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Quantitative Easing in the Eurozone: a One-Year Assessment

By pumping trillions of euros into the eurozone's financial system, the ECB's quantitative easing programme intends to indirectly alter the private sector's borrowing and spending behaviour. After more than a year since its initial inception, a review of the programme's impact reveals that policy makers should think twice before further expanding the programme – and could benefit from considering more direct ways of increasing spending in the real economy.

It has now been more than one year since the Governing Council of the European Central Bank (ECB) announced its expanded asset purchase programme, known as quantitative easing (QE). The aim of the programme is to trigger an increase in private sector spending in order to address the risks of a prolonged period of low inflation. To date, the ECB has injected over €900 billion worth of central bank money into financial markets as part of the programme.

Given the size and strategic importance of QE, it is important to review whether QE is having its desired effect – whether the evidence corresponds to the theory. To achieve this end, this paper evaluates the eurozone's QE programme according to the ECB's own standards and the original theory within which QE was implemented.

An assessment of the ECB's QE programme, according to its original objectives, reveals that the majority of the transmission channels through which QE is intended to work display weak results thus far. Moreover, before its implementation, several conditions that QE was meant to create were already in place. These results, coupled with the potential adverse side effects of QE, suggest that policy makers should think twice before expanding the size and duration of the programme.

Spending and price stability in the eurozone

At the core of the eurozone's economic malaise lies a crisis of spending. Understanding spending is crucial to understanding the eurozone's current economic crisis.

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As John Maynard Keynes noted, one person's spending is another person's income. Thus, when spending starts to decline, household incomes are correspondingly reduced. This can turn into a negative feedback loop in which less spending leads to less income, and the resulting reduction in income means there is less available to spend.

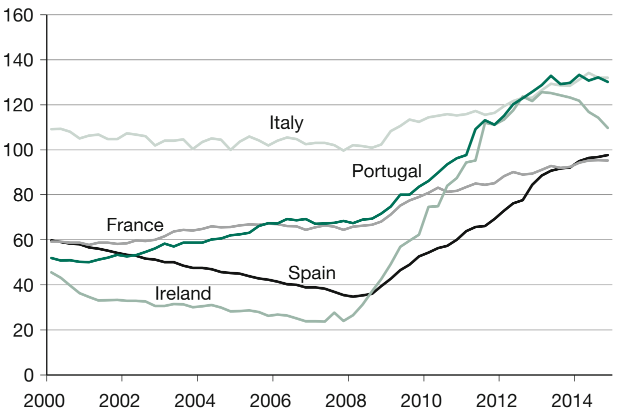
In the eurozone, a rapid increase in private sector borrowing led to a substantial increase in spending in the run-up to the 2008 crisis. However, in its aftermath, too much private debt and poor prospects for growth meant that the private sector has been sacrificing spending (either to pay down old loans or to save for when conditions improve). Due to new regulations and oversized balance sheets, the banking sector has also been generally unwilling to expand its lending.

Together this resulted in a dramatic decline in private sector spending.

After bailing out the banks, government's social security expenditures increased due to the recession. At the same time, the reduction in private sector incomes led to a reduction in tax revenue. As government expenditures increased and tax revenues declined, government budget deficits consequently expanded (see Figure 1).

Soon after, eurozone governments began tightening their belts under the guise of austerity and thus also restricted their spending. Austerity in the public sector and deleveraging in the private sector meant that most eurozone countries witnessed extensive cuts in spending. The decline in spending resulted in lower household incomes. Lower disposable incomes led to reduced household demand for new goods and services.

Figure 1
Government gross debt
in % of GDP



Source: Eurostat.

The ECB eventually became concerned that demand would continue to decline, which could result in a fall in prices. If there is no demand for new goods and services, producers will start reducing the prices they charge. Falling prices eventually lead to diminished business profits, which in turn lead to lower incomes and less spending.

In sum, cuts in private and public sector spending resulted in a substantial contraction in aggregate demand, which jeopardised the ECB's primary mandate of price stability.

The ECB's quantitative easing programme

The ECB accordingly decided to implement a quantitative easing (QE) programme. Central banks engage in QE by issuing newly created reserves and using them to buy pre-existing financial assets from the secondary market.

