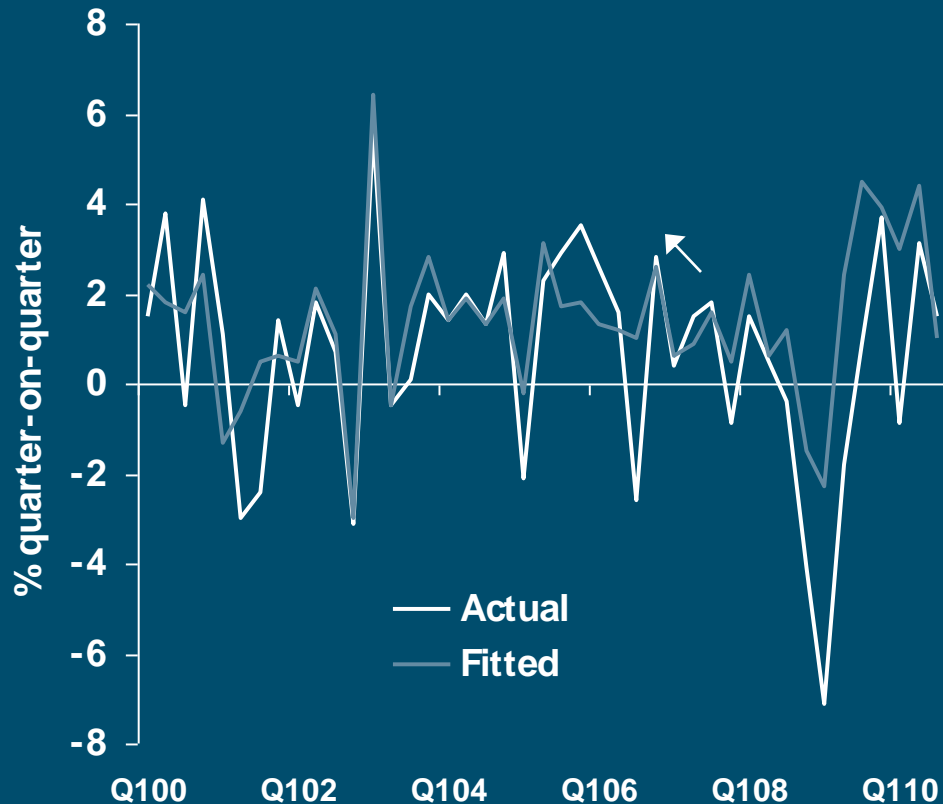
Import volumes and domestic demand



- There is a fairly high correlation between changes in import volumes and in domestic demand. (Relative prices do not seem to matter much.)
- The only other significant driver is a gradual (“trend”) loss of market share that UK producers seem to suffer in their home market.
- While our imports model tracked poorly during the crisis, it has done a much better job of late. It points to strong imports ahead.

