The Corporate Sector Purchase Programme (CSPP): Challenges and future prospects
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In-depth analysis for the ECON Committee
The Corporate Sector Purchase Programme (CSPP): Challenges and future prospects

IN-DEPTH ANALYSIS

Abstract
Large-scale asset purchase programmes are a form of monetary policy in which market interest rates are reduced by different amounts at different maturities – and lower them at the long rates that affect investment and consumption decisions. They are designed to stimulate spending by increasing liquidity, raising asset prices, creating wealth effects, lowering borrowing costs and increasing investment.

Corporate bond purchases (CSPP) are complementary to, not an alternative to standard QE policies. They increase the impact of QE policies; widen the pool of (potentially) high quality assets that can be used (itself a risk reducing measure that reduces the pressure on reserves); and make it easier to steer economic performance by reducing risk premia, that is sectoral or regional interest spreads. That not only reduces average borrowing costs; it delivers better economic performance where it matters most.

More important perhaps, this technique allows us to bypass the risk aversion and regulatory constraints in the banking system that have limited the transmission of greater liquidity into loans and new investment spending despite lower borrowing costs. The risks to the ECB's balance sheet appear to be small, and likely to be less than using bonds from highly indebted governments.
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**AUTHOR(S)**

Andrew HUGHES HALLETT,
Department of Economics, Copenhagen Business School, Frederiksberg, Denmark

**RESPONSIBLE ADMINISTRATOR**

Dario PATERNOSTER

**EDITORIAL ASSISTANT**

Janetta Cujkova

**LINGUISTIC VERSIONS**

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**ABOUT THE EDITOR**

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To contact Policy Department A or to subscribe to its newsletter please write to:
Policy Department A: Economic and Scientific Policy
European Parliament
B-1047 Brussels
E-mail: Poldep-Economy-Science@ep.europa.eu

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EXECUTIVE SUMMARY

- This paper argues that corporate bond purchases (CSPP) are complementary to, not an alternative to QE policies. They increase the impact of QE policies; widen the pool of assets that can be used (itself a risk reducing measure); and bypass the risk aversion and regulatory constraints designed for good times that reduce the transmissions from liquidity provision to loans and investment when QE works through the banking system.

- Asset purchase programmes by Central Banks are a form of monetary policy in which market interest rates are reduced, differentially, at different maturities – to lower them at rates that affect investment and household consumption decisions. They stimulate spending by increasing money holdings: pushing up asset prices, create wealth effects, lower borrowing costs and stimulate aggregate demand.

- Those who have used asset purchase programmes (the US Federal Reserve, Bank of England, Bank of Japan) find small but significant increases in GDP of \(\frac{1}{4}\% - \frac{1}{2}\%\) each year; 10-year interest rates down by \(\frac{1}{4}\% - \frac{3}{8}\%\). The impact on prices and inflation was negligible (<0.1%) in each case, though the domestic exchange rates tend to fall.

- The results of the ECB’s asset purchase programmes are broadly similar: output growth at around 0.3% on average and inflation -0.05%, from January 2015 to early 2016. Since then output has grown at annual rates of 2% and prices at 1.5%, although some of that must be due to the weakness of the Euro in that period.

What do corporate bond purchases (CSPP) add to this strategy?

- CSPP is a form of QQE (Quantitative and Qualitative Easing) as practiced by the Bank of Japan. This means buying a spectrum of assets, rather than just public sector bonds, to reduce risk, to increase financial stability or to strengthen the impact of standard QE on economic performance and transmission from liquidity to loans and investment. Much of this comes through reducing risk premia on economy wide interest rates in the sectors or regions where the CSPP bonds were issued, reducing the average cost of borrowing.

- Evidence suggests that reducing regional/sectoral risk premia has the biggest effect in terms of impact on economic performance, in limiting inequalities or a build-up in non-performing loans. CSPP therefore gives a boost where it is most needed and where it has most impact. It may also add to the exchange rate effect, boosting exports.

- Asset purchases inject extra liquidity into the financial markets, reducing financial stress, lowering uncertainty, stabilising financial institutions and helping portfolios rebalance away from risk. This reduces the risk of financial disruption.

- CSPP reduces the risk of asset price bubbles since the underlying bonds are linked to the performance of the issuing firms. It is also necessary since QE alone may take too many assets off the market for banks/firms to offer as quality collateral for loans, or if the ECB runs short of high-quality public sector bonds to buy.

