Economics

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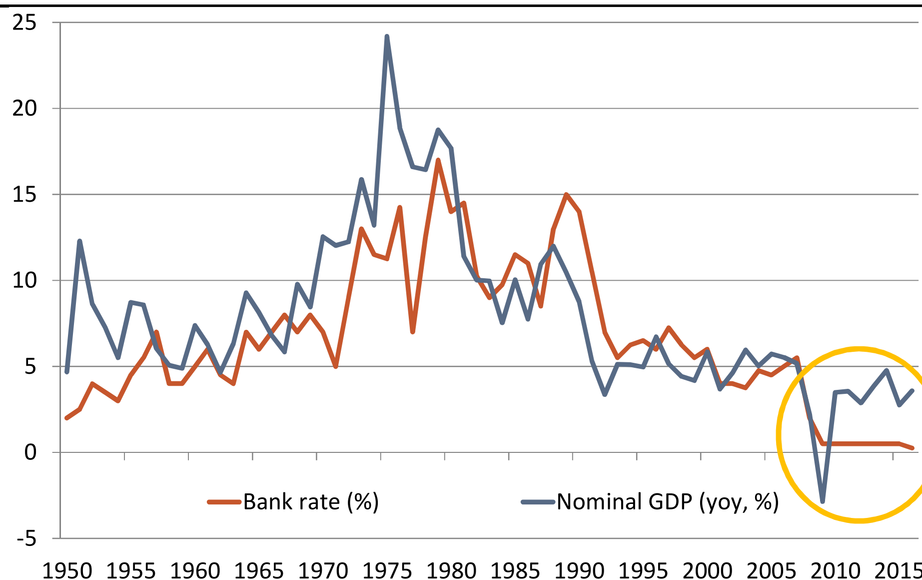
The BoE's job is done: it is time for rate hikes

Chart 1: No more correlation – the policy rate has remained low even as demand rebounded



Annual data. Source: Bank of England, Berenberg calculations

- **Not your average crisis:** The UK economic recovery after the deep balance sheet recession of 2008/9 has been unusually slow. Real GDP growth has averaged 1.9% during the post-Lehman upswing, well below the 2.9% sustained in the decade before the crisis. The process of balance sheet repair has weighed on demand growth during the past eight years. Even as demand recovered and unemployment began to fall, the Bank of England (BoE) continued to loosen policy in order to speed up the recovery. As Chart 1 illustrates, the long-term correlation between the bank rate and nominal GDP growth ended in 2010.
- **Monetary policy has done its job:** In the aftermath of the financial crisis, the BoE could use its monetary policy to: 1) meet its mandate by sustainably returning inflation to 2%, 2) support asset prices to aid the balance sheet repair, 3) increase the flow of credit to the real economy, and 4) return the economy to full employment. In this report, we show that monetary policy has achieved all of these aims. As a result, it is now appropriate for monetary policy to begin to normalise.
- **Slow real growth – not a monetary phenomenon:** Monetary policy cannot address the UK's current ailment, slow productivity growth. As monetary policy cannot raise long-term trend growth, it would be futile to saddle the BoE with the task of fixing the UK's structural problems. In a world of slower growth, the long-term bank rate required to sustainably achieve the 2% inflation target is lower than before, but nonetheless higher than its current rate of 0.25%.
- **Brexit is not enough to keep rates on hold:** The short-term risks following the Brexit vote have not manifested in a serious way. The BoE expects headline inflation to remain above the 2% target over the next four years. Meanwhile, the BoE forecasts real GDP growth at close to trend over the medium term. In line with the BoE's recent signal that it intends to tighten its policy over the medium term, we look for a first rate hike in November 2017, followed by a very gradual tightening thereafter to sustainably return inflation to its 2% target.

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The role of monetary policy

Central banks are the monopoly supplier of high-powered money in the economy. By changing the various interest rates at the central bank and in overnight money markets, and by directly altering the supply of high powered money, central banks influence the market forces that determine the rates of interest on savings and credit in financial markets and the real economy. By affecting the demand and supply of money in this way, central banks alter patterns of consumption, saving and investment. When properly managed, monetary policy can smooth the business cycle.