The ECB and national central banks (NCBs) will be purchasing up to €80 billion of financial securities from the secondary market every month. The programme began in March 2015, and as it currently stands, it is scheduled to finish in March 2017 (note that from March 2015 until March 2016 the average monthly figure was €60 billion of purchases). By the time the programme is planned to come to an end, over €1.7 trillion of new central bank money will have been created.

The general aim of QE is to increase spending in order to achieve price stability (defined as low but stable inflation, i.e. a sustained two per cent increase in consumer prices). The money created under QE is intended to be temporary and does not involve the ECB *directly* financing any private or public expenditure.

Instead, QE aims to stimulate spending *indirectly* through a number of complex channels. Rather than giving newly created money to the government or people, the ECB puts this money into financial markets – with the goal of persuading the private sector to change its borrowing and spending behaviour.

Price stability

On the surface of our assessment, we can begin by reviewing whether the ECB's QE programme has had its desired impact on price stability. The ECB's target is a sustained two per cent increase in consumer prices – a low but stable rate of inflation.

In the first few months after Mario Draghi launched the QE programme, from March to May 2015, the deflation of the previous three months was halted and a small initial increase in prices was seen. However, this increase was short-lived, and the rate of inflation in the eurozone progressively declined over the following five months, reaching negative territory in September. In October the rate of inflation slowly began to rise again, but only to a high of 0.3% in January 2016, before falling again to -0.2% in February.

In the 12 months before the ECB launched its QE programme, inflation averaged 0.2% a month. Since the launching of the programme, inflation has actually performed at a slightly lower level of 0.1%.

However, there is good reason to believe that oil prices and other imports may be distorting QE's effect on prices. Some argue therefore that QE should be assessed based on core inflation, a measure of inflation that excludes items that face volatile price movements such as oil. Doing so does not change the picture, though: average core inflation in the 12 months before the QE programme began was 0.8%; since the QE programme was implemented, it has continued to average 0.8%. This clearly suggests that QE is not having its desired impact on prices.

However, prices have remained uncharacteristically low across the globe, which could distort an analysis of the ECB's QE programme. Accordingly, it may prove more useful to take a deeper look and assess QE according to the transmission channels through which QE is supposed to work.

QE transmission channels: theory versus evidence

Expectations channel

The large-scale asset purchases by the ECB are intended to give investors an idea about the future course of action that the central bank is going to take. Buying considerable amounts of long-term securities shows the market that the central bank is committed to keeping interest rates low well into the future and consequently reduces term premiums. Accordingly, investors price in this expectation and alter their investment portfolios based on the notion that the central bank will aim to keep rates low for an even longer period of time. In taking this bold action, the ECB signals its commitment to boosting inflation and growth in the eurozone.

According to the ECB, anchoring expectations to a stable and positive inflation rate is vital to the eurozone's recovery. This is because expectations about future inflation are an important determinant of current inflation: when the private sector expects inflation to be relatively low and stable, wages and prices will be set in line with those expectations.

The ECB's favourite indicator for inflation expectations is the "five-year, five-year" forward swap rate. This indicator measures the expectation for medium-term prices; it attempts to measure the market's expectations of what the inflation rate will be in five years' time.

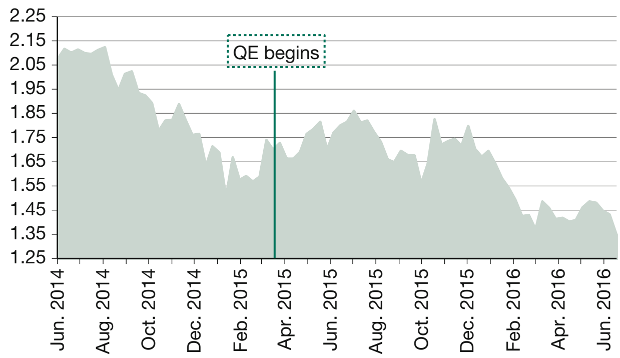
While inflation expectations experienced a rapid increase in the wake of the announcement of QE, short and medium-term expectations are now lower than they were in late 2014 – prior to the programme's announcement. Longer-term market inflation expectations have demonstrated a similar trend – rising shortly after the QE announcement and then falling (see Figure 2). In fact, from November 2015 to March 2016, longer-term inflation expectations have consistently fallen – and are now at an all-time low.

Portfolio-rebalancing channel

Mario Draghi succinctly explains the portfolio-rebalancing channel thusly: "…you basically substitute bonds with cash, and therefore banks, at that point, will have more incentive to lend to the private sector, households and companies."[1]

1 M. Draghi: Introductory statement to the press conference (with Q&A), European Central Bank, 22 January 2015.

Figure 2
Euro area inflation outlook
in %



Source: Bloomberg.