- CSPP bypasses the banking system and transmissions between extra liquidity and loans for investment, at least in the first round of spending, and does so without the extra debt and deficits that new fiscal spending would entail. It is a more efficient form of expansion.

- Some extra risk on the ECB’s balance sheet is possible, but this is unlikely to be a problem and may well prove less risky than using bonds of indebted governments. That lowers the pressure on reserves.

- The transmissions between liquidity and new loans are strongly heterogeneous between countries\(^1\). CSPP gives the ECB scope to target specific transmission failures individually.

- CSPP strengthens yield curve control because it allows more scope for differential control at different maturities, as well as expanding the pool of bonds available for QE activities.

\(^1\) See Hafemann and Tillmann (2017).
1. **CSPP AND ASSET PURCHASE POLICIES**

This paper argues that corporate bond purchases (CSPP) are complementary to, not an alternative to QE policies. They increase the impact of QE policies; widen the pool of assets that can be used (itself a risk reducing measure); and, most important, bypass the risk aversion and regulatory constraints that reduce the transmission from liquidity provision to loans and investment when QE is working through the banking system.

The impact of monetary action on economic performance depends on the level of long-term interest rates that determine household consumption and business investment decisions. Conventional monetary policies stimulate the economy by buying short-term government bonds to lower short-term interest rates in the interbank market. Arbitrage then provides the transmission from short-term to long-term interest rates via the yield curve.

Unconventional monetary policies, by contrast, are based on the idea that the central bank can stimulate the economy, even when conventional monetary policy has become ineffective, by intervening to change long-term market rates directly. Policy can then be constructed to lower market rates by making large-scale asset purchases at long maturities (quantitative easing, QE); by purchasing corporate bonds (CSPP); or making loans to specific businesses (credit easing, CE). All three lower the cost of borrowing. But the latter two lower the costs to firms specifically, rather than to the economy or public sector generally.

Asset purchases therefore lower the spread of long-term interest rates over short rates and, possibly, the return on risky over risk-free assets. That then triggers extra spending from wealth effects, higher asset values, greater liquidity and lower investment costs.

This is the main policy transmission mechanism. But there are others: a signalling channel (a commitment to keep future interest rates low); the liquidity-credit channel (transmission of extra liquidity into credit and loans); and the exchange rate channel (depreciations of the domestic exchange rate to boost exports). Since those channels operate in parallel to portfolio rebalancing, they are complementary to the main thrust of asset purchase policies which is to reduce the cost and increase the availability of credit at maturities that determine investment and household spending.
2. HOW EFFECTIVE HAVE ASSET PURCHASE POLICIES BEEN?

There have been several asset purchase programmes in recent years, principally in the US (to 2014), UK (to 2014), Japan (continuing), and in the Euro-zone. Any assessment of how successful these programmes have been must include an analysis of their impact on the designated targets of economic policy.

2.1. PSPP: Quantitative easing by large-scale asset purchases

The basis of unconventional monetary policies is that financial markets are neither perfect nor complete. Arbitrage therefore tends to work imperfectly, depending on expected future interest rates as well as on the preference for short-term over long-term assets.

In such circumstances, monetary authorities can purchase significant quantities of Treasury securities of long maturity, or mortgage-backed securities or corporate bonds, altering their relative supply vs. demand. This raises bond prices and lowers interest rates at that maturity. These effects then extend to other longer-term assets as investors who just sold securities to the central bank move to invest in substitutes closer to the assets sold than cash, thereby adding to the downward pressure on longer-term interest rates further along the yield curve or in neighbouring markets. Using this portfolio balance or “ripple” effect, the central bank can affect both the spread of long-term interest rates over policy rates (term premium) and also the necessary return on risky assets over risk-free assets (risk premium). Monetary authorities are then able to manipulate the interest rates relevant to consumption and investment spending.

2.2. Unconventional monetary policies in the euro-area:

Early results: The ECB’s asset purchasing policies appear to have had a limited impact on the Eurozone economy, with output growth averaging 0.3% and inflation -0.05% from 2014 through to 2016. This may have been because the programme is smaller (65% of the US and UK programmes); or because long run interest rates fell by less, ½% on average, having started from a lower level. Hence, the extension to negative rates in 2015.

Since then, the average performance has improved. By mid-2017, output growth had risen to 2% and inflation to 1.5%. It is not easy to say how much of this was due to the asset purchase policies, and how much to other factors. To do so accurately, we need to conduct properly constructed counterfactual simulations.