The "stance" of monetary policy is often described as either "tight" or "loose". But what does this really mean? The central bank usually pursues a loose policy when it wants to stimulate demand, usually during a downturn. It does this by lowering its policy rate. A tighter policy – an increase in the policy rate – is pursued to dampen demand growth. But there is one additional caveat. Remember, the central bank policy rate is a nominal variable. Economic participants' lending and saving is determined by real interest rates – nominal interest rates adjusted for inflation. A monetary policy with a central bank rate of 0.5% is looser when the underlying rate of inflation is 2%, compared to if inflation were 0%. The former would imply a real interest rate of -1.5%, while the later would imply a real interest rate of +0.5%.

To be even more accurate, one should compare the real policy rate to the real equilibrium rate – the rate that balances the supply and demand of savings and loans when the economy is operating at its full supply potential. Therefore a loose monetary policy would be one where the real policy rate was below the real equilibrium rate. A tight policy would be one where the real policy rate was above it.

As it is hard to accurately estimate the real equilibrium rate of interest, and thus estimates can vary widely, most central banks in the advanced world tend to look at inflation and inflation expectations to infer the stance of monetary policy. When the economy is running at close to its full potential, rising (falling) inflation would normally signal that the real policy rate is below (above) the equilibrium rate, and that the policy rate should be increased (decreased) to return the economy to its long-run equilibrium.

Not your average crisis – BoE actions since 2008

The UK economic recovery after the deep balance sheet recession of 2008/9 has been unusually slow. Real GDP growth has averaged 1.9% during the post-Lehman upswing, well below the 2.9% sustained in the decade before the crisis. The process of balance sheet repair by households that participated in the real estate bubble and by the government that ran excessively high fiscal deficits in the good years has weighed on demand growth during the past eight years.

If households and/or companies borrow to pay for sound investments that raise future incomes, it can be an effective way to raise lifetime consumption for economic participants. However, the private debt build-up in the run-up to the financial crisis was mainly used to finance over-valued and unproductive real estate. When the bubble burst in 2008 and house prices collapsed, all that was left was high debt and low-value, unproductive capital.

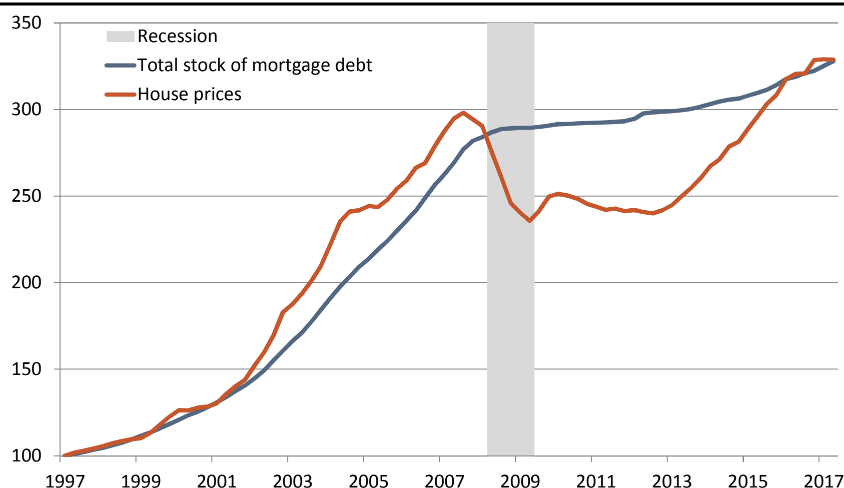
A textbook balance sheet recession: As Chart 2 illustrates, the post-Lehman recession began when house prices started to fall relative to the stock of mortgage debt. It ended when house prices found a bottom and started to recover. But repairing an economy after years of malinvestment takes time. Even as demand recovered and unemployment began to fall, the BoE continued to loosen policy in order to speed up the recovery. As our cover chart illustrates, the long-term correlation between the bank rate and nominal GDP growth ended in 2010.

In the aftermath of the housing bubble, falling demand for goods, services and credit, the rush to pay-down debt and de-risk, and the increased demand for safe assets caused demand to contract and unemployment to rise. As this occurred, the real equilibrium interest rate declined. And with it, the real policy rate required to balance the demand and supply of savings and loans and return the economy to full employment and sustained 2% inflation in line with the BoE's target fell sharply too.

