

## Monetary policy after the crash

Controlling interest

# The third of our series of articles on the financial crisis looks at the unconventional methods central bankers have adopted to stimulate growth in its wake

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BEFORE the financial crisis life was simple for central bankers. They had a clear mission: temper booms and busts to maintain low and stable inflation. And they had a seemingly effective means to achieve that: nudge a key short-term interest rate up to discourage borrowing (and thus check inflation), or down to foster looser credit (and thus spur growth and employment). Deft use of this technique had kept the world humming along so smoothly in the decades before the crash that

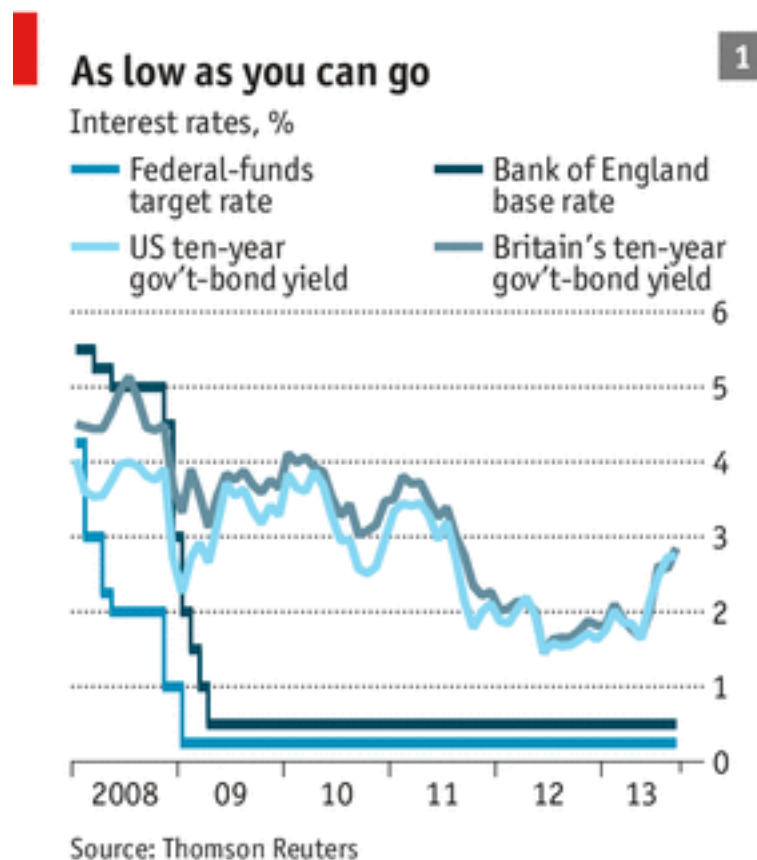
economists had declared a “Great Moderation” in the economic cycle. As it turned out, however, the moderation was transitory—and the crash that ended it undermined not only the central bankers’ record but also the method they relied on to prop up growth. Monetary policy has been in a state of upheaval ever since.

The recession that accompanied the credit crunch in the autumn of 2008 delivered a massive blow to demand. In response central banks in the rich world slashed their benchmark interest rates. By early 2009 many were close to zero, approaching what economists call the “zero lower bound”. Even so, growth remained elusive. Pushing rates below zero, though technically possible, would not have helped. Negative rates would merely have encouraged depositors to withdraw their money from banks and hold it as cash, on which the rate of return, at zero, would have been higher. Central banks in the developed economies faced a frightening collapse in output and soaring unemployment without recourse to the tool that had been the mainstay of monetary policy-making for a generation.