Recent projections: Recent estimates of the impact of QE, separated from other factors, on economic performance are provided by Hohberger et al (2017). Using DSGE simulations from a standardised projection of future outcomes, a 10-year steady state output growth is projected to rise by 0.4%, with a range of 0.3%-0.7%, when no exit strategy is employed. Similarly, inflation is estimated to rise by 0.3%. However, if negative interest rates are ruled out (the zero lower bound is imposed) the corresponding figures become 0.5% (in a range of 0.4% to 1%). This demonstrates that the ability to avoid the zero lower bound (to allow negative interest rates) is valuable and desirable.

A separate analysis by the Bundesbank (2016) confirms these results: output was expected to rise by 0% to 1%; inflation by 0.1% to 2.5% by 2017 (at the time of writing, inflation is 1.5%; output growth 2%). This study is more interesting for the side effects identified:

i) Risk premia in corporate bonds in 2016, spreads over Germany, were 1% points in Spain and ½% in Italy, but zero in France. However, they had fallen from 1½% in Spain, 1% in Italy since 2014, demonstrating that CSPP could do a lot to improve the competitiveness of the private sector – especially in the weaker economies of the Euro-zone;
ii) To reinforce that idea, bank loans to nonfinancial firms had fallen by far more in Spain and Italy in the same period (twice to four times as much in fact). That underlines the need to offset such private sector or regional monetary differences;

iii) The fact that these differences have nonetheless shrunk demonstrates that the markets now view financial and fiscal discipline as a Euro affair, not a specific market or regional risk. This was not always true (Alessandrini et al, 2014), but it holds in current circumstances.

Commentary: Why has the QE programme had only limited impacts on the real economy?
The first reason is that monetary policy has had to act alone; it has not been able to take advantage of fiscal expansions at the same time, or exploit lower borrowing costs either directly or by refinancing past debt at lower interest rates. Only Italy seems have done that systematically, to be rewarded with small gains in relative performance. This suggests QE programmes may only be more effective when conducted in conjunction with other fiscal or structural reform policies.

Second, low levels of private sector lending seem to have been a problem everywhere: in surveys, 85% of the banks report QE programmes have had no effect on lending. That suggests a problem with the transmission between liquidity provision and credit uptake: investment spending is still below the 2008 peak; real interest rates are still high; many small businesses or consumers still prefer to pay down debt – and banks not to lend.

Third non-performing loans have increased, and now run above 9% of GDP which makes the banks reluctant to make further loans.

Each of these factors reduces the impact of the ECB’s asset purchases programme. And that fact makes the policy case for introducing an alternative mechanism which can bypass the inhibiting factors that create this reluctance/inability to borrow or lend?

2.3. CSPP: Credit easing vs. corporate bond purchases

According to former Fed Chairman Bernanke, we can classify unconventional policies into quantitative easing and credit easing. The former refers to money injections from the Fed through commercial banks; the latter where central banks provide liquidity to the economy bypassing financial intermediaries, by buying private-sector assets such as corporate bonds or residential mortgage backed securities. Included in this definition of credit easing are subsidised loans, cheap loans, funds for lending, or direct liquidity provision to firms. This credit easing channel is particularly important where there are liquidity restraints in the banking system which prevent any money injections from being transformed into loans to households and firms; or when banks are thought more likely to use the extra liquidity provided by QE to pay off past debt, or to raise their capital or liquidity ratios as they are required to do under the new financial regulation arrangements associated with Basel III, Dodd-Frank or the EU’s banking union.

2.4. Results in the US and UK

In the U.S., before QE, there was an average excess term premium of almost 200 basis points for securities with a 10 year over a 9-year term. This excess premium then dropped by 75 basis points as a consequence of QE (Fawley and Juvenal 2012). More to the point for this review, in the UK the spread of corporate bonds over gilts fell by between 2000 (for high yield bonds) and 200 basis points (for investment-grade, non-financial bonds) after 2009, and the yield on 10-year gilts from 5% to 2% (Miles, 2012). Thus, the ripple effect to neighbouring markets, to other maturities, and to reducing risk premia in the corporate sector in particular, was fairly strong. But how much did those changes translate into gains in output and employment or losses in inflation?
The answer is consistent. A range of estimates for the US, as reported in Williams (2011), suggest that QE policies in the US reduced interest rates by between 0.15% and 0.3% points in this period – consistent with having increased GDP by similar amounts each year. That is a valuable contribution, but it is not large. There was no perceptible impact on inflation or inflation expectations before the programme ended.