By buying financial assets with newly created money, the central bank pushes up the prices of those assets, which simultaneously pushes down the yield (i.e. returns) earned by holders of those assets. The lower returns should force investors to rebalance their portfolios – moving their investments into riskier assets with higher yields (such as corporate bonds and shares) and directing more credit and investment towards businesses in the real economy.

The effects and general process of the portfolio-rebalancing channel are extremely difficult to measure. There is good evidence to suggest that the announcement and expectation of a QE programme most likely had a portfolio-rebalancing effect. However, this effect was short-lived and has since faded away.

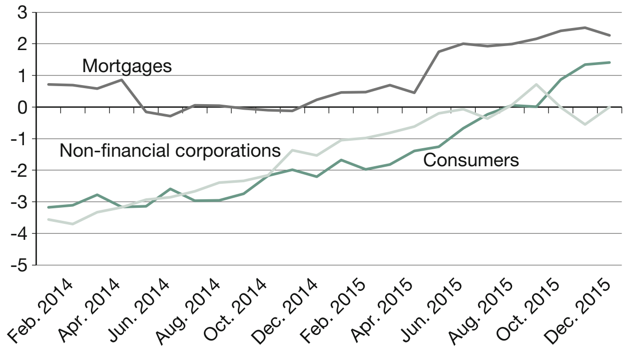
Moreover, prices had been increasing and yields lowering for a significant amount of time before QE was even announced. This trend may have continued without QE. This is not to suggest that QE did not have a rebalancing effect, but rather that its impact might be extremely limited given the pre-existing conditions.

More importantly, yields have been falling since 2012 – as other policy programmes began to flood banks with reserves – but we did not see an increase in spending or bank lending due to portfolio rebalancing back then. Why should we expect to see one now?

Bank lending channel

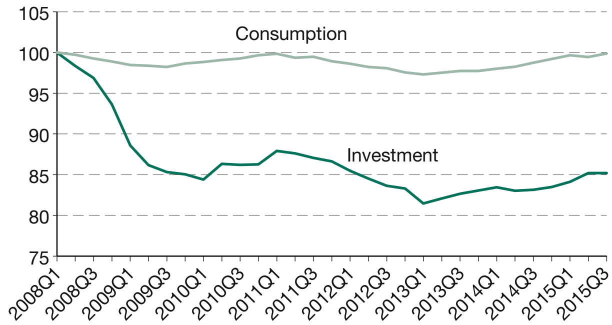
Injecting new central bank reserves (liquidity) into the banking system relieves banks' balance sheet con-

Figure 3
Private sector loan growth
in %



Source: Eurostat.

Figure 4
Private sector investment and consumption
2008Q1 = 100



Source: Eurostat.

straints and lowers the funding costs of banks. This should allow the banks to increase their lending to the economy.

This channel is based on the textbook theory of the money multiplier, suggesting that banks require new reserves before they make new loans. Thus, an increase in reserves in the system (i.e. via QE) will automatically result in an increase in bank lending.

However, as suggested by ECB Vice-President Víctor Constâncio, lending is not determined by the supply of central bank reserves, but endogenously by demand from the private sector for new loans.[2] Accordingly, if there is weak demand for new loans and banks are fearful of lending in a depressed economy, then bank lending to the private sector will not increase, regardless of the amount of new central bank reserves injected into the system.

It is hardly surprising, therefore, that a survey conducted by Commerzbank found that 85% of eurozone banks did not increase their lending as a result of QE.[3] Indeed, there has only been a negligible increase in bank lending (see Figure 3). An argument can be made that conditions are improving, albeit extremely slowly. However, it is important to note that conditions have been slowly improving for a long time, and since before the announcement of QE.

Looking at lending for real economy spending, consumer lending in January 2016 increased by 1.4% and business lending declined by 0.55%. The ECB will suggest that credit conditions are better and demand is increasing, but the fact remains that real economy lending remains flat – and is still well below what would be needed to trigger a significant increase in spending.

Wealth channel

This transmission channel is predominantly rooted in New Keynesian theory, according to which higher asset prices can also increase demand via wealth effects. The idea is that by artificially increasing the price of financial assets, QE will increase the net wealth of asset owners, which will encourage them to spend more.