During normal recessions, a cut in the central bank policy rate is enough to stimulate demand and speed up the recovery. Indeed throughout history, rate cuts sufficed to set the economy back on track. Normally, the BoE cuts the bank rate by around 300bp during recession. But 2008 was no ordinary crisis. The downturn was so severe that the real equilibrium interest rate fell well below zero. This created a problem for the BoE which could not cut its nominal policy rate below zero – known as the "zero lower bound".

In 2009, in the depths of the financial crisis and credit crunch, despite reducing the bank rate to a historical low of 0.5%, monetary policy was probably still too tight. To stimulate demand, the BoE had to reach much further than before with its policies. Additional measures, such as special liquidity schemes, large-scale bond purchases, long-term repo facilities and cheap funding for lenders, were introduced. A full timeline is detailed in Table 1 (page 8). Through its unconventional measures and rate cuts, the BoE helped to limit the size of the downturn and speed up the recovery.

Chart 2: Balance sheet crisis – the drop in UK house prices led the 2008/09 recession



Quarterly data. Source: Bank of England, Halifax, Berenberg calculations. Data are indexed: 100 = Q1 2007.

Monetary policy has done its job

In the aftermath of the financial crisis, the BoE could use its monetary policy to: 1) meet its mandate by sustainably returning inflation to 2%; 2) support asset prices to aid the balance sheet repair; 3) increase the flow of credit to the real economy; and 4) return the economy to full employment. As we assess these aims in turn, we show that monetary policy has achieved these aims.

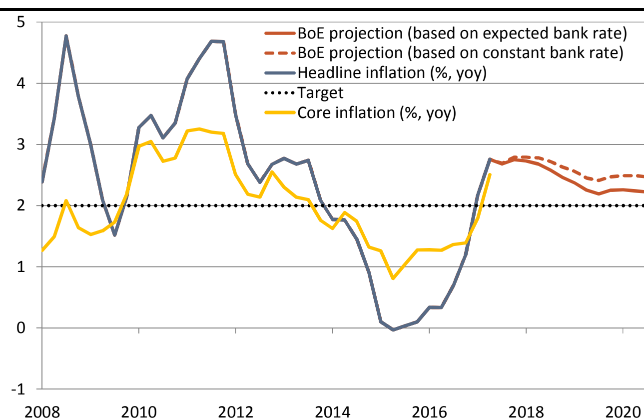
1) To meet its mandate by sustainably returning inflation to 2%

In times of economic weakness, the BoE typically tolerates deviations from its inflation target in order to support economic growth. For example, the BoE increased its bond purchases during the euro crisis to spur on the recovery despite inflation surging to nearly 5% on the back of the oil price spike. Similarly, in August 2017 the BoE cut its policy rate and expanded its balance sheet by £70bn (£10bn corporate bonds plus £60bn sovereign bonds) to raise demand after the Brexit vote, despite the strong expectation that the sharp drop in the pound sterling after the vote would push the headline inflation rate to 3%, above its target rate of 2%.

The short-term risks following the Brexit vote have not materialised in a serious way. In its most recent forecast round in August 2017, the BoE forecast that headline inflation would remain above the 2% target over the next four years – Chart 3 – driven by rising import prices and building underlying inflationary pressure. Meanwhile, the BoE does not expect major demand side weakness following the Brexit vote, forecasting that economic growth will remain close to its trend rate over the medium term – Chart 4.

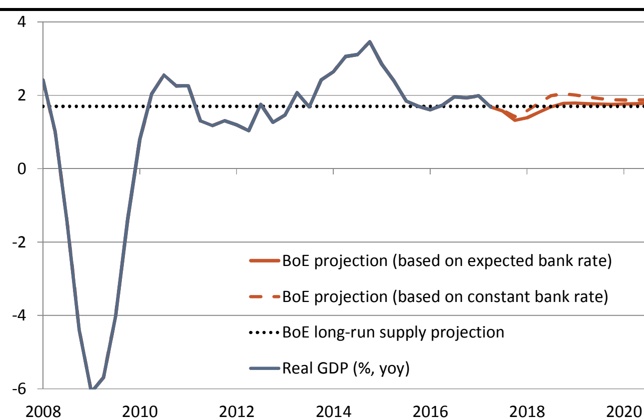
The August MPC minutes note: "Through most of the forecast period, the economy operates with a small degree of spare capacity and CPI inflation is well above the target. By the end of the forecast, that trade-off is eliminated. Spare capacity is fully absorbed, and inflation remains above the target."