In the UK, QE is estimated to have added 3% to the level of GDP over the 6 years since 2009 compared to what would have happened otherwise, with negligible effects on inflation [0.1% or less in the US, UK, Japan]\(^2\). Thus, real output is higher by ½% on average each year; equivalent to an extra 0.4% on the growth rate. However, unemployment typically follows output with a one to two year delay. Hence QE operations are likely to take a year, or more, to achieve their full effect on employment.

2.5. **Lessons from the US experience**

The US Federal Reserve conducted three rounds of QE. The first (”QE1”) lasted from 2008 to 2010 and involved asset purchases of $2.1tn; the second (”QE2”, from 2010-12) added $2.05tn assets at the rate of $30bn a month; the third (”QE3”, 2012-14) bought assets at $85bn a month before being tapered to $65bn, then $50bn a month, until termination in 2014. In total, these QE programmes amounted to $4.5tn or 25% of GDP. This is larger, in absolute value, than QE operations in Europe which, at their peak, amounted to 16% of Euro-zone GDP.

**Financial impacts:** Early estimates suggested 10-year bond rates fell by 30 to 100 basis points depending on the type of security (Gagnon *et al*, 2011). Subsequent studies of QE1 and QE2 found similar results (Williams 2011). Later studies from the QE2-QE3 era (Chen *et al*, 2012, for example) reduced the estimated interest rate reductions to around 30-40 basis points, or 4-9 basis points per $100bn of asset purchases.

There can be many explanations for this weakening. First, “QE fatigue” may have set in after a time as the supply and quality of assets available for purchase began to fall. Second, repeated applications of QE inevitably create expectations of inflation which undermine the downward pressure on interest rates further along the yield curve. Third, adherence to the zero lower bound means that interest rate reductions, per unit of QE, will be smaller the lower are market interest rates at the start of the exercise.

Next, QE may have an impact on various other variables – the most important being on risk premia, as opposed to term premia. To the extent that QE reduces risk premia in corporate bonds, or in bank borrowing, or on bank loans, it will have an impact by lowering the cost of borrowing and boosting spending in the weaker sections of the economy – over and above what may have been achieved in the underlying market rates. This makes the case for extending the QE programme to corporate sector bonds (CSPP).

This raises a difficult question: which assets should the ECB buy in its operations? Evidently it should buy beyond government bonds and include corporate bonds and those of the distressed governments if it wishes to have the maximum effect in lowering commercial borrowing costs, in particular *real* interest rates where risk premia or deflation have been a problem. But it should focus on a geographically and sector neutral spread of bonds if the priority is to revive a deflating Euro area economy.

A third point: by reducing market interest rates, QE will cause an economy’s exchange rate to depreciate. This is useful as it will boost net exports (so long as other economies do not

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use QE too). That adds to the recovery. Extending the programme to corporate bonds will reinforce that effect.

**Macroeconomic effects:** Early estimates of the output and price effects of QE operations in the US were optimistic: the drop in long term interest rates of ½% point in QE1 was thought to raise GDP by 3% in the short run, and prices by 1%, all else equal. Later estimates, from the QE2 period, reduced those figures to a rise in GDP of 0.4%-0.5% per year over 5 years with a minimal upward effect on prices (Chen et al 2012).

These results are in line with those elsewhere. Longer commitments to low interest rates appear to increase the gains in GDP sharply; but potentially at the cost of extra inflation. That introduces a difficult trade-off: the need for careful timing to get the output boost first, then to switch the asset purchases off in time to forestall inflationary expectations. Signaling of policy intent appears to be a crucial aspect of a successful QE.

There is also evidence that more than half of the interest rate reductions come from lower risk premia that follow from QE operations (Bhattarai and Neely, 2016). The reduction in risk premia then allows a modest but persistent increase in output due to a small but lasting fall in real interest rates where they matter most.

**Need for an exit strategy:** From early on, the Fed argued that an exit strategy was needed to counter inflationary expectations when expanding the Fed’s balance sheet; to assure the markets that the central bank would indeed exit QE in good time, and that asset purchases would not continue to generate inflation in the future.