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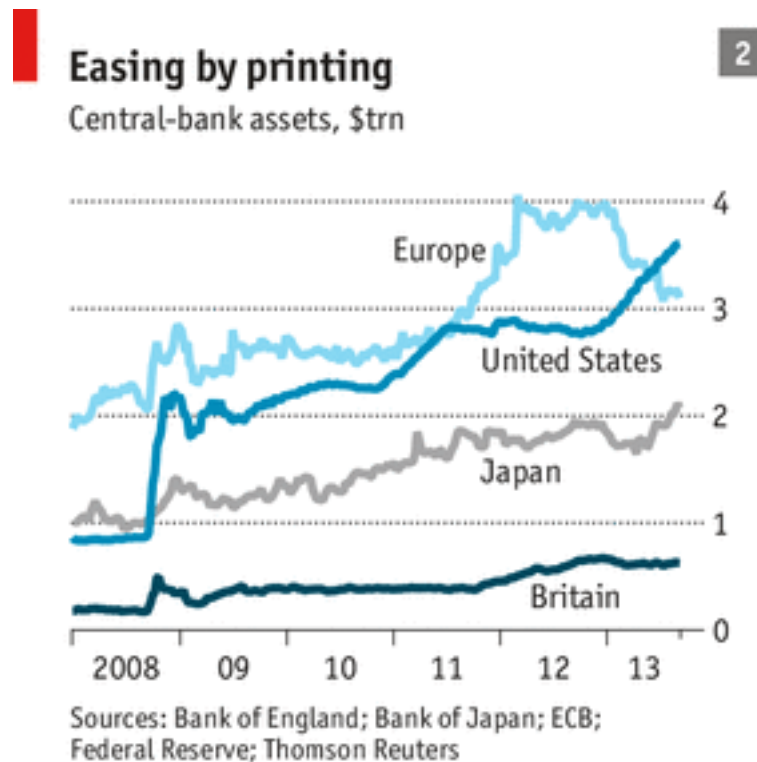
Central banks were not entirely unprepared for this challenge. In the 1990s the Japanese economy had slumped following an asset-price crash. Facing weak growth and deflation the Bank of Japan had slashed rates to near-zero before embarking on a series of experiments with unconventional monetary tools. Although the Bank of Japan’s performance was widely considered disappointing, if not an outright failure, the rich world’s central banks began by drawing upon its playbook.



Unconventional policy falls into two broad categories: asset purchases and “forward guidance”. Asset purchases are a natural extension of central banks’ more typical activities. America’s Federal Reserve,

for instance, has long bought Treasury bills and other bonds with short maturities to increase the money supply and reduce short-term interest rates. After its benchmark rate fell close to zero the Fed began buying longer-term securities, including ten-year Treasury bonds and mortgage-backed securities, to bring down long-run borrowing costs (see chart 1).

Printing money to buy assets is known as “quantitative easing” (QE) because central banks often announce purchase plans in terms of a desired increase in the quantity of bank reserves. The Bank of Japan first attempted QE in 2001 when it promised to buy {Yen}400 billion-worth of government bonds a month in order to raise the level of reserves to {Yen}5 trillion. The central banks of America, Britain and Japan have all engaged in QE since the crisis struck, buying up a vast stock of financial assets (see chart 2).



Economists reckon QE works in a few ways. Central bankers emphasise the “portfolio-balance effect”. When a central bank buys bonds from investors with newly created money, they use the proceeds to rebalance their portfolio by buying assets of different risk and maturity. In doing so they boost asset prices and depress interest rates (increased demand for bonds allows them to be sold at lower rates). Cheaper borrowing, in turn, prods businesses and households to invest.

QE can stimulate the economy via a fiscal effect, too: lower interest rates reduce government borrowing costs and so lower expected future taxation. And QE also helps shape expectations of inflation. A central bank announcing a new, higher inflation target might use QE to convince markets it will meet it, since, other things being equal, an increase in the amount of money in circulation leads to higher prices. If people think their money will be worth less in the future, they have an incentive to spend more of it now.

#### Talking prop

Forward guidance, the other main unconventional tool, is an attempt to boost the economy by signalling central banks’ future policies more clearly. The Bank of Japan first attempted to talk the economy back to health in 1999, when it promised to keep its main interest rate near zero “until deflationary concerns subside”. The Fed and the Bank of England have since mimicked this approach. In early 2009 the Fed said its interest rate was likely to remain low for “an extended period”. In August

2011 it sought to improve this formulation by adding a date, specifying that low rates would stick around until at least mid-2013.

In December 2012 the Fed adjusted its communications again. It announced that rates would stay low until the unemployment rate had fallen to at least 6.5%, as long as short-run expectations of inflation were no more than 2.5%. In August 2013 the Bank of England followed suit, stating that it would not raise rates until unemployment had fallen to 7%, provided financial markets behaved themselves and inflation remained subdued.

Like QE, forward guidance works in several ways. A promise to tolerate higher inflation in the future, if believed, can stimulate economic activity in the present, just as the threat of higher prices due to an expanded money supply does. By the same token, a promise to hold short-term rates low for a long time should reduce long-term rates too, since long-term rates are typically compounded short-term rates along with a premium to allow for rising inflation and other risks.