Chart 3: UK headline inflation and BoE projections



Quarterly data. Source: Bank of England, ONS, Berenberg calculations. Core inflation = headline CPI minus food and energy. Forecasts show BoE mean projections from August 2017 Inflation Report. At the time of the inflation report the market was pricing in two hikes by the end of 2020

Chart 4: UK GDP growth and BoE projections for potential growth

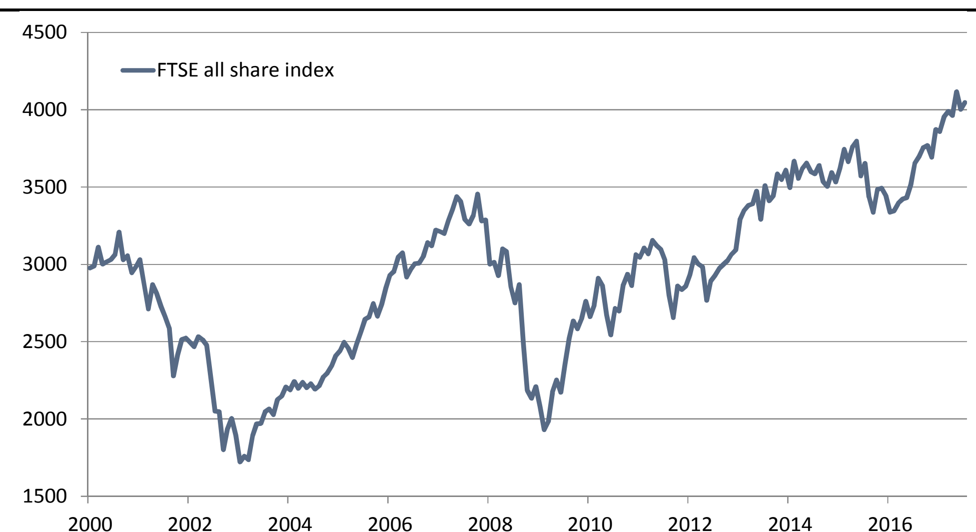


Quarterly data. Source: Bank of England, ONS, Berenberg calculations. Forecasts show BoE mean projections from August 2017 Inflation Report. Supply projection based on guidance from policy summary of August 2017 Inflation Report. At the time of the inflation report the market was pricing in two hikes by the end of 2020

2) Support asset prices to aid the balance sheet repair

The balance sheet crisis is over. Despite some sector variation in stock price performance, and some regional variation in house prices, as Charts 5 and 2 show, equity and house prices have surpassed their pre-Lehman peaks. The BoE's unconventional policies since 2008 have supported asset prices in three ways: 1) by raising confidence and liquidity in markets to encourage more risk taking; 2) by directly buying assets – sovereign and corporate bonds – from private sector holders, which causes those market participants to buy other assets to rebalance their portfolios; and 3) by reducing borrowing costs – especially for mortgages.