At the time, the Fed’s exit announcement had to be corrected to signal that the current QE programme would not be abandoned until the Fed’s targets for unemployment, growth and inflation were achieved – reinforced with explanations of why an exit strategy is necessary, how it would work and tests to show its feasibility. By contrast, the ECB’s asset purchase policies have been distinguished by their lack of exit strategy or how it would operate – and this has caused additional concern about inflation expectations, the implications for profits and savings in the financial sector, and risks to long run financial stability.
3. **CSPP HELPS BYPASS QE TRANSMISSION FAILURES**

*Bypassing transmission failures*: Asset purchases alone may not be sufficient to spark a recovery in output or prices in bad times. Faced with declining incomes, high levels of debt and tightening prudential regulation, investors and banks may well prefer (have in practice preferred) to pay off past debts as a protection against future recessions. The pass-through or transmission from cheap credit to actual borrowing and new spending is then held back by this reluctance. Similarly, consumers will prefer to save than spend if they think that incomes may fall or jobs will be lost because the economy fails to recover – the more so, the more they are indebted.

In fact, not least in the EU, businesses and consumers have been notably reluctant to invest or spend on a scale necessary to trigger recovery, despite the extra liquidity and low interest rates, for fear of continued stagnation, for fear of increasing non-performing loans in extended recessions, especially if bank credit is tightly regulated; but mostly because businesses, consumers and banks have been paying off past debt at a time when there are no stimulus measures to counteract this deleveraging. In fact, deleveraging happens in the private sector *long before* it takes place in the public sector, which is a further reason to employ CSPP purchases in the early phases of a recovery programme.

**Financial stability:** To the extent that asset purchases reduce risk premia on corporate bonds, bank loans or on loans to regional or national governments, they have an important impact on the cost of borrowing and growth prospects in those economies. Some (Gagnon *et al.* 2011) argue that this is the most important part of a QE programme in practice. I stress this point to counterbalance the natural tendency of sector/region neutral asset purchases to boost activity to more prosperous regions, when gains in Euro-wide performance will in fact come (in the first instance) from support to the depressed sectors/regions.

At the same time, ECB asset purchases do mitigate the risk of an asset price collapse, and the financial disruption that would follow. Stabilising financial markets in deflationary times is a worthwhile advantage even if the direct impact on GDP and prices are not large⁴, provided that the QE horizon is long enough and the ECB’s commitment to QE is credible.

If so, QE would be best implemented by buying assets, not from banks who would use the funds to deleverage their own debt position (in which case nothing will come of the easing); but from corporations or non-bank financial institutions likely to issue corporate bonds or invest in assets that yield a return. QE then has its effect through reducing bid-ask spreads, risk premia, trading costs, pricing “errors”, or where credit/liquidity constraints apply, rather than by lowering baseline market interest rates per se. Extending QE to corporate bond purchases will enhance these stabilising effects by diversifying risk.

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³ Draghi (2016) argues that this is the principle reason that the ECB opted for CSPP policies. This paper concludes the same.

⁴ Some of the impact of asset purchases will be undone by the requirement that liquidity ratios now need to rise.
4. THE IMPACT OF CSPP: EVIDENCE-BASED ANALYSIS

There are, so far as I am aware, no numerical studies of the impact of the corporate sector purchase programme (CSPP) on the Euro area economies – that is separated from the impact of similar programmes like the Public Sector Purchase Programme (PSPP), the Asset Backed Securities Purchase Programme (ABSPP) and Covered Bond Purchase Programme (CBPP), which the ECB has run at the same time.

This is hardly surprising. It is hard enough to introduce sufficient and effective controls to take out the effects of changing external factors, and then controls to take out the impact of having introduced the ABSPP and CBPP programmes in 2014, and estimate their effect on just three years’ worth of data. Even if we could do that, the resulting estimates could not said to be statistically reliable or “safe”.

The problem is compounded when we come to analyse the impacts/effectiveness of CSPP. The difficulty here is that the data sample is halved; and we have to distinguish the effects of PSPP (started in March 2015, expanded in 2016), from those of the CSPP programme started in March 2016. However, we can still provide a qualitative assessment based on the descriptive results identified by Demertzis and Wolff (2016; “D&W” hereafter).

This can be done since there is a year of PSPP data before the CSPP programme went into effect. So long as the 60% expansion in PSPP does not produce severely disproportional or reverse impacts relative to its earlier, smaller incarnation (which would be unlikely and would mean that PSPP was an unsuitable policy instrument altogether, which we know not to be the case from the results of QE policies elsewhere), it is safe to assume that any qualitative changes in the outcomes since CSPP was introduced are due to the CSPP programme itself.

This section provides the required qualitative analysis of CSPP, in effect extending Hughes Hallett (2016) to that case. The explanatory diagrams are all taken from D&W (2016).

