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Investment Essentials

12th January 2012

AXA Investment Managers - Research & Investment Strategy

WEEKLY COMMENT

Quantitative easing: experience and expectations for 2012

by
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Key points

- Quantitative Easing (QE) was used by the US Federal Reserve (Fed) and the Bank of England (BoE) in 2009 after they both cut rates to historic lows.
- The European Central Bank (ECB) will soon run out of room to cut rates in its fight against a euro area recession. QE is a potential next step.
- The ECB might plausibly buy EUR750bn of euro area government debt in proportions consistent with its capital key.
- The Fed and the BoE are likely to extend their QE programmes further in 2012.

In more normal times, most central banks steer their economies by changing a short-term interest rate. In the aftermath of the financial crisis, both the Fed and the BoE turned to QE when they discovered that the monetary stimulus provided by cutting policy rates to zero was insufficient to prop up their economies. This article briefly reviews the American and British experience with QE before examining the options open to the ECB should, as we expect, the euro area economy slide into a deep recession in 2012. The article concludes with a look at the prospects for further QE in the US and UK.

Quantitative easing and recessions

QE is central bank money creation used to buy financial assets. In this crisis, the main assets purchased under QE have been government bonds or other government-backed securities (such as the Fed's purchases of GSE-insured mortgage backed securities). QE thus reduces the private sector's holdings of particular financial assets, pushing up their price, and increases private sector money holdings. To understand how this is supposed to help support economic activity, it is worth briefly reflecting on the nature of recessions.

At their simplest, recessions are caused by a generalised excess desire to save. That might seem an odd statement. After all, in some countries it is widely accepted that people are not saving enough for their retirement. Surely an increased desire to save would be a good thing, not something that could derail the global economy?

One implication of macroeconomics is that in aggregate one person's spending is another's income. Hence, for an individual to save a portion of his income – to provide for his retirement, for instance – some other party must be prepared to borrow and spend more than its income: a business expanding its operations, for example. But, if the entire private sector simultaneously decides to reduce spending in an attempt to build up savings, the outcome will be a fall in aggregate expenditure and output: a recession. That is precisely what happened in late 2008. In the aftermath of the collapse of Lehman Brothers, economic uncertainty prompted firms and households across the globe to try and save more and, as spending and income collapsed, a deep recession resulted.

If an increased desire to save unmatched by an elevated desire to borrow is at the heart of recessions, pro-active public policy should try to balance these forces out. Monetary policy is the obvious tool to use. Cutting interest rates lowers the return on saving and reduces the cost of borrowing. However, in late 2008, economic prospects in both the UK and US were so gloomy that even slashing interest rates to zero was not enough to persuade people to spend. QE was the tool chosen by the Fed and the BoE to inject more stimulus. With the current situation in the euro area threatening the global economy and pushing up economic uncertainty, we anticipate further QE in Europe and the US in 2012.

QE: how is it supposed to work?

Potentially, QE could influence household and business spending in several ways. First, central bank purchases of government debt should lower interest rates along the government yield curve, dis-incentivising the private sector from saving. Second, investors that sell assets to a central bank engaged in QE will find their portfolios skewed towards cash. Over time, those investors will have to rebalance their portfolios away from money. In the process, the prices of other financial assets, such as credit and equity, will be bid up. Better conditions in the credit and equity markets will make funding for non-financial firms more attractive and increase the return on capex. Third, as typically happens when monetary policy is loosened, engaging in QE is likely to cause the exchange rate to depreciate, supporting the export sector but making imported goods more expensive.

What have the Fed and BoE done, and did it work?

Both the Fed and the BoE have engaged in substantial QE. Since 2009, the Fed has bought almost USD2,500bn, comprised of a mixture of Treasuries, GSE-insured MBS and agency debt. The Bank of England bought GBP200bn worth of gilts in 2009, and is part way through acquiring another GBP75bn. Those programmes are similar in scale when compared to the size of their underlying economies (15-20% of GDP). But of more interest is what effect the programmes have had on the real economy. As is often the case in economic policy analysis, interpreting the effect of QE on the real economy is difficult because one needs to know the counterfactual: how would the economy have behaved absent QE?

Research published by the San Francisco Fed[1] argues that by the end of this year the Fed's QE will have raised US GDP by 3%, cut unemployment by 1.5%, and increased core inflation by 1%. The BoE has argued[2] that the first GBP200bn of QE in the UK raised output by 1½-2% and boosted inflation by ¾-1½ percentage points: an impact equivalent, it says, to cutting Bank Rate by 150-300 basis points. It is noteworthy that, on the basis of this information, the Fed believes the short-run trade-off between growth and inflation in the US in response to QE is much more favourable than the BoE thinks is the case in the UK.