Chart 5: FTSE all share index

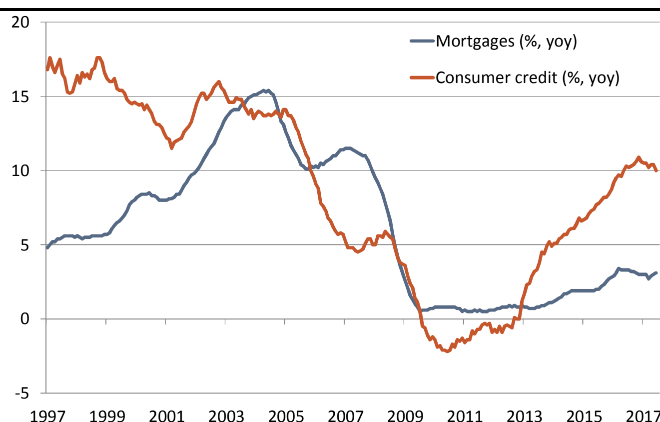


Quarterly data. Source: Financial times, Berenberg calculations

3) Increase the flow of credit to the real economy

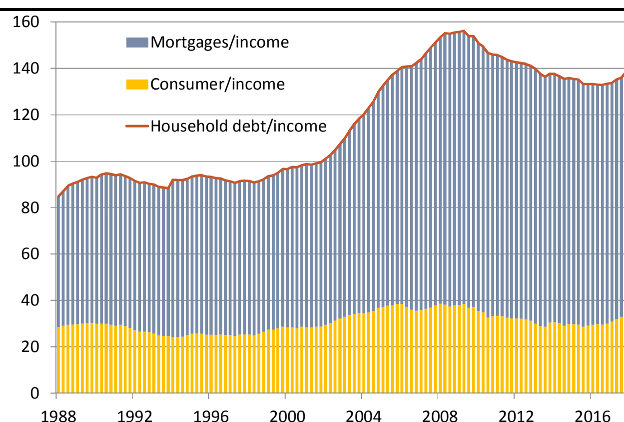
Consumer credit growth has recovered sharply over the past eight years – Chart 6. Meanwhile, the ratio of total household debt to income fell until 2016 – Chart 7. More recently, however, household credit growth has continued to rise along with rising household debt to income. Households have started to gear up again. Previous arguments in favour of keeping interest rates low: 1) to support a recovery in lending; and 2) to lower financing costs to speed up the deleveraging process, no longer hold. By raising the bank rate, the BoE can raise the price of debt and avert an ongoing return toward the trend of rising household indebtedness that underpinned the 2008 financial crisis.

Chart 6: UK household lending



Quarterly data. Source: Bank of England, Berenberg calculations

Chart 7: UK household debt as a percentage income is rising

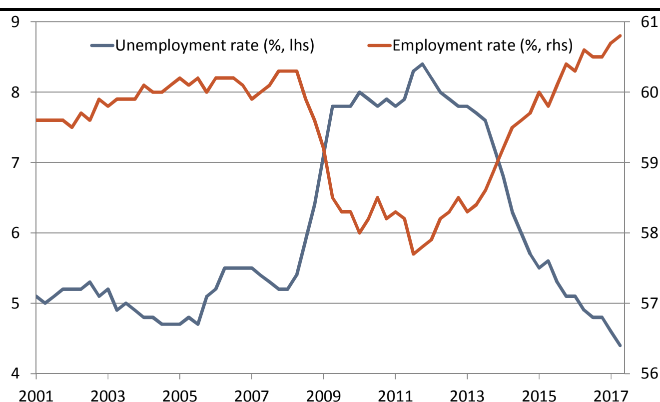


Quarterly data. Source: Bank of England, Berenberg calculations

4) Return the economy to full employment

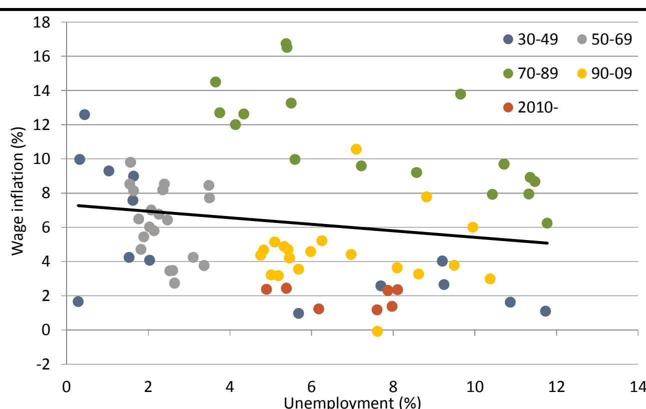
Latest labour market data shows that the headline unemployment rate at 4.4% in June – the lowest rate since 1975. This is below the MPC's estimate of the equilibrium rate of 4.5% stated in the August MPC minutes. In numbers' terms, the labour market recovery has been solid. Employment is at a record high – Chart 8. But while measures of unemployment and employment are consistent with the BoE's own estimate of full employment, nominal wage growth remains weak by historical comparison – Chart 9. Nominal wages have trended within a range of 2-2.5% since the beginning of the year. This compares to growth of between 4-5% in 2007, the last time the labour market was at full employment.