4.1. The euro-wide monetary impact: inflation, interest rates and bond yields

Since its start, the CSPP programme has been restricted to purchases of investment-grade Euro-denominated bonds issued by non-bank Euro area corporations and CSPP purchases must be made at the cost of reducing bond purchases for the other asset programmes at the ECB (D&W 2016). Since ABSPP and CBPP purchases did not decrease in 2016, the 60% increase in PSPP came from purchasing of bonds from non-banks and foreign institutions. The first will have lowered the impact of CSPP, but the second would have had no effect in the euro area (apart from weakening the Euro exchange rate). This is reflected in slight reductions in total government bonds held since early 2015, implying that CSPP purchases had to overcome a small reduction in QE-type effects before they could start to make a positive contribution to Euro economic performance. On the other hand, a reduction in total government bonds held implies substitution and hence a diversification in the risks carried by the ECB. That is a welcome bonus.

Inflation on the other hand remains, and is forecasted to remain, subdued. The introduction of the CSPP programme does not change that (Figure 1 below). Inflation itself was negative (on average) in early 2015 and in 2016. It increased to 1.1% in late 2016 and then fell again in 2017. But it has been badly distributed, varying from 1.7% in Germany to 0.1% in Greece or Ireland. Hence inflation has not been a Euro problem, or a problem of the ECB’s asset purchase policies. But it may be a local problem in some countries, requiring local solutions. Confirmation comes from the fact that core inflation has remained stable at 0.8% to 0.9%

5 However, the ABSPP and CBPP programs can still be evaluated qualitatively to provide some insight: Hughes Hallett (2016).
since 2013, before the asset purchase programmes started, while inflation itself is predicted to remain between 1.4%-1.8% until 2022.\footnote{Data from Hughes Hallett (2017). PSPP, by contrast, does seem to have had a slight effect on inflation in 2015 (see figure 1).}

Inflation expectations tell a more interesting story. Figure 2 shows inflation was expected to fall in the short term to follow actual inflation, implying no expectation that policy would change while the 5-year expectations for inflation remain steady throughout – implying that markets anticipated short term interest rates would return to normal in 5 years. Those two implications are necessarily inconsistent, unless there is an undisclosed change in information sets between the two. This might be increasing uncertainty raising expected interest rates.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{Inflation in the Euro Area (%change in the HIPC index)}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2.png}
\caption{Inflation Expectations in Euro Area (Professional Forecasters Survey)}
\end{figure}
rates, but the 5-year inflation-linked swap rate is declining steadily which suggests that the 
credibility that the ECB’s policies could restore growth in the Euro-zone was eroding.

Lastly, the 10-year government bond yields (figure 3) show that, after a brief rise in early 
2015, bond yields have declined steadily since 2012 as intended. The brief uptick in 2015 
likely reflects the decline in overall asset purchases already discussed. But the decline in 
yields thereafter shows that CSPP purchases continued to reduce bond yields as much as the 
QE and PSPP programmes did in the core economies, but less than they had done in the 
weaker economies. So, they are effective in that sense.7

**Figure 3: 10-year Government Bond yields in the Euro zone (% pts)**

![Graph showing 10-year Government Bond yields in the Euro zone](image)

Source: Thomson Reuters. Notes: 1) “Whatever it takes”*, 2) PSPP announcement, 3) Start of PSPP, 4) CSPP and expansion of PSPP.

But the most prominent feature in all three diagrams is that the “whatever it takes” speech, 
otherwise known as an outright monetary transactions policy, had the largest impact of all 
the policy mechanisms considered here. That highlights that signalling, forward guidance, 
transparency and credibility are as least important as the precise form of the monetary policy 
mechanism employed.

**4.2. The euro-wide real effects: Output growth, investment and unemployment**

On the real side, we look at output growth (figure 4), unemployment and investment (not 
shown separately). We find government spending and consumption (2011-13 excepted) 
affect output positively throughout as usual, but the effects are relatively small. By contrast, 
investment and net exports up to 2011 are much larger contributors to output growth and 
tend to go with the cycle.

After 2012 these effects are moderated; net exports boost growth under the “whatever it 
takes” policy when interest rate reductions are anticipated, consumption spending becomes 
more important. But PSPP policies appear to have little impact on GDP and, although there 
is some impact from corporate bond purchases, it is not much larger. More notable is how 
easily these impacts are reversed in bad times; and how that feature reduces when asset 
purchase policies come in play around 2013-15.