However, wealthy asset owners have a very low marginal propensity to consume. A case study published by the ECB suggests that the richest ten per cent of the eurozone population, who own over 52% of wealth in the eurozone, have a marginal propensity to consume of just six per cent.[4] This suggests that for every extra euro of wealth gained by asset holders through QE, only six cents will actually be spent.

Furthermore, the composition of financial markets is very different in the eurozone than in the US and the UK, suggesting that any wealth effect will be comparatively weak. A much lower proportion of European households hold financial assets, and the value of these as-

2 V. Constâncio: Challenges to monetary policy in 2012, Speech at the 26th International Conference on Interest Rates, 8 December 2011.
3 Commerzbank: Ahead of the Curve, 29 October 2015.

4 C. Caroll, J. Slacalek, J. Tokuoka: The Distribution of Wealth and the Marginal Propensity to Consume, European Central Bank Working Paper Series No. 1655, 2014.

sets is much lower in the eurozone. For example, Ruparel shows that average financial assets per capita in Western Europe stand at €50,000, compared to about €115,000 in the US; moreover, the proportion of household wealth held in the form of financial assets is much smaller in the eurozone (49%) than in the US (82%).[5]

Finally, financial asset prices have already been increasing since 2012, and yet this has not boosted consumption or investment in the real economy. There is thus little reason to believe that a further increase in asset prices will suddenly boost aggregate demand. Along these lines, it is worth noting that consumption and investment have hardly increased since the onset of QE – and any increase has to be taken with a reduction in oil prices in mind (see Figure 4).

Fiscal channel

By pushing up sovereign bond prices and pulling down bond yields, QE lowers the interest rates governments have to pay on their borrowing. In addition, the government bonds purchased by NCBs are effectively "interest free" to the government – as the central bank buys sovereign bonds issued by its respective central government, interest payments on those bonds go from the central government to the central bank; however, the central bank's profits are remitted back to the central government.

While there may be a fiscal effect taking place, central banks do not commonly cite this as a benefit, as it would imply that the central bank is indirectly financing the government, which is regarded as a taboo in mainstream economics.

More importantly, however, low interest rates and the ECB's earlier pledge that it was "ready to do whatever it takes" meant that sovereign bond yields were already at exceptionally low levels before QE was even announced. In this sense, the lower borrowing costs accrued from QE would represent a negligible saving for eurozone governments. For this reason, a study by Claeys et al. estimates that across the entire eurozone, the aggregate profits accrued by NCBs (and paid to their respective treasuries) will amount to just €4 billion (0.04% of eurozone GDP).[6]

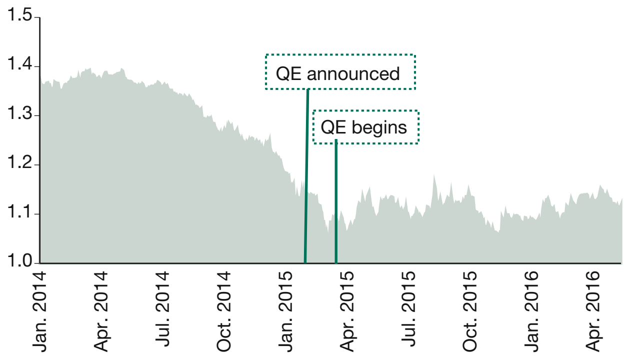
5 R. Ruparel: Quantitative Easing in the Eurozone: limited economic benefits at a high legal and political cost, Briefing Paper 01/2015, Open Europe, 2015.

6 G. Claeys, A. Leandro, A. Mandra: European Central Bank Quantitative Easing: The Detailed Manual, Bruegel Policy Contribution Issue No. 2, March 2015.

Figure 5

Euro-dollar exchange rate

USD per EUR



Source: XE.com.

Exports channel

By influencing yields and interest rates, QE devalues the currency, leading to an increase in exports. Lower yields on financial assets such as bonds make them less attractive to investors. As yields fall on assets priced in euros, investors will seek out foreign assets offering higher yields. This requires them to exchange euros for foreign currency to buy these assets, and that leads to capital outflows and a reduction in demand for the domestic currency, weakening its value relative to other currencies. A devalued currency may then have positive effects on the economy by making exports cheaper. Of course, it will also make imports more expensive, which ought to push up inflation, which is one of the aims of QE.