Chart 8: UK unemployment and employment rates (%)



Quarterly data. Source: Bank of England, Berenberg calculations. Data for ages 16+.

Chart 9: UK Philip's curve based on long-term data



Quarterly data. Source: Bank of England, Berenberg calculations.

Weak wage growth in the post-Lehman period can be explained by both transitory and (semi-)permanent factors. The key transitory factors are: 1) persisting weak wage bargaining after a prolonged period of labour market slack and high competition between workers for jobs; and 2) backward looking inflation expectations following the oil-price-driven period of low inflation between 2014 and 2016. But not all factors weighing on wages are temporary. The secular slowdown in real GDP growth – a non-monetary phenomenon – will likely have lasting negative effects on long-run wage growth unless other non-monetary policy tools are used to raise growth. Over time, the temporary effects will fade and nominal wage growth should accelerate to a little north of 3%, in line with the BoE's medium-term forecast. While such a growth rate in wages is lower than in the past, it remains consistent with the lower post-Lehman trend rate of GDP growth.

Slow real growth is not a monetary phenomenon

Despite the recovery in inflation, asset prices, credit and employment, growth in real GDP and real wages has remained subdued. Some pundits favour continued loose monetary policy in an attempt to spur on stronger growth in these variables. But slow rates of real growth in total output and household incomes are down to non-monetary factors. Monetary policy cannot alter the economy's long-term rate of productivity growth – which is the main determinant of real growth in GDP, wages and profits.

Keeping monetary policy too loose after the economy has recovered, in hope of raising growth and wage inflation, will not only prove futile. It is also risky. The BoE's 2% inflation target is symmetric. It assumes that 3% inflation is just as bad as 1% inflation. Only by virtue of the BoE's consistent and symmetrical policy responses to the changes in inflation relative to its target does the market know and trust the BoE's reaction function. Such a policy would de facto signal that breaching 2% inflation is no longer a necessary condition for tighter policy. This would undermine the BoE's credibility and blur its reaction function, impeding the effectiveness of its policy in the future.

To strengthen demand growth, the BoE would be forced to let the economy overheat. Nominal growth in wages and GDP may accelerate, but there is little reason to believe that this would achieve faster real growth as monetary policy cannot raise long-term supply growth. As real growth at full employment is anchored by the trend rate of productivity growth, keeping policy too loose would simply result in excess inflation which hurts savers and impairs the market process of allocating resources through price discovery. The implication for monetary policy of permanently slower wage and demand growth is straightforward: the long-term policy rate required to sustainably achieve the 2% inflation target is lower than before (4.9% average in the decade to 2007), but nonetheless higher than its current rate of 0.25%.

Brexit is not enough to keep rates on hold

Thanks to Brexit, slower growth is the new normal. We expect Brexit to reduce trend growth to 1.8% per year from 2.2% previously. As a best guess, anything around 1.8% real GDP growth from now on should be considered normal. But slower trend growth does not mean lower inflation. Inflation depends upon the relationship between demand growth and supply growth – the output gap.

Ultimately, we will not know just how Brexit will affect the UK until after the negotiations are complete. Over time, supply and demand will converge towards their new trends at different rates. While the UK economy is settling into its new long-term growth path, the BoE will likely proceed cautiously, but it should be ready to tighten policy if economic conditions warrant it. The economy looks set to expand at its potential rate over the medium term. Meanwhile, inflation is currently well above the BoE's 2% target and underlying inflationary pressures are growing. Core inflation – CPI excluding energy, food, alcohol and tobacco – to a little above 1% at the start of 2016 to an average of 2.5% in the three months to August 2017.

In his key message to markets in the August Inflation Report, governor Carney explicitly pointed out that the Monetary Policy Committee (MPC) expects to raise rates more often than the market was pricing in: "If the economy were to follow a path broadly consistent with the August central projection, then monetary policy could need to be tightened by a somewhat greater extent over the forecast period than the path implied by the yield curve underlying the August projections."