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7 The decline in yields might be due to the increase in the PSPP purchases, but since that involves a reallocation 
of purchases, not an aggregate increase, it would imply significantly different impacts of different assets. We 
have no evidence to that effect.
This suggests that the real contribution of asset purchase policies to the real side, and CSPP specifically, is to stabilise the financial underpinnings of the economy and prevent disasters. This conclusion is corroborated by the behaviour of investment which shows no impact from PSPP or CSPP on average, but a reduced cycle after their introduction. Similarly for unemployment, although in this case the “whatever it takes” policy triggers an improvement sustained through the PSPP period. The key lesson however is unemployment is slow to fall, and does so only with a 1 to 2 year delay (D&W, figure 8).

4.3. Risk premia and profits in the financial sector: regional vs. term spreads

Figure 5 displays regional risk premia (10-year bond yield spreads vs. Germany) in the core economies and the weaker performers. The results are very similar to figure 3 above, although there is very little evidence, if any, that CSPP purchases have had any impact at all on regional risk premia. However, the bond yields in figure 3 evidently consist almost entirely of risk premia in the weaker economies; also in France to small extent. This clearly separates the core economies from those with deeper financial difficulties – and again makes the case for buying the bonds of weaker economic regions or those weaker sectors with regional specialisations (an inevitable consequence of a successful single market). In other words, risk premia do matter and it would help the Euro zone’s average performance if they could be resolved. The CSPP programme is a useful device for doing that.
How well has the CSPP programme lived up to this role? In particular, has the cheap credit offered by the ECB’s various asset purchase programmes translated into new investment by non-financial firms, or into relatively unproductive housing loans as happened under the UK’s “funds for lending” scheme? Figure 6 suggests the impact of low interest rates is split about 50-50 between the two, although the lending to non-financial firms has been much more variable showing that other factors outside the asset purchases has affected loans to non-financial firms. In fact, it is difficult to detect any impact specific to the CSPP programme. What we can say is that CSPP purchase receipts have gone into housing loans in the Netherlands (also Italy and France to a lesser extent, but not to Spain) after CSPP started. By contrast, the loans to firms look undisciplined if not chaotic. They have not grown on average; but have risen (in an unstable way) in the Netherlands, France and Spain. And they have fallen in Italy, and in the Euro area on average. That again suggests outside factors, principally those associated with the transmission failures, have been the real influence here – rather than the CSPP programme per se.
Next, has this lack of translation into new investment by non-financial firms been the result of a lack of profitability in the banks/lending institutions? This is often claimed, along with a lack of supply in savings, although Demertzis and Wolff (2016) can find no evidence that bank profits have been reduced or that savings have fallen. Figures 7 and 8 provide insight and evidence to support that conclusion.

**Figure 7:** Changes to European Term and Lending-Deposit Spreads (2014-16, %)

In Figure 7 we see that both lending margins and term spreads in interest rates have come down as CSPP was introduced and PSPP extended, France excepted. But the larger changes have been in the term spreads, which have fallen as the asset purchase policies had intended. Hence the profitability of new loans and credit has not been much affected. Most of the work is being done by lower long-term interest rates. However, if investment is not forthcoming, it is because of a breakdown in transmission between cheaper credit and investment.

**Figure 8:** Lending-Deposit Spreads within the Euro Area (% pts)

Figure 8 reinforces that argument by tracking lending margins in different countries over a 6 year interval. It shows no perceptible reduction in lending margins on average in the Euro area after asset purchase policies were introduced. Indeed, they actually rose in Italy and Spain; but fell in the Netherlands; and remained roughly constant in Germany and, after an early rise at a low level, in France. So bank profitability varies a lot between countries, but
CSPP (or PSPP) appear to have had very little impact on bank/financial sector profits. If anything, the French and Dutch banks are the ones that should have suffered.

4.4. Other risks incurred in asset purchase policies

Figure 9: House Price Growth 2005-16 (indices 2010=100)

Asset bubbles and housing: A constant concern for policymakers is that the demand for assets, especially in loans to housing at very low interest rates where the supply is limited (at least in the short run), will drive up prices to create an asset price bubble (possibly reinforced by speculative behaviour toward future prices). We have seen from figure 6 (left panel) that loans have not been provided to that effect; the growth is loans has mostly been very small. Figure 9, which reports the development of house prices in the Euro area and selected countries, also shows no bubble effects. Prices have risen 20% over 16 years in the Netherlands, 10% in Belgium; but they have fallen 5% in Germany, 15% in Italy, 25% in Spain. More important for the purposes of this paper, there is little detectable impact of CSPP in these movements. PSPP has perhaps had some effect, but not CSPP.