However, it is important to remember that a number of other central banks are also conducting some form of monetary easing. For example, central banks in more than a third of the 46 advanced and emerging economies in the MSCI All Country World Index have cut interest rates. Indeed, central banks have cut rates a staggering 637 times since 2008 and collectively purchased over $12.8 trillion in financial assets. In doing so, many countries have devalued their own currencies – which may negate the export effects of a euro devaluation.

In addition, a currency devaluation due to QE cannot guarantee an increase in exports, as the case of Japan suggests. Indeed, with global growth expected to be exceptionally weak, devaluation is not likely to lead to a significant increase in demand for exports. Finally, over

80% of eurozone exports actually go to other eurozone countries.

Indeed, this channel had its greatest effect when QE was first announced – and has since faded. According to the trade-weighted euro index, the nominal effective exchange rate, the euro has a higher exchange rate now than before QE started (see Figure 5). Between September 2014 and 2015, the eurozone managed to increase its exports by a mere €3 billion. Given the euro's higher exchange rate now, this meagre increase in exports most likely did not occur because of the exchange rate channel of QE.

Adverse side effects

By artificially increasing the price of financial assets, QE runs the risk of creating bubbles in the financial markets – which could lead to further instability. The *Financial Times* noted that demand for sovereign bonds is so high that over $11 trillion worth of sovereign bonds with negative yields have been purchased, mainly in Europe.[7] Indeed, the ten-year borrowing costs of Spain, Ireland, Italy and Portugal are now at levels similar to or even below the levels in the UK and US. The potential for asset price bubbles and ensuing financial instability has prompted the Bank for International Settlements to argue that QE and ultra-loose monetary policy should be abandoned.

QE also increases inequality. This is primarily because it is the wealthiest households which own the financial assets that are increasing in price. By increasing the prices of these assets, QE increases the wealth of the top income earners – with little benefit to those households further down the income distribution. In addition, by limiting the number of safe assets in the financial markets, QE re-channels investment towards pre-existing housing assets – making housing more expensive and less affordable for low income earners.

Finally, as argued by Turner, QE is an extremely dangerous strategy given that excessive private debt is what caused the global financial crisis:

> We got into this mess because of excessive creation of private credit and money: we should be concerned if our only escape route implies building up a future excess.[8]

7 A. Samson, E. Moore: Negative-yield government debt surges from $1.3tn to $11.7tn, Financial Times, 30 June 2016.

8 A. Turner: Debt, Money and Mephistopheles: How do we get out of this mess?, Speech at Cass Business School, 6 February 2013.

QE is not dangerous because it largely relies on increasing levels of debt to boost incomes but because it reinforces the same type of lending that led to the 2008 financial crisis. A primary cause of the global financial crisis is treated as the only palpable solution.

Conclusion

By injecting trillions of euros into the financial system, QE aims to generate an increase in spending by encouraging the private sector to change its borrowing and spending behaviour. After one year, an assessment of the ECB's QE programme according to its intended objectives suggests that QE is not having its desired effects.

The majority of the transmission channels through which QE is supposed to work display weak results. Indeed, many of the specific conditions that QE is intended to create were already in place in the eurozone prior to the implementation of QE. The rising prices of financial assets have not led to an increase in consumption and have most likely increased inequality. The exchange rate and inflation expectations are higher than or at the same level as when QE was first implemented.

There has been a negligible increase in bank lending, which will most likely fail to rise to the level needed to trigger a significant increase in spending. Finally, there may have been an initial portfolio-rebalancing effect, but this has since faded. Indeed, although asset prices have been increasing since 2012, the eurozone has not experienced a significant increase in spending or bank lending.

At the very best, QE is generating sluggish results. The ECB will argue that had it not been for its QE programme, the economy of the eurozone would be worse off. However, it is important to note that the objective of QE for the eurozone was never to prevent the eurozone's economy from falling further into a recession. Moreover, it is impossible to prove (or disprove) that the eurozone economy would be worse off had it not been for QE. The grounds for implementing policy programmes worth trillions of euros cannot come down to such counterfactual arguments.

It is within this context that this paper finds that the ECB's QE programme has predominantly failed to generate its intended results. It is therefore highly unlikely that expansions in the size and duration of the programme will lead to the increase in spending that certain parts of the eurozone so desperately need. Policy makers should think twice before taking such measures and should instead pursue better and more direct ways of increasing spending in the real economy.