It is pretty easy to criticise estimates of the effect of QE but, in large part, this only reflects the difficulty of constructing them in the first place. Any quantitative assessment of economic policy requires the use of an economic model and is subject to inherent uncertainty. Some of the many factors that are hard or impossible to model but may be distorting these results include financial market responses to the US banking sector stress tests in 2009, other banking sector policies such as government guarantees for bank debt, fiscal stimulus in much of the G20 and, for the UK, spill-over effects from the Fed's initiatives.

Overall, however, QE – both in the UK and particularly in the US – was part of the successful policy response in 2009 that prevented the downward spiral that had gripped the global economy from turning into a depression.

Balance sheet policy: not just QE

A central bank engaged in QE is necessarily expanding its balance sheet: it is creating money to purchase financial securities. But this is not the only way a central bank can expand its balance sheet. One facet of the policy response to this crisis has been the extraordinary number of initiatives central banks have undertaken, many of which have involved balance sheet expansion. A simplified version of a central bank balance sheet is shown in *Exhibit 1* on the asset side central banks typically hold: financial securities (predominantly domestic government bonds), loans to banks within their jurisdiction, loans to other central banks, and gold.

From late 2007 to early 2008, the major central banks met increased demand for liquidity from commercial banks by increasing their loans to financial institutions. But they were able to prevent their balance sheets from expanding by selling a portion of their financial assets.

Exhibit 1:

Simplified central bank balance sheet

Assets	Liabilities
Securities held outright	Currency
Loans to financial institutions	Bank reserves
Loans to other central banks	Borrowing from other central banks
Gold	Capital

After the collapse of Lehman Brothers, the demand for liquidity skyrocketed. It would have been impossible to accommodate this liquidity shock without balance sheet expansion: the shock was simply too large. The particular form this balance sheet expansion took varied from one country to the next. Many of the central banks in the advanced economies expanded the size and term of their lending to banks, often alongside changes to the associated collateral requirements. Others (especially the Fed) directly injected liquidity into particular financial markets by creating backstop facilities with the ability to purchase illiquid instruments (such as commercial paper).

The ECB's recent three-year long term refinancing operation (LTRO) is another example of liquidity policy resulting in balance sheet expansion. The net effect of the operation in December was to expand the ECB's loans to financial institutions by EUR214bn, most of which was accounted for on the liability side of the ECB's balance sheet by an increase in bank reserves.

Some commentators have argued that December's extension of the LTRO to three years is QE by another name, but that is

[1] Chung et al. 'Estimating the macroeconomic effects of the Fed's asset purchases' FRBSF Economic Letter, January 31, 2011.
[2] Joyce et al. 'The United Kingdom's quantitative easing policy: design, operation and impact' Bank of England Quarterly Bulletin 2011 Q3

slightly misleading. Although both QE and this type of liquidity policy result in balance sheet expansion, the mechanism by which that happens is different. The LTRO is an operation intended to accommodate a money demand shock (demand for ECB funding has risen), whereas QE is better thought of as a positive money supply shock that forces the economy as a whole to hold more money, regardless of its demand to do so.

The two policies also have different implications for private sector holdings of financial assets. In principle, the LTRO could change the composition of the private sector holders of government bonds - increased bank holdings, offset by lower holdings by the non-bank private sector, and it could change the price of those securities. But this is not an automatic consequence. In contrast, QE by design lowers the private sector's total holdings of government bonds and raises their price.

Quantitative easing in 2012: will the ECB board the train?

The real economy throughout the euro area is sliding into a deep recession. The contraction in the manufacturing sector that began in the summer has spread to the service sector as business and household confidence has fallen and banks have tightened credit conditions.

In response, we expect the ECB rates to be as close to zero as is practically possible. But, given our reading of the euro area crisis, reducing the policy rate alone will be insufficient to prevent a potentially serious undershoot of euro area inflation in 2013 as spare capacity bears down on corporate costs and margins. Hence, at some point this year, the ECB will face a choice. Either it will have to permit a substantial and persistent undershoot of its inflation target to develop, or it will have to engage in some form of additional monetary easing. One option would be to engage in QE.

QE by the ECB would, however, be controversial. In recent months, a variety of high profile individuals have argued against the possibility of the ECB engaging in large-scale sovereign debt purchases. In the main these arguments focus on the fiscal dimension of QE – the support it would give to troubled fiscal positions – rather than on the implications for the real economy. There are a range of points of opposition, but the broad themes are moral hazard and the risk of inflation should QE metamorphose into monetary financing of government deficits.