Increased income and wealth inequalities: An important issue. It is studied elsewhere (see Hughes Hallett 2015), but does not have further implications for this paper

Non-performing loans: Non-performing loans in the banking system have increased in the last few years and now run above 9% of GDP which makes the banks reluctant to lend. Hence the cost of borrowing for more risky projects and in more depressed regions has not come down, despite QE’s success on average. More important, rising numbers of non-performing loans make banks increasingly reluctant to offer new loans, defeating the very purpose of asset purchase policies. The advantage of the CSPP version of quantitative easing is that the risk of a loan becoming non-performing is transferred from commercial banks to the central bank (with an ability to provide further liquidity, or arrange a bail-out if judged worthwhile).

Risks to the central bank: A default on a CSPP asset held in the ECB’s portfolio would create a loss on the ECB’s balance sheet, instead of on the balance sheet of an indebted firm as it would have done if a national government had defaulted. [Assuming that government, ECB or the EU decide that the firm merits continued support, new loans will need to be made

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8 Feldstein (2016). Tighter bank regulation, through a higher liquidity ratios requirement, may mitigate these pressures however.
on their guarantee]. Two points apply: i) The changes to income flows wash out: the interest payments made to the ECB would cease, but the extra profits paid to national governments by the ECB also cease. ii) The write down of the ECB’s assets need not have implications for taxpayers since central banks do not need to maintain certain capital/asset ratios in order to function. Even if the ECB felt the need to repair its capital base, it would ask its shareholder governments for extra capital to be supplied in the form of bonds – in effect replacing QE assets with new interest payments and income refunds. No implications for taxpayers therefore. The danger here is different. If the defaulted bond is not replaced, there will be no bond to sell back into the market in the exit strategy. Realising this, private agents will expect an extra degree of inflation in the QE process.

**Riskier investments**: Investors, seeing falling yields in the QE economies, will look for higher yields and hence more risky investments elsewhere, transferring risk taking to other sectors and easing monetary conditions in the weak economies. Prudential regulation may limit this effect of course. But it is a consequence of monetary easing, conventional or unconventional, not specifically a problem with QE. Fic (2013) has shown that the impacts of QE have been roughly 70% through reduced term premia, and (in the absence of CSPP) only 30% through lower risk premia and the incentives to pursue riskier investments. The QE part of increased risk-taking behaviour may therefore be less severe in practice.

**The exchange rate channel**: It is not obvious that CSPP purchases would play a role through the exchange rate channel. But they can end up affecting relative competitiveness. Any successful asset purchase programme lowers domestic interest rates relative to foreign, provoking a capital outflow and a depreciation of the domestic exchange rate. That will switch demand to the domestic economy, by boosting exports and substituting imports: a) at conventional export price elasticities and income import elasticities, the exchange rate channel will typically have the largest numerical impact of the QE effects. But b), because there are capital outflows at the same time, these effects may be less severe (in the Eurozone and on outsiders) than much of the literature has suggested. And c), although these benefits may appear more important to the smaller economies, they will in fact accrue to the most competitive. This implies that any successful asset purchase programme should be carried out in conjunction with a corporate bond programme to allow some gains to go to structurally weaker areas with high risk premia, and with structural reforms to convert these gains into a permanent solution. In the long run this will benefit the whole Euro area; whereas a failure to provide extra liquidity and lower risk premia in the early stages is likely to cut certain regions or sectors off from the general recovery, and hence lock them into positions that require continued support.
5. **CONCLUSION: CSPP POLICIES IN OTHER ECONOMIES**

Corporate bond purchases have been a common, albeit smaller, part of quantitative easing policies in other economies. But there have been no analyses which separate out the effect of those bond purchases from all the other components of the QE purchases that were undertaken (Bhattarai and Neely 2016).

Instead, we can review the official arguments by the Bank of England and Federal Reserve for including corporate bonds in their QE operations. They include: to reduce sovereign and credit risk; to curtail funding fragmentation in bad times; to improve liquidity; raise asset prices and collateral values; lower the exchange rate; avoid QE fatigue; to broaden the base and quality of bonds available for ECB purchase; and to restore the appetite for risk among investors. We have covered all those points; and stressed their usefulness as a mechanism for bypassing transmission failures. Given the weak record of QE as a vehicle for promoting recovery, as opposed to preventing a recession getting worse, this last advantage of CSPP purchases may turn out to be its most valuable contribution.
REFERENCES


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