In addition, investors respond to the “real” or inflation-adjusted interest rate, which equals the “nominal” or advertised interest rate minus expected inflation. When inflation is expected to be negative, meaning that prices are falling, the real interest rate may actually rise. Deflation, by raising the value of a unit of money in terms of other goods, in effect increases the cost of borrowing. If a central bank credibly promises more future inflation, by contrast, the real interest rate can fall and even dip below zero. A negative real interest rate works where a negative nominal interest rate does not: holding cash does no good, since inflation reduces the purchasing power of hard currency as well as deposits. It is therefore in everyone’s interest to save less, and to borrow and invest more.

From theory to practice

Studies of quantitative easing generally find that it has indeed reduced long-term interest rates. One rule of thumb has it that \$600 billion in purchases brings down long-run rates by 0.15-0.2 percentage points, equivalent in impact to a cut of 0.75 percentage points in the Fed’s benchmark short-term interest rate. Lower rates are estimated to have raised real output in Britain and America 2-3% higher than it would have been without QE, even though borrowing costs remained stubbornly high for British banks.

Recent research also suggests that QE plays a strong role in reinforcing a central bank’s forward guidance. The Fed’s signalling, for example, seems to be responsible for much of the movement in the prices even of assets it is not buying itself. And market bets on future interest rates reveal that investors find central banks’ promises to keep rates low more credible when accompanied by QE purchases.

Whether forward guidance is effective at boosting output is harder to say. There is some agreement that communication about future policy reduces long-term interest rates. But it is unclear why rates fall. They could drop because markets believe the central bank’s promise to keep short-term rates low, which should encourage more investment and growth. But they could drop because markets read the central bank’s guidance as a signal that the economy is weaker than expected, implying less demand for loans. That could actually prove counterproductive if it discouraged new investment.

Some recent Fed research suggests the first effect—the credibility of the promise—is more important. Other work indicates that guidance may be more powerful when it clearly represents a “commitment” to a particular policy rather than a “forecast” of future economic conditions and the policy that is likely to flow from them.

What is certain is that for all the experimentation, the rich world’s big economies are still struggling. Output in Britain remains below its pre-crisis peak. Some 10m fewer Americans are now working than might reasonably have been expected in 2007. The euro area is only just escaping the second trough of a double-dip recession, and its unemployment rate remains in double digits. Unconventional monetary policy, in short, does not seem to be working as well as the conventional sort used to—but there is no agreement why.

Some economists maintain that monetary policy, conventional or otherwise, loses much of its power at the zero lower bound. Simon Wren-Lewis of Oxford University argues that monetary policy cannot stabilise the economy without fiscal easing, meaning more government spending or lower taxes, to transmit newly created money and low rates into the real economy. Others, such as Richard Koo of Nomura Research Institute, reckon that highly indebted firms and households are simply unable to respond to lower long-term interest rates by borrowing more.

Some believe that unconventional policy would work better if central banks only pursued it more vigorously. Soon after Japan ran into its own zero lower bound, Ben Bernanke, who was then an economist at Princeton University but is now chairman of the Fed, argued that the Bank of Japan needed to set a higher inflation target, buy more assets and devalue the yen by purchasing foreign currencies. Robert Hall of Stanford University suspects that pushing the real federal-funds rate down to -4% would be sufficient to get the American economy moving faster. As long as the Fed keeps inflation around 2%, however, the real interest rate can go no lower than -2% (a zero federal-funds rate minus the 2% rate of inflation).

Christina Romer of the University of California, Berkeley is one of the many economists who see a need for a psychological jolt to rouse the economy. She argues for “regime change”, meaning not just a change in leadership, but also a dramatic shift in policy. She wants central banks to stop targeting inflation and to focus instead on total spending in the economy, or nominal GDP. Although in most circumstances the two approaches would deliver similar results, a nominal-GDP target gives a central bank more leeway to fight unemployment during steep downturns. Just as important, in her view, the policy change would signal to markets that the Fed meant to restore rapid growth once and for all.

Yet for every critic who believes that central banks have done too little, there is one who fears they have done far too much. By propping up asset prices artificially, some complain, central bankers are stoking inequality, rewarding financial firms despite their past misdeeds and sowing the seeds of the next crisis. Many, especially on the right in America, give warning that the massive increase in the money supply QE entails can lead only to a debasement of the currency and hyperinflation. Others gripe that low interest rates in the rich world have sent a flood of hot money towards emerging markets, generating financial instability.

It is likely to take years to discern which of these criticisms are warranted. Not until 1963 did Milton Friedman and Anna Schwartz publish “A Monetary History of the United States”, definitively establishing that misguided monetary policy had helped entrench the Great Depression. Unfortunately for the many countries still enduring sub-par growth, a similarly decisive resolution to today’s monetary-policy debates is still far off.