There is a lack of trust, both on the part of the ECB with respect to euro area governments and among euro area governments themselves, that policy initiatives intended to reduce financial market pressures will not be exploited by countries with fiscal deficits as a route to avoid taking unpopular decisions on economic and fiscal policy. In the case of the ECB's support for specific sovereign countries, some fear that if it were to engage in large-scale QE, it would be increasingly drawn into a situation with overtones of monetary financing of euro area sovereigns, with potentially dire inflationary results. The lack of any overarching euro area fiscal authority makes moral hazard a live issue in the euro area. The corollary is that initiatives which build institutions or binding agreements capable of creating trust amongst governments would be a significant step forward in this crisis. At the time of writing, there are signs that progress on this issue might be in the offing.

The ECB is prohibited from purchasing sovereign debt upon issuance, but it can buy debt on the secondary market. And it has already done so. The ECB currently holds a little over EUR200bn of euro area government debt acquired through its Securities Market Program (SMP). The ECB argues that those purchases are not QE as they have been sterilised. That is the ECB has issued money to purchase this debt but absorbed an equivalent amount in term deposit accounts. But the SMP does have at least one feature in common with QE – it is changing the private sector's holdings of financial assets.

If the ECB were to engage in QE, it would likely be with its objective of euro area price stability in mind. Since the power of QE is in large part related to the degree to which the assets purchased are substitutes for money, one could imagine a range of possible ECB government bond purchases capable of achieving the same economic outcome. At one extreme would be a programme focusing only on Bunds. Bunds are the safest, most liquid Euro-denominated asset and are thus relatively good substitutes for money; consequently, the marginal impact of each Bund purchase is likely to be low. At the opposite end of the spectrum, Italian and

Spanish debt is currently neither liquid nor viewed as a particularly safe asset. The quantity of such debt that would need to be purchased to achieve a given macroeconomic effect would thus likely be commensurately lower. One suspects that, to mitigate the political impact of focusing on the debt of some countries rather than others, the ECB would choose to buy assets according to the share of individual countries in its capital key.

There has been speculation about the ECB potentially targeting yields through asset purchases, the average borrowing cost for 10-year Eurozone government debt for instance. It is unlikely that the ECB will venture down this path. To do so would mean making a potentially open-ended commitment to purchase euro area debt should market conditions deteriorate, thereby threatening the ECB's control of its own balance sheet. This would face intense opposition, with critics likely to argue that it would be tantamount to monetary financing.

Another option for further monetary easing which is open to the ECB would be to make an explicit promise to keep the policy rate at zero for a prolonged period of time. A strand of the economics literature argues that this type of policy is very effective through expectations effects. However, with the European banking and financial system currently under extreme pressure, the power of such a policy may be quite limited. In order for it to lead to a significant reduction in the interest rates the private sector would pay on new lending, it would require either a further recapitalisation of the banking system to detach the solvency of banks from sovereigns, or a dramatic improvement in the fiscal positions of peripheral sovereigns. Neither seems likely in the near term.

That leaves purchases of a basket of euro area government debt as the most likely response by the ECB to the impending euro area recession. The key question is how much might it buy? Estimating this is incredibly difficult and would depend on by how much the ECB estimates inflation will undershoot its objective without preventative action, the average amount of credit and liquidity premia in euro area government debt, and how willing the ECB is to resist pressure not to engage in QE.

Taking all these factors together, my rough estimate of the size of the initial ECB QE program is EUR750bn, equivalent to about 8% of euro area GDP. Currently, the average interest rate on 10-year euro area debt, weighted according to the ECB's capital key, is around 4¾%. This indicates that there is significantly more credit and illiquidity risk in the euro area debt market on average than in the US Treasury market. In theory, this implies ECB QE would have much more 'bang for the buck' than any future Fed Treasury purchases. It is also important to note that buying government debt in this fashion would involve purchasing EUR275bn of peripheral debt, only a little more than the ECB already holds under the existing Securities Market Programme.

Further QE in the US and UK is likely

Recent comments by some FOMC members have indicated that they see further QE, probably focused on MBS purchases, as likely to be necessary in 2012. They believe US unemployment is much higher than the rate they think is compatible with the Fed's mandate to focus on both inflation and unemployment. We tend to agree. We expect further MBS purchases to start by the middle of 2012, if the recent run of reasonable US data is not sustained, probably accompanied by further changes to the way the Fed communicates about monetary policy.

In the UK, the BoE has given a very clear indication that it intends to expand its QE efforts in February, unless it receives a nasty surprise on core inflation over the next few months. The most probable outcome is another GBP75bn of QE to be completed by May. Some market commentators have speculated about the possibility of the Bank directly buying other assets, such as bank debt or corporate credit, should the economic situation worsen even further than is expected. I think that is unlikely. The BoE's governor has been adamant that the allocation of credit across the private sector is a job for the government not the Bank.

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