Figure 17 – Risks to the OBR’s export growth forecast

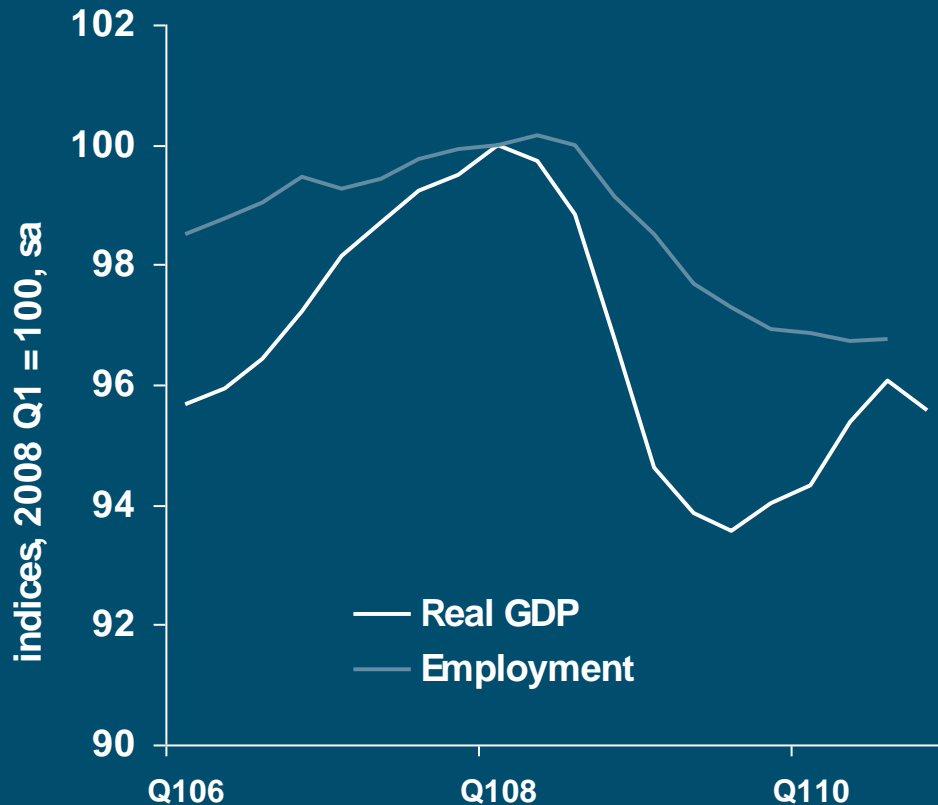
Export volumes



- Our export equation has a big elasticity with respect to competitiveness – with a 1% depreciation in trade-weighted currency leading, ultimately, to a 0.9% rise in export volumes.
- The model tracked reality well during the 1980s and 1990s, but has done a bad job in recent years. Exports are turning out a lot lower than what it suggests they should be.
- Looking at a very long run of data, it seems the price elasticity might be less than unity. So, the risks seem to lie on a story of continued loss of UK exporters’ market share.

Figure 18 – What is going on in the labour market?

GDP and employment



- During the recession, GDP dropped by about 6% from peak to trough.
- Over the same phase of the cycle, employment declined by only about 3%.
- So, output per worker fell sharply, and unit wage costs increased smartly.
- OECD research suggests that labour hoarding during slowdowns are usually associated with either jobless recoveries or double-dips in employment.
- Our forecast assumes a very muted expansion in employment. But the risks are skewed to further job declines.

Figure 19 – Barclays ‘central case’ scenario

% except where noted	2009	2010	2011	2012	2013	2014	2015	2016
Real GDP	-4.9	1.4	1.8	2.1	2.2	2.3	2.5	2.4
Personal consumption	-3.2	1.2	1.1	1.3	1.6	1.9	2.2	2.1
Fixed investment	-14.5	3.5	2.7	4.4	6.2	6.7	6.0	5.9
Exports	-10.1	5.2	6.5	8.0	8.4	8.6	8.0	7.4
Unemployment rate	7.7	8.0	8.9	9.2	9.3	9.1	8.9	8.7
Wages	1.4	2.3	2.0	2.4	3.4	4.1	5.0	5.6
Consumer prices (CPI)	2.2	3.4	3.7	1.9	2.1	2.0	2.0	2.0
Official rates (end-of-period)	0.5	0.5	1.0	1.5	2.5	3.5	4.5	5.0
Output gap (% of GDP)	-3.0	-2.4	-2.6	-2.2	-1.8	-1.2	-0.6	0.0

Sources: Barclays Economics Research .

Conclusions on Demand

- There seems to be rather more downside risks than upside ones to the OBR's projections (of 2.1% growth in 2011 and 2.6% in 2012).
- The risks of a debacle – a 'double-dip' – are not, however, that high. More likely, the recovery will merely be sluggish, with perhaps growth of 1¾% this year and 2% in 2012.
- The cumulative gap between our own and the OBR's forecasts for GDP amount to some 1½% of GDP.
- Even with our gloomy prognostications concerning the output gap and potential GDP, there should still be enough downward pressure on inflation to ensure targeted inflation drops back to close to target next year, and stays there.
- The Bank of England should not respond to temporarily high inflation with rate hikes. But it has little room to ease further if downside risks materialise. There is no need for a 'Plan B'. But some wiggle room – to 'trim the sails' if necessary – would not come amiss.

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