The BoE believes that inflation would overshoot its 2% inflation target for the next four years if it were to raise rates only twice until the end of 2020 as markets had anticipated at the time of the August Inflation Report. As the BoE normally aims to return inflation back to target following deviations away from its target within two years, it would need to raise rates more than twice to meet its mandate. Why is the market so dovish? We think that the market is misreading the BoE because it is focusing too much on demand – and is missing the supply story.

Inflation overshoots its target – 2% – when demand expands faster than supply. Yes, the BoE downgraded its forecast for real GDP growth in 2017 from 1.9% to 1.7%. On its own, the

acknowledgment that demand did less well in early 2017 than the BoE had expected could be seen as dovish. However, that misses the main story: the BoE has cut its forecast for supply by even more. The bank now puts its estimate of long-term potential growth at around 1.7% - well below the +2% that the BoE typically estimated as its long-term growth forecast before the Brexit vote. This new estimate of potential growth represents the high water mark that the market should focus on.

While demand growth has slowed since the Brexit vote, supply growth has slowed by greater extent. In addition, the BoE expects nominal wage growth to outpace inflation over its forecast horizon. As the BoE rightly pointed out at the August press conference, without a policy tightening, this imbalance will prevent inflation from sustainably returning to the 2% target.

How should the BoE proceed?

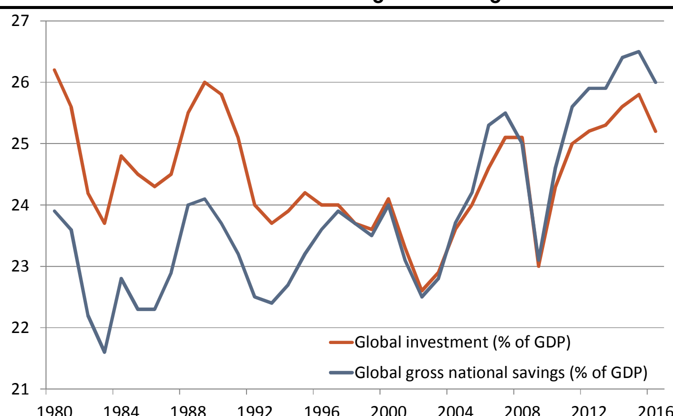
As a starting point, the BoE should be clear that every target that is within the scope of monetary policy has been met. This would reduce market worries about the risks associated with a gradual tightening of monetary policy. Further, the BoE should make clear that stronger trend growth can only come from better tax and spending policy, and growth-enhancing supply side reforms.

Importantly, a first 25bp hike would have trivial effects on the real economy. It would remove no more than a third of the emergency stimulus the BoE introduced back in August 2016. Even if the bank rate were 100bp higher, the real policy rate would remain negative and the bank's balance sheet large by historical standards. Monetary policy will remain highly accommodative over the medium term and will not do much to thwart a continued gradual pick-up in wages in productivity toward long-term trend rates.

The BoE is unlikely to begin to unwind its balance sheet until after Brexit in March 2019, and realistically, probably not until the early 2020s. As various MPC members have stated in the past, the BoE wants the bank rate to be the primary policy tool again. That means getting the bank rate to a sufficiently high level – so that it can be cut by enough to offset a future downturn – before the BoE begins to reduce the size of its balance sheet. As we noted earlier, the BoE usually cuts its bank rate by around 300bp during a downturn. With the bank rate currently at 0.25% and the BoE expected to tighten only very gradually, the eventual balance sheet unwind seems far away.

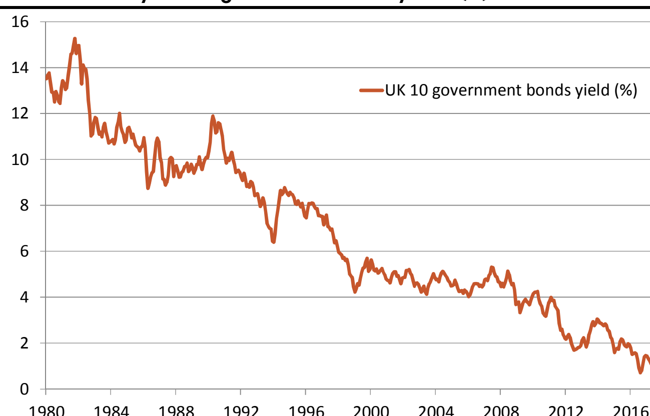
That said, if the Fed's balance sheet unwinding – beginning later this year – proves successful and does not lead to a significant rise in long-term borrowing costs, the BoE might be encouraged to start its balance sheet unwind earlier. In our view, as long as the unwind is gradual and predictable, the excess global demand for savings over investment – Chart 10 – will ensure that demand for ultra-safe assets like gilts remains high and borrowing costs will remain low – Chart 11. The market should be able to absorb the assets the BoE sells. This lowers the chances of a rapid steepening of the gilt curve if the BoE started to sell off its bond holdings.

Chart 10: Global investment and savings as a % of global GDP



Annual data. Source: IMF.

Chart 11: 10-year UK government bond yields (%)



Monthly data. 10-year zero coupon nominal yields (average, %). Source: BoE.

In our base case, we expect the BoE to hike for the first time by 25bp in November 2017, with four hikes in total between now and the end of 2019. Of course, we see a clear risk that the BoE may wait with the first hike until Q1 2018. But our call is broadly consistent with the bank's most recent guidance. That the BoE is being unusually explicit in trying to talk the yield curve up suggests that it could be on the cusp of hiking and would like to avoid a potentially disorderly adjustment in markets and in the real economy. Although markets could be taken by surprise by a first hike soon, as it will be a small change, the adjustment costs will be limited.

Table 1: Timeline of BoE policies since 2007

Event	*Description*	**Date**
Provision of additional reserves	Following the run on Northern Rock, the BoE supplied additional reserves in open market operations.	Sept 07
First extended long-term repo operation	The bank held the first "extended collateral" three-month long-term repo operation.	Dec 07
First Bank Rate cut	Members of the Monetary Policy Committee voted unanimously in favour of cutting the Bank Rate by 25bp to 5.5%.	Dec 07
Gilts purchased in the open market	The bank purchased gilts in an Open Market Operation for the first time.	Jan 08
Special Liquidity Scheme announced	The Bank announced the launch of the Special Liquidity Scheme allowing banks to swap temporarily their high-quality, but illiquid, mortgage-backed and other securities for UK treasury bills.	Apr 08
BoE bills introduced	In response to the large provision of reserves through the increased size of short-term repo operations, the bank issued own name sterling bills for the first time.	Oct 08
Commercial paper facility introduced	The bank began to purchase commercial paper to channel funds directly to parts of the corporate sector.	Feb 09
First round of QE initiated	The bank announced a programme of asset purchases with the initial target of purchasing £75bn of assets over the course of three months. The total budget for asset purchases was set to £150bn, but was subsequently expanded to £200bn.	Mar 09
Secured commercial paper facility launched	The bank launched a secured commercial paper facility to support the provision of working capital to non-investment grade companies that were ineligible for the bank's commercial paper facility.	Aug 09
Resumption of QE	The MPC (monetary policy committee) announced that a further £75bn of gilt purchases would be undertaken, taking the total to £275bn. A total of £125bn in asset purchases was carried out between October 2011 and May 2012.	Oct 11
Funding for Lending scheme implemented	The bank and HM Treasury launched the Funding for Lending scheme designed to incentivise banks and building societies to boost their lending to UK households and non-financial companies.	Jul 12
Third round of QE introduced	The BoE committed to a further £50bn in asset purchases until November 2012.	Jul 12
Funding for lending extended	HM Treasury and the BoE announced an extension of one year to the Funding for Lending Scheme.	Apr 13
Forth QE and term funding scheme announced	Following the UK's vote to leave the EU, the BoE announced a further £60bn in government bond purchases and £10bn in corporate bond purchases. The bank also pledged £100bn of new funding to banks to help them pass on the base rate cut of 25bp through a term funding scheme.	Aug 16

Source: Bank of England

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